



AC/DC Converter · DC/DC Converter · Enclosed · Transceiver Module · Isolation Amplifier  
IGBT Driver · LED Driver · EMC Auxiliary Device · IC · Transformer

## Selection Guide 2021

- Established: 1998
- Factory: 60000+ square meters
- Employees: 2600+
- Patents & IPRs: 1000+
- Business Coverage: Global
- Information Management:  
OA & ERP & CRM & EHR & PLM & ISP
- Certifications: ISO9001, OHSAS18001,  
ISO14001, IATF16949



Headquarter in Guangzhou



Manufacturing Center in Huaihua



R&D Center in Guangzhou

## Certifications



Automatic TE workshop

## Product Range

### AC/DC

- Power Range: 1-600W
- Isolation Voltage: 2000-4200VAC
- Input Voltage Range: 30-1500VAC

### DC/DC

- Power Range: 0.25-250W
- Isolation Voltage: 1000VDC-6000VDC/5000VAC
- Input Voltage Range: 3.3-1500VDC

Packages: SIP, DIP, SMD, lead wire, open frame, chassis mounting, DIN-Rail mounting

## Applications



Industrial



Power Grid



Communication



Railway



Automotive



PV



Medical



Fire & Security



IoT



Lighting

## Excellent Technology

- Automatic welding machine
- Laser marking system
- EMC laboratory
- Intelligent burn-in system
- Reflow soldering equipment
- UL/CSA/TUV Certified lab
- Automatic winding machine
- X fluorescence RoHS tester
- SMT AOI

## Systems

**IATF16949**

**ISO9001**

**ISO14001**

**OHSAS18001**



Automatic SMT clean room










































































































# DC/DC Converter

- $\pm 5\%$ ,  $\pm 10\%$  input voltage tolerance
- Operating temperature up to 105°C
- High isolation up to 6000VDC
- Low ripple & noise
- Continuous short-circuit protection

## K78 series

- Efficiency up to 96%
- Operating temperature: -40°C to +85°C
- Continuous short-circuit protection
- Pin-out compatible with LM78xx linear regulators

## Fixed input voltage, isolated & unregulated output series

| NEW   | Series               | Power      | Input Voltage (VDC) | Output Voltage (VDC)                            | Isolation | Package          | Dimension (mm)   | Certification  |
|---|----------------------|------------|---------------------|---|-----------|------------------|--|--|
| <b>DFN Package</b><br>   | B_T-1WR4 <b>NEW</b>  | 1W         | 5,12,24             | 5,9,12,15,24                                    | 3000VDC   | DFN              | 10.00x10.00x4.60   | RoHS   |
|   | B_MT-1WR4 <b>NEW</b> | 1W         | 5                   | 5   | 3000VDC   | DFN              | 9.00x7.00x3.10   | RoHS             |
|   | D_T-1WR4 <b>NEW</b>  | 1W         | 5                   | 5,5   | 3000VDC   | DFN              | 13.20x7.00x3.10  | RoHS   |
|   | E_T-1WR4 <b>NEW</b>  | 1W         | 12,24               | $\pm 3.3, \pm 5, \pm 9, \pm 12, \pm 15, \pm 24$ | 3000VDC   | DFN              | 13.00x10.00x4.60   | RoHS   |
|   | FB_T-1WR4 <b>NEW</b> | 1W         | 5                   | 5   | 3000VAC   | DFN              | 13.20x7.00x3.10  | RoHS   |
|   | IF_T-1WR4 <b>NEW</b> | 1W         | 5,12,24             | 3,3,5,9,12,15                                   | 3000VDC   | DFN              | 13.00x10.00x4.60   | RoHS   |
|   | B_T-2WR4 <b>NEW</b>  | 2W         | 5,12,24             | 3,3,5,9,12,15,24                                | 3000VDC   | DFN              | 10.00x10.00x4.60   | RoHS   |
|   | E_T-2WR4 <b>NEW</b>  | 2W         | 5,12,24             | $\pm 3.3, \pm 5, \pm 9, \pm 12, \pm 15, \pm 24$ | 3000VDC   | DFN              | 13.00x10.00x4.60   | RoHS   |
| <b>SMD Package</b><br> | A_XT-1WR3            | 1W         | 3,3,5,12,15,24      | $\pm 5, \pm 9, \pm 12, \pm 15, \pm 24$          | 1500VDC   | SMD              | 15.24x11.40x7.25   | RoHS     |
|   | B_XT-1WR3            | 1W         | 3,3,5,12,15,24      | 3,3,5,9,12,15,24                                | 1500VDC   | SMD              | 13.20x11.40x7.25   | RoHS     |
|   | E_XT-1WR3            | 1W         | 3,3,5,12,15,24      | $\pm 5, \pm 9, \pm 12, \pm 15, \pm 24$          | 3000VDC   | SMD              | 15.24x11.40x7.25   | RoHS     |
|   | F_XT-1WR3            | 1W         | 3,3,5,12,15,24      | 3,3,5,6,9,12,15,24                              | 3000VDC   | SMD              | 13.20x11.40x7.25   | RoHS     |
|   | FB0505XT-1WR3        | 1W         | 5                   | 5   | 4200VDC   | SMD              | 15.24x11.40x7.25   | RoHS   |
|   | B_XT-2WR3            | 2W         | 3,3,5,12,15,24      | 3,3,5,9,12,15,24                                | 1500VDC   | SMD              | 12.70x11.20x7.25   | RoHS    |
| F_XT-2WR3   | 2W                   | 5,12,15,24 | 3,3,5,9,12,15,24    | 3000VDC   | SMD       | 12.70x11.20x7.25 | RoHS    |  |
| <b>SIP Package</b><br> | A_S-1WR3             | 1W         | 3,3,5,9,12,15,24    | $\pm 3.3, \pm 5, \pm 9, \pm 12, \pm 15, \pm 24$ | 1500VDC   | SIP              | 19.65x6.00x10.16   | RoHS     |
|   | B_LS-1WR3            | 1W         | 3,3,5,12,15,24      | 3,3,5,9,12,15,24                                | 1500VDC   | SIP              | 19.65x6.00x10.16   | RoHS     |
|   | B_S-1WR3             | 1W         | 3,3,5,12,15,24      | 3,3,5,9,12,15,24                                | 1500VDC   | SIP              | 11.60x6.00x10.16   | RoHS     |
|   | E_S-1WR3             | 1W         | 3,3,5,9,12,15,24    | $\pm 3.3, \pm 5, \pm 9, \pm 12, \pm 15, \pm 24$ | 3000VDC   | SIP              | 19.65x6.00x10.16   | RoHS     |
|   | F_S-1WR3             | 1W         | 3,3,5,9,12,15,24    | 3,3,5,9,12,15,24                                | 3000VDC   | SIP              | 19.65x6.00x10.16   | RoHS     |
|   | G_S-1WR2             | 1W         | 5,12,15,24          | $\pm 5, \pm 9, \pm 12, \pm 15$                  | 6000VDC   | SIP              | 19.50x9.80x12.50   | RoHS     |
|   | H_S-1WR2             | 1W         | 3,3,5,12,24         | 3,3,5,12,15                                     | 6000VDC   | SIP              | 19.50x9.80x12.50   | RoHS     |
|   | A_S-2WR3             | 2W         | 5,12,15,24          | $\pm 3.3, \pm 5, \pm 9, \pm 12, \pm 15, \pm 24$ | 1500VDC   | SIP              | 19.65x7.05x10.16   | RoHS     |
|   | B_S-2WR3             | 2W         | 5,12,15,24          | 3,3,5,9,12,15,24                                | 1500VDC   | SIP              | 19.65x7.05x10.16   | RoHS     |
|   | E_S-2WR3             | 2W         | 5,12,15,24          | $\pm 3.3, \pm 5, \pm 9, \pm 12, \pm 15, \pm 24$ | 3000VDC   | SIP              | 19.65x7.05x10.16   | RoHS     |
|   | F_S-2WR3             | 2W         | 5,12,15,24          | 5,9,12,15,24                                    | 3000VDC   | SIP              | 19.65x7.05x10.16   | RoHS     |
|   | G_S-2WR2             | 2W         | 5,12,15,24          | $\pm 5, \pm 9, \pm 12, \pm 15$                  | 6000VDC   | SIP              | 19.50x9.80x12.50   | RoHS     |
| H_S-2WR2  | 2W                   | 5,12,15,24 | 5,12,15             | 6000VDC   | SIP       | 19.50x9.80x12.50 | RoHS     |  |
| B_S-3WR2  | 3W                   | 5,12       | 5,9,12              | 1500VDC   | SIP       | 19.65x7.05x10.16 | RoHS   |  |
| F_S-3WR2  | 3W                   | 5,12,15    | 5,9,12,15           | 3000VDC   | SIP       | 19.65x7.05x10.16 | RoHS   |  |
| <b>DIP Package</b><br> | B05_LD-1WR2          | 1W         | 5                   | 5,50,60   | 1500VDC   | DIP              | 20.32x10.16x8.20   | RoHS   |
|   | F_N-1WR3             | 1W         | 5,12,24             | 3,3,5,9,12,15,24                                | 3000VDC   | DIP              | 12.70x10.16x8.20   | RoHS      |
|   | A_D-1WR2             | 1W         | 5,12,15,24          | $\pm 5, \pm 9, \pm 12, \pm 15, \pm 24$          | 1500VDC   | DIP              | 20.00x10.00x7.00   | RoHS   |
|   | B_D-1WR3             | 1W         | 3,3,5,12,15,24      | 3,3,5,9,12,15,24                                | 1500VDC   | DIP              | 12.70x10.16x8.20   | RoHS     |
|   | E_D-1WR3             | 1W         | 5,12,24             | $\pm 5, \pm 9, \pm 12, \pm 15$                  | 3000VDC   | DIP              | 20.00x10.00x7.00   | RoHS    |
|   | F_D-1WR2             | 1W         | 3,3,5,12,15,24      | 3,3,5,12,15                                     | 3000VDC   | DIP              | 20.00x10.00x7.00   | RoHS      |
|   | A_D-2WR2             | 2W         | 5,12,15,24          | $\pm 5, \pm 9, \pm 12, \pm 15, \pm 24$          | 1500VDC   | DIP              | 20.32x10.16x8.20   | RoHS     |
|   | B_D-2WR2             | 2W         | 3,3,5,9,12,24       | 3,3,5,9,12,15,24                                | 1500VDC   | DIP              | 20.32x10.16x8.20   | RoHS     |
|   | E_D-2WR3             | 2W         | 5,12,15,24          | $\pm 3.3, \pm 5, \pm 9, \pm 12, \pm 15, \pm 24$ | 3000VDC   | DIP              | 20.32x10.16x8.20   | RoHS     |
|   | F_D-2WR2             | 2W         | 5,12,15,24          | 5,9,12,15,24                                    | 3000VDC   | DIP              | 20.32x10.16x8.20   | RoHS     |

# DC/DC Converter

## Fixed input voltage, isolated & regulated output series

| SMD Package | Series      | Power | Input Voltage (VDC) | Output Voltage (VDC) | Isolation | Package | Dimension (mm)   | Certification       |
|-------------|-------------|-------|---------------------|----------------------|-----------|---------|------------------|---------------------|
|             | IB_XT-W75R3 | 0.75W | 5,12                | 3.3,5,9,12,15        | 1500VDC   | SMD     | 13.20x11.40x7.25 | RoHS CE             |
|             | IB_XT-1WR2  | 1W    | 5,12,24             | 3.3,5,12,15          | 1500VDC   | SMD     | 15.24x11.20x7.25 | RoHS CE             |
|             | IF_XT-1WR3  | 1W    | 5,12,24             | 3.3,5,9,12,15        | 3000VDC   | SMD     | 15.24x11.20x7.25 | RoHS CE             |
| SIP Package | Series      | Power | Input Voltage (VDC) | Output Voltage (VDC) | Isolation | Package | Dimension (mm)   | Certification       |
|             | IB_S-W75R3  | 1W    | 5,12,24             | 3.3,5,12,15          | 1500VDC   | SIP     | 11.60x6.00x10.16 | RoHS CE             |
|             | IB_LS-1WR3  | 1W    | 5,12,15,24          | 3.3,5,9,12,15,24     | 1500VDC   | SIP     | 19.65x6.00x10.16 | RoHS CE UL US CE CB |
|             | IF_S-1WR3   | 1W    | 5,12,15,24          | 3.3,5,9,12,15        | 3000VDC   | SIP     | 19.65x6.00x10.16 | RoHS CE UL US CE CB |
|             | IE_KS-1WR3  | 1W    | 5                   | ±5, ±9, ±12, ±15     | 3000VDC   | SIP     | 27.50x9.50x12.00 | RoHS CE             |

## Wide input voltage, non-isolated & regulated output series

| NEW DFN Package | Series                   | Current (mA) | Input Voltage Range (VDC) | Output Voltage (VDC)          | Package              | Dimension (mm)      | Certification       |
|-----------------|--------------------------|--------------|---------------------------|-------------------------------|----------------------|---------------------|---------------------|
|                 | K78_MT-500R4 <b>NEW</b>  | 500          | 4.5-36                    | ±3.3,±5,±6.5,±9,±12,±15       | DFN                  | 9.00x7.00x3.10      | RoHS                |
|                 | K78_MT-1000R4 <b>NEW</b> | 1000         | 4.75-36                   | ±3.3,±5,±6.5,±9,±12,±15       | DFN                  | 9.00x7.00x3.10      | RoHS                |
| SIP Package     | Series                   | Current (mA) | Input Voltage Range (VDC) | Output Voltage (VDC)          | Package              | Dimension (mm)      | Certification       |
|                 | K78-500R3                | 500/300/150  | 4.75-36                   | 3.3,5,9,12,15,-5,-12,-15      | SIP                  | 11.60x7.55x10.16    | RoHS CE UL US CE CB |
|                 | K78L-500R3               | 500/300/150  | 4.75-36                   | 3.3,5,12,15,-5,-12,-15        | SIP                  | 10.00x7.20x11.00    | RoHS CE UL US CE CB |
|                 | K78xxW-500R3             | 500/300/150  | 4.75-36                   | 3.3,5,9,12,15,-5,-12,-15      | SIP                  | 11.50x9.00x17.50    | RoHS CE             |
|                 | K78U-500R3(L) <b>NEW</b> | 500          | 9-80                      | 3.3,5,6.5,9,12,15             | SIP                  | 19.00x11.50x9.00(L) | RoHS                |
|                 | K78-1000R3(L)            | 1000/500/300 | 6-36                      | 3.3,5,9,12,15,-5,-12,-15      | SIP                  | 19.00x11.50x9.00(L) | RoHS CE UL US CE CB |
|                 | K78L-1000R3              | 1000/500/300 | 6-36                      | 3.3,5,12,15,-5,-12,-15        | SIP                  | 11.50x7.20x17.50    | RoHS CE UL US CE CB |
|                 | K78xxM-1000R3            | 1000/500/300 | 6-36                      | 3.3,5,9,12,15,-5,-12,-15      | SIP                  | 11.60x8.00x10.40    | RoHS CE             |
|                 | K78-2000R3               | 2000         | 4.5-36                    | 2.5,3.3,5,9,12,15             | SIP                  | 11.50x9.00x17.50    | RoHS CE             |
|                 | K78-3AR3                 | 3000         | 8-36                      | 3.3,5,6.5,9,12,15             | SIP                  | 32.15x9.05x18.95    | RoHS                |
|                 | SMD Package              | Series       | Current (mA)              | Input Voltage Range (VDC)     | Output Voltage (VDC) | Package             | Dimension (mm)      |
|                 | K78T-500R3               | 500          | 4.75-36                   | 1.5,1.8,2.5,3.3,5,6.5,9,12,15 | SMD                  | 11.40x15.24x8.25    | RoHS CE             |
|                 | K78T-1000R3              | 1000/800     | 4.75-36                   | 1.5,1.8,2.5,3.3,5,6.5,9,12    | SMD                  | 11.40x15.24x8.25    | RoHS CE             |
|                 | K78_JT-500R3             | 500          | 4.75-36                   | 3.3,5,9,12,15                 | SMD                  | 27.50x9.50x12.00    | RoHS CE             |
|                 | K12T-6A-P(N)             | 6000         | 8.3-14                    | 0.75-5                        | SMD                  | 20.30x11.40x6.60    | RoHS CE             |
|                 | K12T-10A/16A             | 10000/16000  | 8.3-14                    | 0.75-5                        | SMD                  | 33.02x13.50x8.32    | RoHS CE             |
|                 | KUB4812QB-10A            | 10000        | 16-75                     |                               | 12 SMD               | 59.2x37.60x13.00    | RoHS                |
|                 | KUB4824QB-10A            | 10000        | 30-75                     |                               | 24 SMD               | 59.2x37.60x13.00    | RoHS                |

## High output voltage, non-isolated & regulated output series

| DIP Package | Series                       | Power (W) | Input Voltage Range (VDC) | Output Voltage Range (VDC) | Package | Dimension (mm)    | Certification |
|-------------|------------------------------|-----------|---------------------------|----------------------------|---------|-------------------|---------------|
|             | HO1-P(N)1251V-0.5C           | 0.625     | 10.8-13.2                 | 0~-1250.0~+1250            | DIP     | 45.50x23.00x12.50 | RoHS          |
|             | HO1-P(N)1251V-0.5F           | 0.625     | 21.6-26.4                 | 0~-1250.0~+1250            | DIP     | 45.50x23.00x12.50 | RoHS          |
|             | HO1-P(N)1201-0.6B <b>NEW</b> | 0.72      | 4.5-5.5                   | 0~-1200.0~+1200            | DIP     | 15.00x15.00x18.00 | RoHS          |
|             | HO1-P(N)1501H-0.5C           | 0.75      | 10.8-13.2                 | 0~-1500.0~+1500            | DIP     | 45.50x23.00x12.50 | RoHS          |
|             | HO1-P(N)1501H-0.5D           | 0.75      | 13.5-16.5                 | 0~-1500.0~+1500            | DIP     | 45.50x23.00x12.50 | RoHS          |
|             | HO1-P(N)1251H-1B             | 1.25      | 4.75-5.25                 | 0~-1250.0~+1250            | DIP     | 45.50x23.00x12.50 | RoHS          |
|             | HO1-P(N)1251H-0.5F           | 0.625     | 21.6-26.4                 | 0~-1250.0~+1250            | DIP     | 45.50x23.00x12.50 | RoHS          |
|             | HO1-P(N)1251H-0.5C           | 0.625     | 10.8-13.2                 | 0~-1250.0~+1250            | DIP     | 45.50x23.00x12.50 | RoHS          |
|             | HO1-P(N)1251H-0.5D           | 0.625     | 13.5-16.5                 | 0~-1250.0~+1250            | DIP     | 45.50x23.00x12.50 | RoHS          |
|             | HO1-P601-2C                  | 1.2       | 10.8-13.2                 | 0~+600                     | DIP     | 46.00x25.70x15.50 | RoHS          |
|             | HO1-P401V-5C                 | 2         | 10.8-13.2                 | 0~+400                     | DIP     | 45.50x23.00x12.50 | RoHS          |
|             | HO1-P102-10F                 | 10        | 21.6-26.4                 | 0~+1000                    | DIP     | 62.00x45.00x22.50 | RoHS          |
|             | HO1-P102-30F                 | 30        | 21.6-26.4                 | 0~+1000                    | DIP     | 76.00x64.50x26.50 | RoHS          |
|             | HO1-P202-20D                 | 40        | 14-18                     | 0~+2000                    | DIP     | 80.00x55.00x28.00 | RoHS          |
|             | HO1-P102-20D                 | 40        | 14-18                     | 0~+1000                    | DIP     | 80.00x55.00x28.00 | RoHS          |

## SIP Package



## + 1-6W DC/DC converter specialized for medical

| Series     | Power | Input Voltage Range | Output Voltage (VDC) | Isolation | Dimension (mm)    | Certification       |
|------------|-------|---------------------|----------------------|-----------|-------------------|---------------------|
| G_S-1WR2   | 1W    | 5,12,15,24          | ±5,±9,±12,±15        | 6000VDC   | 19.50x9.80x12.50  | RoHS CE UL US CE    |
| H_S-1WR2   | 1W    | 3.3,5,12,15,24      | 3.3,5,12,15          | 6000VDC   | 19.50x9.80x12.50  | RoHS CE UL US CE CB |
| G_S-2WR2   | 2W    | 5,12,15,24          | ±5,±9,±12,±15        | 6000VDC   | 19.50x9.80x12.50  | RoHS CE UL US CE    |
| H_S-2WR2   | 2W    | 3.3,5,12,15,24      | 3.3,5,12,15          | 6000VDC   | 19.50x9.80x12.50  | RoHS CE UL US CE    |
| URH_P-6WR3 | 6W    | 9-36,18-75          | 5,6,9,12,15,24       | 6000VDC   | 31.60x20.30x10.20 | RoHS CE             |

## DIP Package

# DC/DC Converter



- 2:1, 4:1 input voltage range
- SIP, DIP, SMD, chassis mounting, DIN-Rail mounting
- Remote On/Off and output voltage trimming
- No overshoot voltage when switching
- EMI meets CISPR32/EN55032 CLASS A
- Continuous short-circuit protection, self-recovery

## Wide input voltage, isolated & regulated output series

| SIP Package |  | Wide input (2:1) |       |                          |                             |           |              |                      |               |
|-------------|--|------------------|-------|--------------------------|-----------------------------|-----------|--------------|----------------------|---------------|
|             |  | Series           | Power | Input Voltage Range(VDC) | Output Voltage (VDC)        | Isolation | Package      | Dimension (mm)       | Certification |
|             |  | WRA_S-1WR2       | 1W    | 4.5-9,9-18,18-36,36-75   | ± 5,±9,±12,±15              | 1500VDC   | SIP          | 9.00x7.00x3.10       | RoHS CE       |
|             |  | WRB_S-1WR2       | 1W    | 4.5-9,9-18,18-36,36-75   | 3.3,5,9,12,15,24            | 1500VDC   | SIP          | 13.20x7.00x3.10      | RoHS CE       |
|             |  | WRE_S-1WR2       | 1W    | 4.5-9,9-18,18-36,36-75   | ±5,±12,±15                  | 3000VDC   | SIP          | 13.20x7.00x3.10      | RoHS CE       |
|             |  | WRF_S-1WR2       | 1W    | 4.5-9,9-18,18-36,36-75   | 3.3,5,9,12,15,24            | 3000VDC   | SIP          | 13.20x7.00x3.10      | RoHS CE       |
|             |  | WRA_S-3WR2       | 3W    | 4.5-9,9-18,18-36,36-75   | ±5,±9,±12,±15,±24           | 1500VDC   | SIP          | 22.00x9.50x12.00     | RoHS CE       |
|             |  | WRB_S-3WR2       | 3W    | 4.5-9,9-18,18-36,36-75   | 3.3,5,6,9,12,15,24          | 1500VDC   | SIP          | 22.00x9.50x12.00     | RoHS CE       |
|             |  | WRE_S-3WR2       | 3W    | 4.5-9,9-18,18-36,36-75   | ±5,±9,±12,±15               | 3000VDC   | SIP          | 22.00x9.50x12.00     | RoHS CE       |
|             |  | WRF_S-3WR2       | 3W    | 4.5-9,9-18,18-36,36-75   | 3.3,5,9,12,15,24            | 3000VDC   | SIP          | 22.00x9.50x12.00     | RoHS CE       |
|             |  | VRB_S-6WR3       | 6W    | 9-18,18-36               | 3.3,5,9,12,15,24            | 1600VDC   | SIP          | 22.00x9.50x12.00     | RoHS CE       |
|             |  | VRB_S-10WR3      | 10W   | 9-18,18-36               | 3.3,5,9,12,15,24            | 1500VDC   | SIP          | 22.00x9.50x12.00     | RoHS CE       |
| <b>NEW</b>  |  | WRA_SD/T-1WR2    | 1W    | 9-18,18-36               | ± 5, ± 9, ± 12, ± 15        | 1500VDC   | SMD/DIP      | 15.00x14.00x9.10(ST) | RoHS          |
|             |  | WRB_SD/T-1WR2    | 1W    | 9-18,18-36               | 3.3,5,12,15,24              | 1500VDC   | SMD/DIP      | 15.00x14.00x9.10(ST) | RoHS          |
|             |  | WRA_SD/T-3WR2    | 3W    | 9-18,18-36               | ± 5, ± 9, ± 12, ± 15        | 1500VDC   | SMD/DIP      | 15.00x14.00x9.10(ST) | RoHS          |
|             |  | WRB_SD/T-3WR2    | 3W    | 9-18,18-36               | 3.3,5,12,15,24              | 1500VDC   | SMD/DIP      | 15.00x14.00x9.10(ST) | RoHS          |
|             |  | WRE_P-3WR2       | 3W    | 4.5-9,9-18,18-36,36-75   | ± 3.3, ± 5, ± 9, ± 12, ± 15 | 3000VDC   | DIP ,plastic | 31.60x20.30x10.20    | RoHS CE       |
|             |  | WRF_P-3WR2       | 3W    | 4.5-9,9-18,18-36,36-75   | 3.3,5,12,15,24              | 3000VDC   | DIP ,plastic | 31.60x20.30x10.20    | RoHS CE       |
|             |  | WRA_ZP-3WR2      | 3W    | 4.5-9,9-18,18-36,36-75   | ± 5, ± 9, ± 12, ± 15, ± 24  | 1500VDC   | DIP ,metal   | 32.00x20.00x10.80    | RoHS CE       |
|             |  | WRB_ZP-3WR2      | 3W    | 4.5-9,9-18,18-36,36-75   | 3.3,5,9,12,15,24            | 1500VDC   | DIP ,metal   | 32.00x20.00x10.80    | RoHS CE       |
|             |  | WRA_ZP-6WR3      | 6W    | 4.5-9,9-18,18-36,36-75   | ± 5, ± 12, ± 15, ± 24       | 1500VDC   | DIP ,metal   | 32.00x20.00x10.80    | RoHS CE       |
|             |  | WRB_ZP-6WR3      | 6W    | 4.5-9,9-18,18-36,36-75   | 3.3,5,12,15,24              | 1500VDC   | DIP ,metal   | 32.00x20.00x10.80    | RoHS CE       |
|             |  | WRA_ZP-10WR3     | 10W   | 9-18,18-36,36-75         | ± 5, ± 12, ± 15             | 1500VDC   | DIP ,metal   | 32.00x20.00x10.80    | RoHS CE       |
|             |  | WRB_ZP-10WR3     | 10W   | 9-18,18-36,36-75         | 3.3,5,12,15,24              | 1500VDC   | DIP ,metal   | 32.00x20.00x10.80    | RoHS CE       |
|             |  | VRB_LD-15WR3     | 15W   | 18-36,36-75              | 3.3,5,12,15,24              | 1500VDC   | DIP          | 50.80x25.40x11.80    | RoHS  CE CB   |
|             |  | VRA_LD-20WR3     | 20W   | 9-18,18-36,36-75         | ± 5, ± 9, ± 12, ± 15, ± 24  | 1500VDC   | DIP          | 50.80x25.40x11.80    | RoHS CE       |
|             |  | VRB_LD-20WR3     | 20W   | 9-18,18-36,36-75         | 3.3,5,9,12,15,24,110        | 1500VDC   | DIP          | 50.80x25.40x11.80    | RoHS CE       |
|             |  | VRB_LD-30WR3     | 30W   | 18-36,36-75              | 3.3,5,9,12,15,24            | 1500VDC   | DIP          | 50.80x25.40x11.80    | RoHS CE       |
|             |  | VRB_LD-40WHR3    | 40W   | 18-36,36-75              | 5,12,15,24                  | 1500VDC   | DIP          | 51.40x26.20x16.50    | RoHS CE       |
|             |  | VRB_LD-50W(H)R3  | 50W   | 18-36,36-75              | 3.3,5,12,15,24              | 1500VDC   | DIP          | 50.80x25.40x11.80    | RoHS          |
|             |  |                  |       |                          |                             |           |              |                      |               |
| DIP Package |  | VRA_YMD-6WR3     | 6W    | 9-18,18-36               | ± 5, ± 12, ± 15             | 1500VDC   | DIP          | 25.40x25.40x11.70    | RoHS  CE CB   |
|             |  | VRB_YMD-6WR3     | 6W    | 9-18,18-36,36-75         | 3.3,5,9,12,15,24            | 1500VDC   | DIP          | 25.40x25.40x11.70    | RoHS CE       |
|             |  | VRA_YMD-10WR3    | 10W   | 4.5-9                    | ± 5, ± 12, ± 15, ± 24       | 1500VDC   | DIP          | 25.40x25.40x11.70    | RoHS CE       |
|             |  | VRB_YMD-10WR3    | 10W   | 4.5-9,9-18,18-36,36-75   | 3.3,5,12,15,24              | 1500VDC   | DIP          | 25.40x25.40x11.70    | RoHS CE       |
|             |  | VRB_YMD-15WR3    | 15W   | 9-18,18-36,36-75         | 3.3,5,12,15,24              | 1500VDC   | DIP          | 25.40x25.40x11.70    | RoHS CE       |
|             |  | VRB_YMD-20WR3    | 20W   | 9-18,18-36,36-75         | 3.3,5,12,15,24              | 1500VDC   | DIP          | 25.40x25.40x11.70    | RoHS CE       |
|             |  |                  |       |                          |                             |           |              |                      |               |
| Ultra-thin  |  | VRB_J(M)D/T-3W   | 3W    | 4.5-9,9-36               | 3.3,5,12,15,24              | 1500VDC   | DIP/SMD      | 26.20x16.40x6.80     | RoHS CE       |
|             |  | VRB_J(M)D/T-6W   | 6W    | 9-18,18-36               | 3.3,5,12,15                 | 1500VDC   | DIP/SMD      | 33.78x19.10x7.00     | RoHS  CE CB   |

# DC/DC Converter

## SIP Package



## Ultra-wide input (4:1)

| Series      | Power | Input Voltage Range(VDC) | Output Voltage (VDC)  | Isolation | Dimension (mm)   | Package | Certification |
|-------------|-------|--------------------------|-----------------------|-----------|------------------|---------|---------------|
| UWE_S-1WR3  | 1W    | 4.5-36                   | ±5, ±12, ±15          | 3000VDC   | 22.00x9.50x12.00 | SIP     | RoHS CE       |
| UWF_S-1WR3  | 1W    | 4.5-36                   | 5, 12, 15             | 3000VDC   | 22.00x9.50x12.00 | SIP     | RoHS CE       |
| UWE_S-3WR3  | 3W    | 4.5-36                   | ±5, ±12, ±15          | 3000VDC   | 22.00x9.50x12.00 | SIP     | RoHS CE       |
| UWF_S-3WR3  | 3W    | 4.5-36                   | 5, 12, 15             | 3000VDC   | 22.00x9.50x12.00 | SIP     | RoHS CE       |
| URD_S-3WR3  | 3W    | 18-75                    | 5/5, 5/12, 5/24       | 3000VDC   | 27.40x9.50x12.00 | SIP     | RoHS CE       |
| URB_S-6WR3  | 6W    | 9-36                     | 3, 3.5, 9, 12, 15, 24 | 1600VDC   | 22.00x9.50x12.00 | SIP     | RoHS CE       |
| URB_S-10WR3 | 10W   | 9-36                     | 3, 3.5, 9, 12, 15, 24 | 1500VDC   | 22.00x9.50x12.00 | SIP     | RoHS CE       |

## DIP Package



DIP 24

|              |     |             |                           |         |                   |              |            |
|--------------|-----|-------------|---------------------------|---------|-------------------|--------------|------------|
| URH_P-6WR3   | 6W  | 9-36, 18-75 | 5, 6, 9, 12, 15, 24       | 6000VDC | 31.60x20.30x10.20 | DIP ,plastic | RoHS CE    |
| URE_P-6WR3   | 6W  | 9-36        | ±5, ±12, ±15              | 3000VDC | 31.60x20.30x10.20 | DIP ,plastic | RoHS CE CB |
| URF_P-6WR3   | 6W  | 9-36, 18-75 | 3, 3.5, 9, 12, 15, 24, 25 | 3000VDC | 31.60x20.30x10.20 | DIP ,plastic | RoHS CE CB |
| PWB_ZP-3WR2  | 3W  | 9-36, 18-75 | 3, 3.5, 9, 12, 15, 24     | 1500VDC | 32.00x20.00x10.80 | DIP ,metal   | RoHS CE    |
| URA_ZP-6WR3  | 6W  | 9-36, 18-75 | ±5, ±9, ±12, ±15, ±24     | 1500VDC | 32.00x20.00x10.80 | DIP ,metal   | RoHS CE CB |
| URB_ZP-6WR3  | 6W  | 9-36, 18-75 | 3, 3.5, 9, 12, 15, 24     | 1500VDC | 32.00x20.00x10.80 | DIP ,metal   | RoHS CE CB |
| URA_ZP-10WR3 | 10W | 9-36, 18-75 | ±5, ±12, ±15              | 1500VDC | 32.00x20.00x10.80 | DIP ,metal   | RoHS CE    |
| URB_ZP-10WR3 | 10W | 9-36, 18-75 | 3, 3.5, 12, 15, 24        | 1500VDC | 32.00x20.00x10.80 | DIP ,metal   | RoHS CE    |

## DIP Package



1×1inch

|               |     |             |                       |         |                   |     |            |
|---------------|-----|-------------|-----------------------|---------|-------------------|-----|------------|
| URA_YMD-6WR3  | 6W  | 9-36, 18-75 | ±5, ±12, ±15, ±24     | 1500VDC | 25.40x25.40x11.70 | DIP | RoHS CE CB |
| URB_YMD-6WR3  | 6W  | 9-36, 18-75 | 3, 3.5, 9, 12, 15, 24 | 1500VDC | 25.40x25.40x11.70 | DIP | RoHS CE CB |
| URA_YMD-10WR3 | 10W | 9-36, 18-75 | ±5, ±9, ±12, ±15, ±24 | 1500VDC | 25.40x25.40x11.70 | DIP | RoHS CE CB |
| URB_YMD-10WR3 | 10W | 9-36, 18-75 | 3, 3.5, 9, 12, 15, 24 | 1500VDC | 25.40x25.40x11.70 | DIP | RoHS CE CB |
| URD_YMD-10WR3 | 10W | 18-75       | 5/5, 5/12, 5/24       | 1500VDC | 25.40x25.40x11.70 | DIP | RoHS CE    |
| URA_YMD-15WR3 | 15W | 9-36, 18-75 | ±5, ±12, ±15, ±24     | 1500VDC | 25.40x25.40x11.70 | DIP | RoHS CE    |
| URB_YMD-15WR3 | 15W | 9-36, 18-75 | 3, 3.5, 12, 15, 24    | 1500VDC | 25.40x25.40x11.70 | DIP | RoHS CE CB |
| URA_YMD-20WR3 | 20W | 9-36, 18-75 | ±5, ±12, ±15, ±24     | 1500VDC | 25.40x25.40x11.70 | DIP | RoHS CE    |
| URB_YMD-20WR3 | 20W | 9-36, 18-75 | 3, 3.5, 6, 12, 15, 24 | 1500VDC | 25.40x25.40x11.70 | DIP | RoHS CE CB |
| URA_YMD-30WR3 | 30W | 18-75       | ±12, ±15, ±24         | 1500VDC | 25.40x25.40x11.70 | DIP | RoHS       |
| URB_YMD-30WR3 | 30W | 18-75       | 5, 12, 15, 24         | 1500VDC | 25.40x25.40x11.70 | DIP | RoHS       |

## DIP Package



2×1inch

|              |     |             |                       |         |                   |              |                   |
|--------------|-----|-------------|-----------------------|---------|-------------------|--------------|-------------------|
| URE_LP-10WR3 | 10W | 9-36, 18-75 | ±5, ±12, ±15          | 3000VDC | 51.50x26.50x12.00 | DIP ,plastic | RoHS CE CB        |
| URF_LP-10WR3 | 10W | 9-36, 18-75 | 3, 3.5, 9, 12, 15, 24 | 3000VDC | 51.50x26.50x12.00 | DIP ,plastic | RoHS CE CB        |
| URF_LP-20WR3 | 20W | 9-36, 18-75 | 3, 3.5, 9, 12, 15, 24 | 3000VDC | 51.50x26.50x12.00 | DIP ,plastic | RoHS CE CB        |
| URH_LP-20WR3 | 20W | 9-36, 18-75 | 3, 3.5, 9, 12, 15, 24 | 5000VAC | 51.50x26.50x12.00 | DIP ,plastic | RoHS CE (pending) |
| URA_LD-20WR3 | 20W | 9-36, 18-75 | ±5, ±9, ±12, ±15      | 1500VDC | 50.80x25.40x11.80 | DIP ,metal   | RoHS CE CB        |
| URB_LD-20WR3 | 20W | 9-36, 18-75 | 3, 3.5, 9, 12, 15, 24 | 1500VDC | 50.80x25.40x11.80 | DIP ,metal   | RoHS CE CB        |
| URD_LD-20WR3 | 20W | 18-75       | 5/5, 5/12, 5/24       | 3000VDC | 50.80x25.40x11.80 | DIP ,metal   | RoHS CE           |
| URA_LD-30WR3 | 30W | 9-36, 18-75 | ±5, ±12, ±15, ±24     | 1500VDC | 50.80x25.40x11.80 | DIP ,metal   | RoHS CE           |
| URB_LD-30WR3 | 30W | 9-36, 18-75 | 3, 3.5, 9, 12, 15, 24 | 1500VDC | 50.80x25.40x11.80 | DIP ,metal   | RoHS CE CB        |
| URD_D-30WR3  | 30W | 18-75       | 5/24                  | 3000VAC | 70.00x48.00x26.00 | DIP ,metal   | RoHS CE           |



1/4 Brick

|               |      |             |                       |         |                   |     |         |
|---------------|------|-------------|-----------------------|---------|-------------------|-----|---------|
| URF_QB-75WR3  | 75W  | 18-75       | 5, 12, 15, 24, 48     | 2250VDC | 62.00x56.00x14.60 | DIP | RoHS CE |
| URF_QB-100WR3 | 100W | 9-36, 18-75 | 5, 12, 15, 24, 28, 48 | 2250VDC | 62.00x56.00x14.60 | DIP | RoHS CE |
| URF_QB-150WR3 | 150W | 18-75       | 5, 12, 15, 24, 48     | 2250VDC | 62.00x56.00x14.60 | DIP | RoHS CE |
| URF_QB-200WR3 | 200W | 18-75       | 5, 12, 15, 24, 48     | 2250VDC | 62.00x56.00x14.60 | DIP | RoHS CE |

## Ultra-thin



|                 |     |             |                       |         |                   |         |            |
|-----------------|-----|-------------|-----------------------|---------|-------------------|---------|------------|
| URB_MT-3WR3     | 3W  | 9-36, 18-75 | 3, 3.5, 9, 12, 15, 24 | 1500VDC | 19.20x18.10x10.16 | SMD     | RoHS CE CB |
| URB_J(M)D/T-3W  | 3W  | 9-36        | 3, 3.5, 12, 15, 24    | 1500VDC | 26.20x16.40x6.80  | DIP/SMD | RoHS CE    |
| URB_J(M)D/T-10W | 10W | 9-36        | 5, 12, 15             | 1500VDC | 41.40x22.00x7.00  | DIP/SMD | RoHS CE CB |
| URB_J(M)D/T-15W | 15W | 9-36, 18-75 | 3, 3.5, 12, 15        | 1500VDC | 39.90x29.50x6.80  | DIP/SMD | RoHS CE    |

NEW

## Communication



## DC/DC converter specialized for communications industry

| Series         | Power | Input Voltage Range(VDC) | Output Voltage (VDC)   | Isolation | Dimension (mm)    | Package | Certification |
|----------------|-------|--------------------------|------------------------|-----------|-------------------|---------|---------------|
| VCB_SO-3WR3    | 3W    | 36-75                    | 5, 12, 15, 24          | 1500VDC   | 22.00x8.20x12.80  | SIP     | RoHS CE       |
| VCB_SO-6WR3    | 6W    | 36-75                    | 5, 12, 15, 24          | 1500VDC   | 22.00x8.20x12.80  | SIP     | RoHS CE       |
| VCB_SBO-10WR3  | 10W   | 36-75                    | 5, 12, 15, 24          | 1500VDC   | 33.02x22.86x10.27 | DIP     | RoHS          |
| VCB_SBO-20WR3  | 20W   | 36-75                    | 3, 3.5, 12, 15, 24, 28 | 1500VDC   | 33.00x23.00x11.47 | DIP     | RoHS          |
| VCB_SBO-30WR3  | 30W   | 36-75                    | 5, 12, 15, 24          | 1500VDC   | 33.02x22.86x9.18  | DIP     | RoHS          |
| VCB-EBO-100WR3 | 100W  | 36-75                    | 5, 12, 15, 24, 28      | 1500VDC   | 58.42x22.86x9.69  | DIP     | RoHS          |
| VCB-QBO-200WR3 | 200W  | 36-75                    | 5, 12, 15, 24, 28, 48  | 1500VDC   | 58.40x36.80x12.94 | DIP     | RoHS          |
| VCF-QBO-400WR3 | 400W  | 36-75                    | 12, 15, 24, 28         | 2250VDC   | 57.90x36.80x12.90 | DIP     | RoHS          |

# DC/DC Converter

SMD Package



SIP Package



DIP Package



## DC/DC converter specialized for automotive electronics (IATF16949)

| Series          | Power | Input Voltage Range(VDC) | Output Voltage (VDC) | Isolation | Package    | Dimension (mm)    | Certification                     |
|-----------------|-------|--------------------------|----------------------|-----------|------------|-------------------|-----------------------------------|
| CF0505XT-1WR3   | 1W    | 4.5-5.5                  | 5                    | 3500VDC   | SMD        | 13.20x11.40x7.25  | Meets AEC-Q100 standard <b>CE</b> |
| CFB0505XT-1WR3  | 1W    | 4.5-5.5                  | 5                    | 4200VDC   | SMD        | 15.24x11.40x7.25  | Meets AEC-Q100 standard <b>CE</b> |
| CWRF_S-3W       | 3W    | 7-18                     | 15                   | 4300VDC   | SIP        | 22.00x9.50x12.00  | Meets AEC-Q100 standard           |
| CVRC_JD-6WR3    | 6W    | 9-18                     | 15                   | 3000VDC   | SMD        | 42.10x25.00x10.50 | Meets AEC-Q100 standard <b>CE</b> |
| CUWF_J(Y)T-3WR3 | 3W    | 6-42                     | 5,12,15,24           | 3000VAC   | SMD        | 43.68x25.00x10.64 | Meets AEC-Q100 standard <b>CE</b> |
| CUWF_J(Y)T-6WR3 | 6W    | 6-42                     | 5,12,15,24           | 3000VAC   | SMD        | 43.68x25.00x10.64 | Meets AEC-Q100 standard <b>CE</b> |
| CUWF_YMD-6WR3   | 6W    | 4.5-36                   | 3.3,5,12,15,24       | 1500VDC   | DIP        | 25.40x25.40x11.70 | Meets AEC-Q100 standard <b>CE</b> |
| UW2405D-20W     | 20W   | 6-50                     | 5                    | 1500VDC   | DIP ,metal | 50.80x40.60x11.80 |                                   |
| UWD240512D-20W  | 20W   | 6-60                     | 5,12                 | 1500VDC   | DIP ,metal | 50.80x40.60x11.80 |                                   |

DIP Package



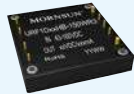
## DC/DC converter for IGBT driver of automotive electronics

| Series | Input Voltage (VDC) | Input Voltage Range(VDC) | Positive/Negative Output(VDC) | Output Current(mA) | Isolation | Dimension (mm)    | Certification |
|--------|---------------------|--------------------------|-------------------------------|--------------------|-----------|-------------------|---------------|
| CQAW01 | 12                  | 7-18                     | +15/-9                        | +200/-200          | 3000VAC   | 31.60x20.30x10.20 | <b>RoHS</b>   |

LMD: 2x1(In-pin) / LD: 2x1(Off-pin)



2x1, 1x1 inch



1/4, 1/2 Brick



\*A7\* suffix: Integrated mounting

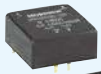


## DC/DC converter specialized for rail transit

| Series                      | Power | Input Voltage Range(VDC) | Output Voltage (VDC)  | Isolation | Package          | Dimension (mm)     | Certification            |
|-----------------------------|-------|--------------------------|-----------------------|-----------|------------------|--------------------|--------------------------|
| URA1D_YMD-6WR3              | 6W    | 40-160                   | ± 5, ± 12, ± 15       | 2250VDC   | DIP              | 25.40x25.40x11.70  | <b>RoHS CE</b>           |
| URB1D_YMD-6WR3              | 6W    | 40-160                   | 5,12,15,24            | 2250VDC   | DIP              | 25.40x25.40x11.70  | <b>RoHS CE</b>           |
| URA1D_(X)LMD-10WR3          | 10W   | 40-160                   | ± 5, ± 12, ± 15       | 2250VDC   | DIP              | 50.80x25.40x11.80  | <b>RoHS CE</b>           |
| URB1D_LMD-10WR3             | 10W   | 40-160                   | 3.3,5,12,15,24        | 2250VDC   | DIP              | 50.80x25.40x11.80  | <b>RoHS CE</b>           |
| URB1D_LMD-15WR3             | 15W   | 40-160                   | 3.3,5,12,15,24        | 2250VDC   | DIP              | 50.80x25.40x11.80  | <b>RoHS CE</b>           |
| URB1D_LMD-20WR3             | 20W   | 40-160                   | 3.3,5,12,15,24        | 2250VDC   | DIP              | 50.80x25.40x11.80  | <b>RoHS CE</b>           |
| URB1D_LD-20WR3              | 20W   | 40-160                   | 3.3,5,12,15,24        | 2250VDC   | DIP              | 50.80x25.40x11.80  | <b>RoHS CE</b>           |
| URE1D_LD-20WR3              | 20W   | 40-160                   | ± 12, ± 15, ± 24      | 3000VDC   | DIP              | 50.80x25.40x11.80  | <b>RoHS</b>              |
| URF1D_LD-40WR3              | 40W   | 40-160                   | 3.3,5,12,15,24,48     | 3000VDC   | DIP              | 50.80x25.40x11.80  | <b>RoHS CE</b>           |
| URF1D_QB-50WR3              | 50W   | 43-160                   | 3.3,5,12,15,24,48     | 3000VAC   | DIP              | 60.80x39.20x12.70  | <b>RoHS CE</b>           |
| URF1D_QB-75WR3              | 75W   | 43-160                   | 3.3,5,12,15,24,48     | 3000VAC   | DIP              | 60.80x39.20x12.70  | <b>RoHS CE</b>           |
| URF1D_QB-100WR3             | 100W  | 43-160                   | 3.3,5,12,15,24,48     | 3000VAC   | DIP              | 60.80x39.20x12.70  | <b>RoHS CE</b>           |
| URF1D_HB-150WR3             | 150W  | 43-160                   | 5,12,15,24,48         | 3000VAC   | DIP              | 61.00x57.90x13.80  | <b>RoHS CE</b>           |
| URF1D_HB-250WR3             | 250W  | 40-160                   | 5,12,15,24,48,54      | 3000VAC   | DIP              | 61.00x57.90x13.80  | <b>RoHS CE</b>           |
| URF1D_HB-250WR3A7           | 250W  | 43-160                   | 5,12,15,24,48,54      | 3000VAC   | Chassis mounting | 165.00x78.00x41.50 | <b>RoHS CE</b>           |
| URF1D_FB-400WR3             | 400W  | 66-160                   | 5,9,12,15,24,28,48,54 | 3000VAC   | DIP              |                    |                          |
| UWTH1D-QB-50WR3 <b>NEW</b>  | 50W   | 14-160                   | 3,5,12,15,24,48,54    | 3000VAC   | DIP              | 57.90x36.80x12.70  | <b>RoHS CE</b> (pending) |
| UWTH1D-QB-100WR3 <b>NEW</b> | 100W  | 14-160                   | 12,15,24,28,48,54     | 3000VAC   | DIP              | 57.90x37.80x12.70  | <b>RoHS CE</b> (pending) |
| UWTH1D-HB-100WR3 <b>NEW</b> | 100W  | 14-160                   | 12,24,28,48,54        | 3000VAC   | DIP              | 62.00x37.80x14.00  | <b>RoHS CE</b> (pending) |
| UWTH1D-HB-200WR3 <b>NEW</b> | 200W  | 14-160                   | 12,24,28,48,54        | 3000VAC   | DIP              | 62.00x37.80x14.00  | <b>RoHS CE</b> (pending) |

1/4, 1/2 Brick

DIP Package



## DC/DC converter specialized for super-capacitor and lithium battery-powered

| Series          | Input Voltage (VDC) Nominal (Range) | Output Voltage (VDC) | Constant Current(mA) | Isolation | Package | Dimension (mm)    | Certification |
|-----------------|-------------------------------------|----------------------|----------------------|-----------|---------|-------------------|---------------|
| URF2428LP-700   | 9-36 (24VDC)                        | 0-28.5               | 700                  | 4200VDC   | SMD     | 51.50x26.50x12.00 | <b>RoHS</b>   |
| URB24A5YMD-1000 | 9-36 (24VDC)                        | 0-5.06               | 1000                 | 1500VDC   | SMD     | 25.40x25.40x11.70 | <b>RoHS</b>   |

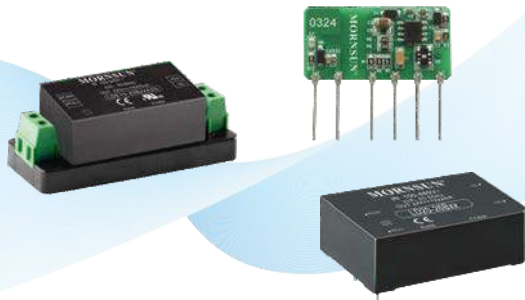
DIP Package



| Series        | Input Voltage Range | Output Voltage (VDC) | No. of Outputs | Isolation | Package | Dimension (mm)    | Certification  |
|---------------|---------------------|----------------------|----------------|-----------|---------|-------------------|----------------|
| MBP2403YMD-3A | 16-32VDC            | 2-3.65               | 1              | 1000VDC   | DIP     | 25.40x25.40x11.70 | <b>RoHS CE</b> |
| MBP4803YMD-3A | 30-60VDC            | 2-3.65               | 1              | 1000VDC   | DIP     | 25.40x25.40x11.70 | <b>RoHS CE</b> |



# AC/DC Converter



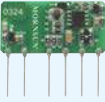

































## LS Series

- Low power consumption, low ripple & noise
- Ultra-compact size, high power density
- High flexible for the PCB layout
- Isolation voltage up to 4000VAC



## Three-phase AC/DC power supply

- Ultra-wide input voltage: 45-528VAC/65-745VDC
- Compact size, high power density
- Isolation voltage up to 4000VAC







## 1-10W cost-effective DIY type LS series

| SIP Package   | Series                   | Power | Input Voltage Range  | Output Voltage (VDC) | Isolation | Dimension (mm)    | Certification  |
|---|--------------------------|-------|----------------------|----------------------|-----------|-------------------|--|
|   | LS01-15BxxSS(-F)         | 1W    | 85-305VAC/70-430VDC  | 5,9,12,15,24         | 3000VAC   | 35.00x11.00x18.00 | RoHS               |
|  | LS03-15A12SR2S           | 2.4W  | 85-264VAC/100-370VDC | ±12                  | 3000VAC   | 35.00x21.00x13.00 | RoHS   |
|   | LS03-13BxxR3 <b>NEW</b>  | 3W    | 85-305VAC/70-430VDC  | 3,3.5,9,12,15,24     | 3000VAC   | 26.40x12.58x11.00 | RoHS               |
|   | LS05-15BxxSS(-F)         | 5W    | 85-305VAC/100-430VDC | 3,3.5,9,12,15,24     | 4000VAC   | 40.00x12.80x20.00 | RoHS               |
|   | LS05-13BxxR3 <b>NEW</b>  | 5W    | 85-305VAC/70-430VDC  | 3,3.5,9,12,15,24     | 3000VAC   | 26.40x14.73x11.00 | RoHS               |
|   | LS08-13BxxSS(-F)         | 8W    | 85-305VAC/100-430VDC | 3,3.5,9,12,15,24     | 3000VAC   | 44.50x15.00x24.00 | RoHS               |
|   | LS10-13BxxR3 <b>NEW</b>  | 10W   | 85-305VAC/100-430VDC | 3,3.5,9,12,15,24     | 3000VAC   | 32.00x17.20x15.05 | RoHS               |
|   | LS10-13BxxR3P <b>NEW</b> | 10W   | 85-305VAC/90-430VDC  | 3,3.5,9,12,15,24     | 3000VAC   | 28.84x17.20x14.05 | RoHS     (pending) |
|   | LS15-13BxxSS(-F)         | 15W   | 85-305VAC/100-430VDC | 3,3.5,9,12,15,24     | 3000VAC   | 44.50x15.00x24.00 | RoHS               |

## 85-264VAC input voltage AC/DC core board scheme LSC series




















| Core board   | Series      | Power  | Input Voltage Range  | Output Voltage (VDC) | Isolation | Dimension (mm)   | Certification |
|--|-------------|--------|----------------------|----------------------|-----------|------------------|---------------|
|  | LSC20-20M03 | 11.55W | 85-264VAC/100-370VDC | 3.3                  | 4000VAC   | 32.10x16.80x3.00 | RoHS          |
|  | LSC20-20M05 | 15.5W  | 85-264VAC/100-370VDC | 5                    | 4000VAC   | 32.10x16.80x3.00 | RoHS          |
| <b>Demo board</b>  | LSC20-20M09 | 20W    | 85-264VAC/100-370VDC | 9                    | 4000VAC   | 32.10x16.80x3.00 | RoHS          |
|  | LSC20-20M12 | 20W    | 85-264VAC/100-370VDC | 12                   | 4000VAC   | 32.10x16.80x3.00 | RoHS          |
|  | LSC20-20M15 | 20W    | 85-264VAC/100-370VDC | 15                   | 4000VAC   | 32.10x16.80x3.00 | RoHS          |
|  | LSC20-20M24 | 20W    | 85-264VAC/100-370VDC | 24                   | 4000VAC   | 32.10x16.80x3.00 | RoHS          |

## 1-5W non-isolated AC/DC converter LS-K3B series

| SIP Package   | Series                  | Power | Input Voltage Range | Output Voltage (VDC) | Output Current | Dimension (mm)   | Certification  |
|---|-------------------------|-------|---------------------|----------------------|----------------|------------------|--|
|   | LS01-K3BxxSS            | 1W    | 85-305VAC/70-430VDC | 5                    | 200mA          | 16.13x15.10x9.50 | RoHS            |
|  | LS03-K3BxxSS            | 3W    | 85-305VAC/70-430VDC | 12                   | 250mA          | 16.13x15.10x9.50 | RoHS            |
|  | LS05-K3BxxSS <b>NEW</b> | 5W    | 85-305VAC/70-430VDC | 12,15,18             | 330mA          | 16.13x15.10x9.50 | RoHS  (pending) |

• Be careful: An electric shock may occur with non-isolated AC/DC converter as its non-isolated between primary side and secondary side.

## Three-phase AC/DC power supply

| Series  | Power            | Input Voltage Range | Output Voltage (VDC) | Isolation  | Dimension (mm) | Certification     |  |
|---|------------------|---------------------|----------------------|--|----------------|-------------------|--|
|  | LSC15-26M05      | 15W                 | 45-528VAC/65-745VDC  | Vo1: 5<br>Vo1/Vo2: 5/5,5/24<br>Vo1/Vo2/Vo3: 5/±5,5/±12,5/±15 | 4000VAC        | 37.00x20.00x4.60  | RoHS   |
|  | LSC15-26M09      | 15W                 | 45-528VAC/65-745VDC  | 9  | 4000VAC        | 37.00x20.00x4.60  | RoHS   |
| <b>Core board scheme</b>  | LSC15-26M12      | 15W                 | 45-528VAC/65-745VDC  | 12   | 4000VAC        | 37.00x20.00x4.60  | RoHS   |
|   | LSC15-26M15      | 15W                 | 45-528VAC/65-745VDC  | 15   | 4000VAC        | 37.00x20.00x4.60  | RoHS   |
|   | LSC15-26M24      | 15W                 | 45-528VAC/65-745VDC  | 24   | 4000VAC        | 37.00x20.00x4.60  | RoHS   |
|  | LS03-16BxxSS(-F) | 3W                  | 90-528VAC/100-745VDC | 3,3.5,9,12,15,24   | 4000VAC        | 44.50x22.00x13.00 | RoHS     |
|   | LS05-26BxxSS(-F) | 5W                  | 90-528VAC/100-745VDC | 3,3.5,9,12,15,24   | 4000VAC        | 44.50x24.00x13.00 | RoHS    |
|  | LD03-16B         | 3W                  | 90-528VAC/100-745VDC | 3,3.5,9,12,15,24   | 3000VAC        | 50.80x25.40x15.16 | RoHS     |
|   | LD10-26B         | 10W                 | 90-528VAC/100-745VDC | 3,3.5,9,12,15,24   | 4000VAC        | 62.00x45.00x30.00 | RoHS    |
|   | LD20-26B         | 20W                 | 90-528VAC/100-745VDC | 3,3.5,9,12,15,24   | 4000VAC        | 70.00x48.00x30.00 | RoHS     |
|   | LO10-26D0512-04L | 10.92W              | 57-528VAC/80-745VDC  | 5.1/12   | 4000VAC        | 80.00x40.00x35.00 | RoHS   |
|   | LO15-26D1212-03  | 13.2W               | 57-528VAC/80-745VDC  | 12/12  | 4000VAC        | 80.00x40.00x35.00 | RoHS   |
|   | LO15-26D1305-03  | 15W                 | 57-528VAC/80-745VDC  | 5/13.5   | 4000VAC        | 80.00x40.00x35.00 | RoHS   |

# AC/DC Converter

## 1-60W compact size LD/LDE series

| Series                    | Power | Input Voltage Range  | Output Voltage (VDC) | Isolation | Dimension (mm)    | Certification     |
|---------------------------|-------|----------------------|----------------------|-----------|-------------------|-------------------|
| LD01-10B                  | 1W    | 85-305VAC/120-430VDC | 3.3,5,9,12,15,24     | 3000VAC   | 33.70x22.20x18.00 | RoHS  CE          |
| LDE02-23B                 | 2W    | 85-305VAC/120-430VDC | 3.3,5,9,12,15,24     | 4000VAC   | 33.70x22.20x18.00 | RoHS  CE CB       |
| LD03-23BxxR2 <b>NEW</b>   | 3W    | 85-305VAC/100-430VDC | 3.3,5,9,12,15,24     | 4000VAC   | 25.40x25.40x17.60 | RoHS  CE CB       |
| LD05-23BxxR2 <b>NEW</b>   | 5W    | 85-305VAC/100-430VDC | 3.3,5,9,12,15,24     | 4000VAC   | 25.40x25.40x17.60 | RoHS  CE CB       |
| LD05-23BxxR2-M <b>NEW</b> | 5W    | 85-305VAC/100-430VDC | 3.3,5,9,12,15,24     | 4000VAC   | 45.70x25.40x21.50 | RoHS CE (pending) |
| LD10-23BxxR2 <b>NEW</b>   | 10W   | 85-305VAC/100-430VDC | 3.3,5,9,12,15,24     | 4000VAC   | 40.00x25.4x21.00  | RoHS  CE CB       |
| LD10-23BxxR2-M <b>NEW</b> | 10W   | 85-305VAC/100-430VDC | 3.3,5,9,12,15,24     | 4000VAC   | 47.60x26.80x23.50 | RoHS  CE CB       |
| LD15-23BxxR2 <b>NEW</b>   | 15W   | 85-305VAC/100-430VDC | 3.3,5,9,12,15,24     | 4000VAC   | 47.60x26.80x23.50 | RoHS  CE CB       |
| LD15-23BxxR2-M <b>NEW</b> | 15W   | 85-305VAC/100-430VDC | 3.3,5,9,12,15,24     | 4000VAC   | 52.40x27.20x24.00 | RoHS  CE CB       |
| LD20-23BxxR2 <b>NEW</b>   | 20W   | 85-305VAC/100-430VDC | 3.3,5,9,12,15,24     | 4000VAC   | 52.40x27.20x24.00 | RoHS  CE CB       |
| LDE03-20B-W               | 3W    | 85-264VAC/100-370VDC | 3.3,5,9,12,15,24     | 4000VAC   | 37.00x24.50x18.00 | RoHS  CE CB       |
| LD03-20B-WG               | 3W    | 85-264VAC/120-373VDC | 5,12,24              | 4000VAC   | 32.30x27.30x21.80 | RoHS CE           |
| LD03-20B-C                | 3W    | 85-264VAC/100-370VDC | 3.3,5,9,12,15,24     | 4000VAC   | 37.00x24.50x18.00 | RoHS  CE CB       |
| LDE05-20B-W               | 5W    | 85-264VAC/100-370VDC | 3.3,5,9,12,15,24     | 4000VAC   | 37.00x24.50x18.00 | RoHS  CE CB       |
| LD05-20B-C                | 5W    | 85-264VAC/100-370VDC | 3.3,5,9,12,15,24     | 4000VAC   | 37.00x24.50x18.00 | RoHS  CE CB       |
| LDE06-20B                 | 6W    | 85-264VAC/100-370VDC | 3.3,5,9,12,15,24     | 4000VAC   | 50.80x25.40x15.36 | RoHS  CE CB       |
| LDE45-20B                 | 45W   | 85-264VAC/100-370VDC | 5,12,15,24,48        | 4000VAC   | 87.00x52.00x29.50 | RoHS  CE CB       |
| LDE60-20B                 | 60W   | 85-264VAC/100-370VDC | 5,12,15,24,48        | 4000VAC   | 87.00x52.00x29.50 | RoHS  CE CB       |

## 3W AC/DC converter LDE-O series (Transient power up to 12W)

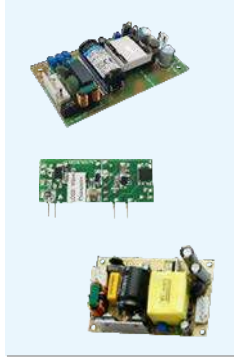
| Series        | Power | Instantaneous power | Input Voltage Range      | Output Voltage (VDC) | Isolation | Dimension (mm)    | Certification      |
|---------------|-------|---------------------|--------------------------|----------------------|-----------|-------------------|--------------------|
| LDE03-20Bxx-O | 3W    | 12W/10S             | 85-264VAC/<br>100-370VDC | 3.3,5,9,12,15,24     | 4000VAC   | 37.00x24.50x18.00 | RoHS  CE (pending) |

## 5-60W standard package AC/DC converter LH/LHE series

| Series    | Power | Input Voltage Range  | Output Voltage (VDC) | Output Voltage (VDC) | Isolation | Dimension (mm)     | Certification |
|-----------|-------|----------------------|----------------------|----------------------|-----------|--------------------|---------------|
| LH05-13B  | 5W    | 85-305VAC/100-430VDC | 3.3,5,9,12,15,24     | /                    | 3000VAC   | 55.00x45.00x21.00  | RoHS  CE CB   |
| LHE10-23B | 10W   | 85-305VAC/100-430VDC | 3.3,5,9,12,15,24     | /                    | 4000VAC   | 55.00x45.00x21.00  | RoHS CE       |
| LHE15-23B | 15W   | 85-305VAC/100-430VDC | 3.3,5,9,12,15,24,48  | /                    | 4000VAC   | 62.00x45.00x22.50  | RoHS  CE CB   |
| LH20-13B  | 20W   | 85-305VAC/100-430VDC | 3.3,5,9,12,15,24     | /                    | 3000VAC   | 55.00x45.00x21.00  | RoHS  CE CB   |
| LHE25-23B | 25W   | 85-305VAC/100-430VDC | 3.3,5,9,12,15,24,48  | /                    | 4000VAC   | 70.00x48.00x23.50  | RoHS  CE CB   |
| LHE40-23B | 40W   | 85-305VAC/100-430VDC | 3.3,5,12,15,24,48    | /                    | 4000VAC   | 89.00x63.50x25.00  | RoHS CE       |
| LHE60-23B | 60W   | 85-305VAC/100-430VDC | 5,12,15,24,48        | /                    | 4000VAC   | 109.00x58.50x30.00 | RoHS CE       |
| LHE05-20B | 5W    | 85-264VAC/100-370VDC | 3.3,5,9,12,15,24     | /                    | 4000VAC   | 48.50x36.00x20.50  | RoHS  CE CB   |
| LHE10-20B | 10W   | 85-264VAC/100-370VDC | 3.3,5,9,12,15,24     | /                    | 4000VAC   | 55.00x45.00x21.00  | RoHS  CE CB   |
| LHE15-20B | 15W   | 85-264VAC/100-370VDC | 3.3,5,9,12,15,24     | /                    | 4000VAC   | 62.00x45.00x22.50  | RoHS  CE CB   |
| LHE20-20B | 20W   | 85-264VAC/100-370VDC | 3.3,5,9,12,15,24     | /                    | 4000VAC   | 62.00x45.00x22.50  | RoHS  CE CB   |
| LHE25-20B | 25W   | 85-264VAC/100-370VDC | 3.3,5,9,12,15,24,48  | /                    | 4000VAC   | 70.00x48.50x23.50  | RoHS  CE CB   |
| LHE40-20B | 40W   | 85-264VAC/100-370VDC | 3.3,5,12,15,24,48    | /                    | 4000VAC   | 89.00x63.50x25.00  | RoHS CE       |
| LHE60-20B | 60W   | 85-264VAC/100-370VDC | 5,12,15,24,48        | /                    | 4000VAC   | 109.00x58.50x30.00 | RoHS CE       |
| LHE05-20A | 5W    | 85-264VAC/100-370VDC | +5,+12,+15           | -5,-12,-15           | 4000VAC   | 48.50x36.00x20.50  | RoHS          |
| LHE05-20C | 5W    | 85-264VAC/100-370VDC | 5                    | ±5,±12,±15           | 4000VAC   | 48.50x36.00x20.50  | RoHS          |
| LHE05-20D | 5W    | 85-264VAC/100-370VDC | 5                    | 5,12,15,24           | 4000VAC   | 48.50x36.00x20.50  | RoHS          |
| LHE10-20A | 10W   | 85-264VAC/100-370VDC | +5,+12,+15           | -5,-12,-15           | 4000VAC   | 55.00x45.00x21.00  | RoHS          |
| LHE10-20C | 10W   | 85-264VAC/100-370VDC | 5                    | ±12,±15              | 4000VAC   | 55.00x45.00x21.00  | RoHS          |
| LHE10-20D | 10W   | 85-264VAC/100-370VDC | 5                    | 5,12,15,24           | 4000VAC   | 55.00x45.00x21.00  | RoHS          |
| LHE15-20A | 15W   | 85-264VAC/100-370VDC | +5,+12,+15           | -5,-12,-15           | 4000VAC   | 62.00x45.00x22.50  | RoHS          |
| LHE15-20C | 15W   | 85-264VAC/100-370VDC | 5                    | ±5,±12,±15           | 4000VAC   | 62.00x45.00x22.50  | RoHS          |
| LHE15-20D | 15W   | 85-264VAC/100-370VDC | 5                    | 5,12,24              | 4000VAC   | 62.00x45.00x22.50  | RoHS          |
| LHE20-20A | 20W   | 85-264VAC/100-370VDC | +12,+15              | -12,-15              | 4000VAC   | 70.00x48.00x23.50  | RoHS          |
| LHE20-20C | 20W   | 85-264VAC/100-370VDC | 5                    | ±12,±15              | 4000VAC   | 70.00x48.00x23.50  | RoHS          |
| LHE20-20D | 20W   | 85-264VAC/100-370VDC | 5                    | 12,15,24             | 4000VAC   | 70.00x48.00x23.50  | RoHS          |

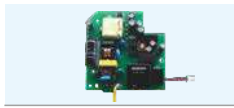
# AC/DC Converter

## 3-65W Cost-effective open frame AC/DC converter LO series



| Series                 | Power | Input Voltage Range   | Output Voltage (VDC)   | Isolation | Dimension (mm)     | Certification        |
|------------------------|-------|-----------------------|------------------------|-----------|--------------------|----------------------|
| LO10-13B               | 10W   | 85-305VAC/100-430VDC  | 3.3,5,9,12,15,24       | 3000VAC   | 60.00x42.00x16.30  | RoHS CE (pending)    |
| LO15-23BxxE <b>NEW</b> | 15W   | 85-305VAC/88-430VDC   | 3.3,5,12,15,24         | 4000VAC   | 87.50x50.00x22.00  | RoHS                 |
| LO30-23BxxE <b>NEW</b> | 30W   | 85-305VAC/88-430VDC   | 3.3,5,12,15,24         | 4000VAC   | 105.00x50.00x30.00 | RoHS                 |
| LO50-23BxxE <b>NEW</b> | 50W   | 85-305VAC/88-430VDC   | 3.3,5,9,12,15,24,27,48 | 4000VAC   | 132.00x50.00x26.00 | RoHS                 |
| LO03-10B               | 3W    | 85-264VAC/100-370VDC  | 3.3,5,9,12,15,24       | 3000VAC   | 42.00x16.00x17.00  | RoHS                 |
| LO05-12B               | 5W    | 165-264VAC/230-370VDC | 3.3,5,9,12,15,24       | 3000VAC   | 42.00x16.00x17.00  | RoHS                 |
| LO15-10B               | 15W   | 85-264VAC/100-370VDC  | 3.3,5,9,12,15,24       | 3000VAC   | 63.50x45.70x19.00  | RoHS <b>UL</b> CE CB |
| LO30-10B               | 30W   | 85-264VAC/100-370VDC  | 3.3,5,9,12,15,24,48    | 3000VAC   | 76.20x50.80x27.00  | RoHS <b>UL</b> CE CB |
| LO45-10B               | 45W   | 85-264VAC/100-370VDC  | 3.3,5,9,12,15,24,48    | 3000VAC   | 76.20x50.80x30.00  | RoHS <b>UL</b> CE CB |
| LO65-10B               | 65W   | 85-264VAC/100-370VDC  | 5,9,12,15,24,48        | 3000VAC   | 76.20x50.80x30.00  | RoHS <b>UL</b> CE CB |

## 10W LO series specialized for flow-meter (Customization is acceptable)



| Series   | Power | Input Voltage Range  | Output Available (Vo1/Vo2/Vo3)      | Output Available (Vo4/Vo5)  | Output Available (Vo6/Vo7)  | Certification |
|----------|-------|----------------------|-------------------------------------|---|---|---------------|
| LO10-10J | 10W   | 85-264VAC/120-370VDC | Triple outputs available (3.3V-24V) | Positive and negative voltage available ( $\pm 5V$ to $\pm 24V$ ) | Positive and negative voltage available ( $\pm 5V$ to $\pm 70V$ ) | RoHS          |

## Ultra-wide input voltage non-isolated DC/DC single firewire power supply LSF Series



| Series    | Power | Input Voltage Range | Output Voltage Vo(VDC) | Output Voltage Vo1(VDC) | Dimension (mm)   | Certification |
|-----------|-------|---------------------|------------------------|-------------------------|------------------|---------------|
| LSF01-K5B | 1W    | 15-380VDC           | 5.5,12,5               | 5V through peripheral   | 15.70x9.00x14.50 | RoHS          |

DIP Package



## + 5-25W AC/DC converter specialized for medical

| Series       | Power | Input Voltage Range  | Output Voltage (VDC) | Isolation | Dimension (mm)    | Certification               |
|--------------|-------|----------------------|----------------------|-----------|-------------------|-----------------------------|
| LD05-20BxxMU | 5W    | 85-264VAC/100-370VDC | 5,12,15,24           | 4000VAC   | 53.80x28.80x19.00 | RoHS <b>UL</b> CE           |
| LD08-20BY4   | 7.6W  | 85-264VAC/100-370VDC | 3.8                  | 4000VAC   | 45.70x25.40x15.20 | RoHS <b>UL</b> CE <b>UL</b> |
| LD10-20B     | 10W   | 85-264VAC/100-370VDC | 3.3,5,9,12,15,24     | 4000VAC   | 53.80x28.80x19.00 | RoHS <b>UL</b> CE           |
| LH15-20BxxMU | 15W   | 85-264VAC/100-370VDC | 5,12,15,18,24        | 4000VAC   | 62.00x45.00x22.50 | RoHS CE CB <b>UL</b>        |
| LH25-20BxxMU | 25W   | 85-264VAC/100-370VDC | 5,12,15,18,24        | 4000VAC   | 70.00x48.00x23.50 | RoHS CE CB <b>UL</b>        |

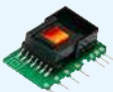
DIP Package



## ⚡ 10-30W AC/DC converter specialized for electric power

| Series          | Power | Input Voltage Range   | Output Voltage (VDC) | Isolation | Dimension (mm)    | Certification        |
|-----------------|-------|-----------------------|----------------------|-----------|-------------------|----------------------|
| LO10-24B        | 10W   | 30-280VAC/30-400VDC   | 5,12,13              | 4000VAC   | 80.00x40.00x30.00 | RoHS                 |
| LO20-10C0512-01 | 18.7W | 165-264VAC/230-370VDC | 5,±12                | 3000VAC   | 70.00x48.00x23.50 | RoHS                 |
| LO30-10C0512-12 | 31.2W | 85-264VAC/100-370VDC  | 5,±12                | 3000VAC   | 97.00x50.00x28.00 | RoHS                 |
| LH10-10BxxER2   | 10W   | 85-264VAC/100-370VDC  | 5,12,24              | 3000VAC   | 62.00x45.00x30.00 | RoHS                 |
| LHE10-20DxxER2  | 10W   | 85-264VAC/100-370VDC  | 5/12,5/24            | 4000VAC   | 62.00x45.00x30.00 | RoHS                 |
| LH15-10BxxER2   | 15W   | 85-264VAC/100-370VDC  | 5,12,24              | 3000VAC   | 62.00x45.00x30.00 | RoHS                 |
| LH15-10DxxER2   | 15W   | 85-264VAC/100-370VDC  | 5/12,5/24            | 3000VAC   | 62.00x45.00x30.00 | RoHS                 |
| LH25-10BxxER2   | 25W   | 85-264VAC/100-370VDC  | 5,12,15,24           | 3000VAC   | 70.00x48.00x30.00 | RoHS <b>UL</b> CE CB |

SIP Package



## 🚗 AC/DC converter specialized for automotive electronics

| Series             | Power | Input Voltage Range  | Output Voltage (VDC) | Isolation | Package | Dimension (mm)    | Certification |
|--------------------|-------|----------------------|----------------------|-----------|---------|-------------------|---------------|
| CLS03-15A12SR2S    | 2.4W  | 85-264VAC/100-370VDC | ±12                  | 3000VAC   | SIP     | 35.00x21.00x13.00 | RoHS          |
| CLS03-15A12SR2S-QC | 2.4W  | 85-264VAC/100-370VDC | ±12                  | 3000VAC   | SIP     | 35.00x21.00x13.00 | RoHS          |

# AC/DC Converter



## Power Solution for White Goods

### 15-350W AC/DC enclosed LM series

#### Single output (Vin:85-305VAC)

| Series      | Power | Certification |
|-------------|-------|---------------|
| LM15-23Bxx  | 15W   | ⑤             |
| LM25-23Bxx  | 25W   | ⑤             |
| LM35-23Bxx  | 35W   | ① ②           |
| LM50-23Bxx  | 50W   | ① ②           |
| LM75-23Bxx  | 75W   | ① ②           |
| LM100-23Bxx | 100W  | ① ②           |
| LM150-23Bxx | 150W  | ① ②           |

#### Single output (Vin:85-264VAC)

| Series      | Power | Certification |
|-------------|-------|---------------|
| LM35-20Bxx  | 35W   | ① ②           |
| LM50-20Bxx  | 50W   | ① ②           |
| LM75-20Bxx  | 75W   | ① ②           |
| LM100-20Bxx | 100W  | ① ②           |
| LM150-20Bxx | 150W  | ① ②           |
| LM200-10Bxx | 200W  | ③             |
| LM350-10Bxx | 350W  | ③             |

#### Single output (Vin:165-264VAC)

| Series      | Power | Certification |
|-------------|-------|---------------|
| LM35-22Bxx  | 35W   | ① ②           |
| LM50-22Bxx  | 50W   | ① ②           |
| LM75-22Bxx  | 75W   | ① ②           |
| LM100-22Bxx | 100W  | ① ②           |
| LM150-22Bxx | 150W  | ① ②           |
| LM200-12Bxx | 200W  | ③             |
| LM350-12Bxx | 350W  | ③             |

#### Multiple outputs

| Series      | Power | Certification |
|-------------|-------|---------------|
| LM35-10Cxx  | 35W   | ③             |
| LM35-10Dxx  | 35W   | ③             |
| LM50-10Cxx  | 50W   | ③             |
| LM50-10Dxx  | 50W   | ③             |
| LM75-10Cxx  | 75W   | ③             |
| LM75-10Dxx  | 75W   | ③             |
| LM100-10Cxx | 100W  | ③             |
| LM100-10Dxx | 100W  | ③             |

### 75-320W

### 120-350W

### 3-30W

### 3-20W

#### AC/DC enclosed LMF series

| Series       | Power | Certification |
|--------------|-------|---------------|
| LMF75-20Bxx  | 75W   | ③ ④           |
| LMF100-20Bxx | 100W  | ③             |
| LMF100-23Bxx | 100W  | ③             |
| LMF150-20Bxx | 150W  | ③             |
| LMF150-23Bxx | 150W  | ③             |
| LMF200-20Bxx | 200W  | ③             |
| LMF200-23Bxx | 200W  | ③             |
| LMF320-20Bxx | 320W  | ⑤             |
| LMF320-23Bxx | 320W  | ③             |

#### AC/DC enclosed LOF series

| Series       | Power | Certification |
|--------------|-------|---------------|
| LOF120-20Bxx | 120W  | ① ②           |
| LOF225-20Bxx | 225W  | ① ②           |
| LOF350-20Bxx | 350W  | ① ②           |

Certification:

- ① EN60335 approval
- ② EN61558 approval
- ③ Meet EN60335 standard
- ④ Meet EN61558 standard
- ⑤ none

#### AC/DC converter LS series

| Series       | Power | Certification |
|--------------|-------|---------------|
| LS03-13BxxR3 | 3W    | ③ ④           |
| LS05-13BxxR3 | 5W    | ③ ④           |
| LS10-13BxxR3 | 10W   | ③ ④           |

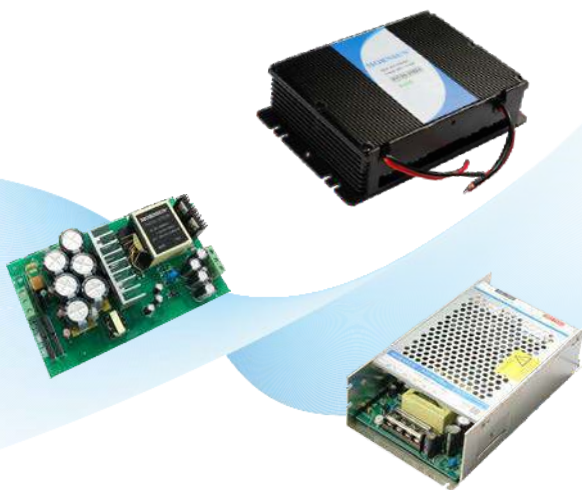
#### LO series

| Series     | Power | Certification |
|------------|-------|---------------|
| LO10-13Bxx | 10W   | ③             |
| LO15-10Bxx | 15W   | ③             |
| LO30-10Bxx | 30W   | ③             |

#### AC/DC converter LD series

| Series         | Power | Certification |
|----------------|-------|---------------|
| LD03-23Bxx     | 3W    | ① ②           |
| LD05-23Bxx     | 5W    | ① ②           |
| LD10-23Bxx     | 10W   | ① ②           |
| LD15-23Bxx     | 15W   | ① ②           |
| LD20-23Bxx     | 20W   | ① ②           |
| LD05-23BxxR2-M | 5W    | ① ②           |
| LD10-23BxxR2-M | 10W   | ① ②           |
| LD15-23BxxR2-M | 15W   | ① ②           |

# PV/PVA Series



## PV Series

- Specialized for PV industry
- Ultra-wide input voltage: 100-1500VDC
- Isolation: 4000VAC
- Operating temperature: -40°C to +85°C
- Operating altitude up to 5000m
- PCB, chassis mounting, DIN-Rail mounting, mental cage packages

## PVA Series

- Specialized for mining industry
- Ultra-wide input voltage: 85-900VAC
- Isolation up to 4000VAC
- Simple wiring, compact size
- Immunity, EFT/Surge: ±4KV perf. Criteria B

## 100-1500VDC ultra-wide input voltage DC/DC converter specialized for PV industry



| Series                  | Power          | Input Voltage Range | Output Voltage (VDC)                                   | Isolation | Dimension (mm)      | Certification |
|-------------------------|----------------|---------------------|--|-----------|---------------------|---------------|
| PV05/10/15-27BxxR2      | 5W,10W,15W     | 100-1000VDC         | 5,9,12,15,24   | 4000VAC   | 70.00x48.00x23.50   | RoHS CE       |
| PV10-27C                | 10W            | 200-1200VDC         | 5/5/24   | 4000VAC   | 70.00x48.00x23.50   | RoHS          |
| PV15-27BxxR3 <b>NEW</b> | 15W            | 100-1000VDC         | 12,15,24   | 4000VAC   | 70.00x48.00x23.50   | RoHS CE       |
| PV15-29BxxL             | 10W,15W        | 200-1500VDC         | 5,12,15,24   | 4000VAC   | 109.00x58.50x30.00  | RoHS          |
| PV15-29B                | 10W,15W        | 200-1500VDC         | 5,12,15,24   | 4000VAC   | 125.00x75.00x40.00  | RoHS CE       |
| PV15-29C                | 15W            | 200-1500VDC         | 5/5/5,5/5/24   | 4000VAC   | 89.00x63.50x25.00   | RoHS          |
| PV40-27B                | 40W            | 200-1200VDC         | 12,15,24   | 4000VDC   | 89.00x63.50x25.00   | RoHS          |
| PV40-29B                | 40W            | 200-1500VDC         | 12,15,24   | 4000VAC   | 125.00x75.00x40.00  | RoHS UL CE    |
| PV45-29D                | 45W            | 150-1500VDC         | 12V/15V/24V dual outputs (customization is acceptable) | 4000VAC   | 144.50x105.00x40.00 | RoHS          |
| PV50-25B <b>NEW</b>     | 50W            | 80-750VDC           | 12,24  | 4000VAC   | 109.00x58.50x30.00  | RoHS          |
| PV50-29D                | 50W            | 150-1500VDC         | 12V/15V/24V dual outputs (customization is acceptable) | 4000VAC   | 150.00x100.00x38.70 | RoHS          |
| PV60-27D                | 60W            | 200-1100VDC         | 12/15  | 4000VAC   | 162.00x269.00x32.00 | RoHS          |
| PV75-36D                | 75W            | 250-3300VDC         | 15,400   | 6000VAC   | 220.00x157.00x40.00 | RoHS          |
| PV120-27B               | 90W,100W,120W  | 200-1100VDC         | 12,15,24,26,28,48                                      | 4000VAC   | 144.50x105.00x40.00 | RoHS          |
| PV150-29B               | 120W,150W      | 250-1500VDC         | 12,15,24,28,32,48                                      | 4000VAC   | 168.00x111.20x42.50 | RoHS CE       |
| PV200-27B               | 120W,150W,200W | 200-1000VDC         | 12,15,24,26,48   | 4000VAC   | 168.00x121.35x42.50 | RoHS CE       |
| PV200-29B               | 200W           | 300-1500VDC         | 24,32,48   | 4000VAC   | 215.00x125.00x50.00 | RoHS CE       |

## AC/DC converter specialized for mining industry



| Series          | Power | Input Voltage Range    | Output Voltage (VDC) | Isolation | Dimension (mm)      | Certification |
|-----------------|-------|------------------------|----------------------|-----------|---------------------|---------------|
| PVA40-26B       | 40W   | 460-1500VAC            | 12,28,35             | 4200VAC   | 144.50x105.00x40.00 | RoHS          |
| PVA40-27B       | 40W   | 85-900VAC              | 18,24,30             | 4000VAC   | 138.00x82.00x32.00  | RoHS          |
| PVA70-27B       | 70W   | 85-900VAC              | 24,28,35             | 4000VAC   | 155.00x95.00x41.00  | RoHS          |
| PVA70-27B28-C   | 70W   | 85-900VAC              | 28.5                 | 4000VAC   | 157.00x100.00x49.00 | RoHS          |
| PVA120-27B      | 120W  | 85-900VAC              | 24,28,35             | 4000VAC   | 170.00x107.00x52.00 | RoHS          |
| PVA120-27B-C    | 120W  | 85-900VAC              | 30,35                | 4000VAC   | 187.00x113.00x59.00 | RoHS          |
| PVA120-27B24-YL | 120W  | 300-1200VDC/380VAC±20% | 24                   | 4000VAC   | 170.00x107.00x37.40 | RoHS          |
| PVA150-27Bxx    | 150W  | 85-850VAC              | 24,28,35             | 4000VAC   | 199.00x110.00x55.00 | RoHS          |

# AC/DC Enclosed

- Compact size with 1U low profile
- Output short circuit, over-current, over-voltage, over-temperature protections
- Withstand 300VAC surge input for 5s
- Over-voltage class III (designed to meet EN61558)
- Withstand 5G vibration test, meets 5000m altitude requirement
- Low standby power consumption (<0.3W), high efficiency (up to 91.5%)
- LED indicator for power on (200W/350W)
- Forced air cooling by built-in DC fan (350W)
- CE/CB/CCC approval
- Active PFC function is available
- 3-proof customization is available

## 15-600W AC/DC enclosed LM series

| Series               | Power | Input Voltage Range   | Output Voltage (VDC)             | Isolation | Dimension (mm)      | Certification   |
|----------------------|-------|-----------------------|----------------------------------|-----------|---------------------|-----------------|
| LM15-23B <b>NEW</b>  | 15W   | 85-305VAC/100-430VDC  | 3.3,5,12,15,24,48                | 4000VAC   | 65.00x55.00x25.00   | RoHS            |
| LM25-23B <b>NEW</b>  | 25W   | 85-305VAC/100-430VDC  | 3.3,5,12,15,24,48                | 4000VAC   | 80.00x55.00x25.00   | RoHS            |
| LM35-23B <b>NEW</b>  | 35W   | 85-305VAC/120-430VDC  | 5,12,15,24                       | 4000VAC   | 99.00x82.00x30.00   | RoHS            |
| LM50-23B <b>NEW</b>  | 50W   | 85-305VAC/120-430VDC  | 5,12,15,24,36,48                 | 4000VAC   | 99.00x82.00x30.00   | RoHS            |
| LM75-23B <b>NEW</b>  | 75W   | 85-305VAC/120-430VDC  | 5,12,15,24,36,48                 | 4000VAC   | 99.00x97.00x30.00   | RoHS            |
| LM100-23B <b>NEW</b> | 100W  | 85-305VAC/120-430VDC  | 5,12,15,24,36,48                 | 4000VAC   | 129.00x97.00x30.00  | RoHS            |
| LM150-23B <b>NEW</b> | 150W  | 85-305VAC/120-430VDC  | 12,15,24,36,48                   | 4000VAC   | 159.00x97.00x30.00  | RoHS            |
| LM35-20B             | 35W   | 85-264VAC/120-373VDC  | 5,12,15,24                       | 4000VAC   | 215.00x115.00x30.00 | RoHS            |
| LM50-20B             | 50W   | 85-264VAC/120-373VDC  | 5,12,15,24,36,48                 | 4000VAC   | 179.00x82.00x30.00  | RoHS            |
| LM75-20B             | 75W   | 85-264VAC/120-373VDC  | 5,12,15,24,48                    | 4000VAC   | 179.00x82.00x30.00  | RoHS            |
| LM100-20B            | 100W  | 85-264VAC/120-373VDC  | 5,12,15,24,36,48                 | 4000VAC   | 159.00x97.00x30.00  | RoHS            |
| LM150-20B            | 150W  | 85-264VAC/120-373VDC  | 12,15,24,36,48                   | 4000VAC   | 159.00x97.00x30.00  | RoHS            |
| LM200-10B            | 200W  | 90-132VAC/180-264VAC  | 5,12,15,24,36,48                 | 3000VAC   | 129.00x97.00x30.00  | RoHS            |
| LM350-10B            | 350W  | 90-132VAC/180-264VAC  | 5,12,15,24,36,48                 | 3000VAC   | 215.00x115.00x30.00 | RoHS            |
| LM35-22B             | 35W   | 165-264VAC/180-373VDC | 5,12,15,24                       | 4000VAC   | 99.00x97.00x30.00   | RoHS            |
| LM50-22B             | 50W   | 165-264VAC/180-373VDC | 5,12,15,24,36,48                 | 4000VAC   | 99.00x82.00x30.00   | RoHS            |
| LM75-22B             | 75W   | 165-264VAC/200-373VDC | 5,12,15,24,48                    | 4000VAC   | 99.00x97.00x30.00   | RoHS            |
| LM100-22B            | 100W  | 165-264VAC/200-373VDC | 5,12,15,24,36,48                 | 4000VAC   | 99.00x97.00x30.00   | RoHS            |
| LM150-22B            | 150W  | 165-264VAC/180-373VDC | 12,15,24,36,48                   | 4000VAC   | 99.00x97.00x30.00   | RoHS            |
| LM200-12B            | 200W  | 176-264VAC/240-373VDC | 5,12,15,24,36,48                 | 3000VAC   | 99.00x97.00x30.00   | RoHS            |
| LM350-12B            | 350W  | 176-264VAC/240-373VDC | 5,12,15,24,36,48                 | 3000VAC   | 99.00x82.00x30.00   | RoHS            |
| LM450-12B <b>NEW</b> | 450W  | 176-264VAC/240-373VDC | 12,15,24,48                      | 3000VAC   | 99.00x82.00x30.00   | RoHS            |
| LM600-12B <b>NEW</b> | 600W  | 176-264VAC/240-373VDC | 12,15,24,36,48                   | 3000VAC   | 99.00x82.00x30.00   | RoHS            |
| LM30-00J0512-03E     | 30W   | 85-264VAC/100-370VDC  | 5/±12/24                         | 2000VAC   | 109.00x58.50x30.00  | RoHS            |
| LM35-10C             | 35W   | 85-264VAC/120-373VDC  | +5/+12/-12,+5/+15/-15,+5/+24/+12 | 3000VAC   | 159.00x97.00x30.00  | RoHS            |
| LM35-10D             | 35W   | 85-264VAC/120-373VDC  | +5/+12,+5/+24                    | 3000VAC   | 159.00x97.00x30.00  | RoHS            |
| LM50-10C             | 50W   | 85-264VAC/120-373VDC  | +5/+12/-12,+5/+15/-15,+5/+24/+12 | 3000VAC   | 129.00x97.00x30.00  | RoHS            |
| LM50-10D             | 50W   | 85-264VAC/120-373VDC  | +5/+12,+5/+24                    | 3000VAC   | 129.00x97.00x30.00  | RoHS            |
| LM75-10C             | 75W   | 90-264VAC/120-373VDC  | +5/+12/-12,+5/+15/-15,+5/+24/+12 | 3000VAC   | 129.00x97.00x30.00  | RoHS            |
| LM75-10D             | 75W   | 90-264VAC/120-373VDC  | +5/+12,+5/+24                    | 3000VAC   | 99.00x97.00x30.00   | RoHS            |
| LM100-10C            | 100W  | 90-264VAC/120-373VDC  | +5/+12/-12,+5/+15/-15,+5/+24/+12 | 3000VAC   | 215.00x115.00x30.00 | RoHS            |
| LM100-10D            | 100W  | 90-264VAC/120-373VDC  | +5/+24,+12/+24                   | 3000VAC   | 267.30x106.00x40.00 | RoHS            |
| LM150-12M            | 150W  | 180-264VAC/240-370VDC | 12/24                            | 3000VAC   | 199.00x99.00x50.00  | RoHS  (pending) |

Note: Conformal coating(series with suffix "-C") is acceptable and terminal cover(series with suffix "-Q") is optional for LM and LMF series.

# AC/DC Enclosed

## 75-1000W AC/DC enclosed LMF series (With PFC)



| Series                 | Power | Input Voltage Range  | Output Voltage (VDC) | Isolation | Dimension (mm)      | Certification     |
|------------------------|-------|----------------------|----------------------|-----------|---------------------|-------------------|
| LMF75-20B              | 75W   | 85-264VAC/120-370VDC | 5,12,15,24,48        | 4000VAC   | 159.00x97.00x30.00  | RoHS              |
| LMF100-23B             | 100W  | 85-305VAC/120-430VDC | 5,12,15,24,48        | 4000VAC   | 179.00x99.00x30.00  | RoHS    (pending) |
| LMF150-23B             | 150W  | 85-305VAC/120-430VDC | 12,15,24,48          | 4000VAC   | 179.00x99.00x30.00  | RoHS    (pending) |
| LMF200-23B             | 200W  | 85-305VAC/120-430VDC | 12,15,24,48          | 4000VAC   | 179.00x99.00x30.00  | RoHS              |
| LMF320-23B             | 320W  | 85-305VAC/120-430VDC | 5,12,15,24,48        | 4000VAC   | 215.00x115.00x30.00 | RoHS              |
| LMF600-20B <b>NEW</b>  | 600W  | 85-264VAC/120-373VDC | 5,12,15,24,27,36,48  | 4000VAC   | 203.10x101.60x40.60 | RoHS    (pending) |
| LMF1000-20B <b>NEW</b> | 1000W | 90-264VAC/120-390VDC | 12/5,24/5,48/5       | 4000VAC   | 185.00x127.00x40.50 | RoHS    (pending) |

Note: Conformal coating(series with suffix "-C") is acceptable and terminal cover(series with suffix "-Q") is optional for LM and LMF series.

## 120-550W AC/DC enclosed LOF series (With PFC)



| Series                | Power | Input Voltage Range  | Output Voltage (VDC) | Isolation | Dimension (mm)     | Certification     |
|-----------------------|-------|----------------------|----------------------|-----------|--------------------|-------------------|
| LOF120-20B            | 120W  | 85-264VAC/120-370VDC | 12,15,24,27,36,48,54 | 4000VAC   | 76.20x50.80x31.00  | RoHS    (pending) |
| LOF225-20B            | 225W  | 85-264VAC/120-370VDC | 12,15,24,27,36,48,54 | 4000VAC   | 76.20x50.80x31.00  | RoHS    (pending) |
| LOF350-20B            | 350W  | 90-264VAC/127-373VDC | 12,15,24,27,36,48,54 | 4000VAC   | 127.00x76.20x25.40 | RoHS    (pending) |
| LOF450-20B <b>NEW</b> | 450W  | 90-264VAC/127-373VDC | 12,15,24,27,36,48    | 4000VAC   | 127.00x76.20x37.10 | RoHS    (pending) |
| LOF550-20B <b>NEW</b> | 550W  | 90-264VAC/127-373VDC | 12,15,24,27,36,48    | 4000VAC   | 127.00x76.20x39.10 | RoHS    (pending) |

## 30-480W DIN35 package LI/LIF series



| Series                    | Power | Input Voltage Range  | Output Voltage (VDC) | Isolation | Dimension (mm)      | Certification    |
|---------------------------|-------|----------------------|----------------------|-----------|---------------------|------------------|
| LI30-20BxxPR2             | 30W   | 85-264VAC/120-370VDC | 5,12,15,24,48        | 4000VAC   | 92.66x35.00x58.00   | RoHS             |
| LI60-20BxxPR2             | 60W   | 85-264VAC/120-370VDC | 5,12,15,24,48        | 4000VAC   | 92.66x52.00x58.00   | RoHS             |
| LI75-20BxxR2              | 75W   | 90-264VAC/120-373VDC | 12,24,48             | 4000VAC   | 30.00x128.00x120.00 | RoHS             |
| LI100-20BxxPR2            | 100W  | 85-264VAC/120-370VDC | 12,15,24,48          | 4000VAC   | 92.66x70.00x58.00   | RoHS             |
| LI120-20BxxR2             | 120W  | 90-264VAC/127-370VDC | 12,24,48             | 4000VAC   | 35.00x128.00x120.00 | RoHS             |
| LI120-20BxxR2S            | 120W  | 85-264VAC/120-370VDC | 12,24,48             | 4000VAC   | 36.00x125.00x100.00 | RoHS  (pending)  |
| LIF120-10BxxR2            | 120W  | 85-305VAC/100-430VDC | 12,24,48             | 3000VAC   | 41.00x124.00x107.50 | RoHS   (pending) |
| LIF120-10BxxR2-EX         | 120W  | 85-264VAC/120-373VDC | 12,24,48             | 3000VAC   | 32.00x124.00x110.00 | RoHS  (pending)  |
| LIF240-10BxxR2 <b>NEW</b> | 240W  | 85-264VAC/120-370VDC | 12,24,48             | 3000VAC   | 37.10x127.00x76.20  | RoHS   (pending) |
| LIF480-10BxxR2 <b>NEW</b> | 480W  | 85-264VAC/120-373VDC | 24,48                | 3000VAC   | 48.00x131.39x125.00 | RoHS   (pending) |



## Parallel redundancy power supply

| Series | Input Voltage Range (Vin) | Output Voltage (Vo/typ) | Output Current (Io) | Isolation | Dimension (mm)      | Certification   |
|--------|---------------------------|-------------------------|---------------------|-----------|---------------------|-----------------|
| LIR-20 | 22-60VDC                  | Vin-0.65V               | 20A                 | 1500VAC   | 125.00x35.00x120.00 | RoHS  (pending) |



## 150W AC/DC LI series specialized for marine engineering device

| Series      | Power | Input Voltage Range  | Output Voltage (VDC) | Output Current (A) | Isolation | Dimension (mm)      | Certification |
|-------------|-------|----------------------|----------------------|--------------------|-----------|---------------------|---------------|
| LI150-13B29 | 150W  | 85-305VAC/100-430VDC | 29                   | 5.2                | 3000VAC   | 149.00x132.00x35.50 | RoHS          |




## Bus power supply KNX series for smart building

| Series       | Power | Input Voltage Range   | Output Voltage (VDC) | Output Current (mA) | Isolation | Dimension (mm)    | Certification |
|--------------|-------|-----------------------|----------------------|---------------------|-----------|-------------------|---------------|
| KNX20-22A640 | 20W   | 180-264VAC/254-370VDC | 30                   | 640                 | 4000VAC   | 52.00x90.00x58.20 | RoHS          |


# IGBT Driver/ EMC Auxiliary Device

## DC/DC converter for SiC gate driver




| Series     | Input Voltage (VDC) | Input Voltage Range(VDC) | Positive/Negative Output(VDC) | Output Current(mA) | Effi(%) (Typ) | Isolation | Certification |
|------------|---------------------|--------------------------|-------------------------------|--------------------|---------------|-----------|---------------|
| QA01C      | 15                  | 13.5-16.5                | +20/-4                        | +100/-100          | 80            | 3500VAC   | RoHS          |
| QA051C     | 5                   | 4.5-5.5                  | +20/-5                        | +80/-40            | 79            | 3000VAC   | RoHS          |
| QA1201C-20 | 12                  | 10.8-13.2                | +20/-4                        | +100/-100          | 80            | 3500VAC   | RoHS          |
| QA121C2    | 12                  | 10.8-13.2                | +15/-3.5                      | +111/-111          | 81            | 3500VAC   | RoHS          |
| QA121C-20  | 12                  | 10.8-13.2                | +20/-5                        | +100/-100          | 79            | 3500VAC   | RoHS          |
| QA151C     | 15                  | 13.5-16.5                | +20/-5                        | +80/-40            | 78            | 3500VAC   | RoHS          |
| QA01C-18   | 15                  | 13.5-16.5                | +18/-3                        | +100/-100          | 79            | 3500VAC   | RoHS          |
| QA151C3    | 15                  | 13.5-16.5                | +15/-4                        | +100/-100          | 82            | 3000VDC   | RoHS          |
| QA151M     | 15                  | 14.4-15.9                | +15/-5                        | +100/-100          | 80            | 3500VAC   | RoHS          |
| QA2401C-20 | 24                  | 21.6-26.4                | +20/-4                        | +100/-100          | 80            | 3500VAC   | RoHS          |

## DC/DC converter for IGBT driver




| Series    | Input Voltage (VDC) | Input Voltage Range(VDC) | Positive/Negative Output(VDC) | Output Current(mA) | Effi(%) (Typ) | Isolation | Certification |
|-----------|---------------------|--------------------------|-------------------------------|--------------------|---------------|-----------|---------------|
| QA01-A09  | 15                  | 14.5-15.5                | +9/-9                         | +55/-55            | 80            | 3000VAC   | RoHS          |
| QA01-09   | 15                  | 14.5-15.5                | +9/-                          | +111/-             | 80            | 3000VAC   | RoHS          |
| QA01      | 15                  | 14.5-15.5                | +15/-8.7                      | +80/-40            | 80            | 3000VAC   | RoHS          |
| QA03      | 24                  | 23.3-24.7                | +15/-8.7                      | +80/-40            | 80            | 3000VAC   | RoHS          |
| QA241     | 24                  | 22.8-25.2                | +15/-8                        | +120/-120          | 81            | 3000VAC   | RoHS          |
| QA151     | 15                  | 14.25-15.75              | +15/-8                        | +120/-120          | 81            | 3000VAC   | RoHS          |
| QA121     | 12                  | 11.4-12.6                | +15/-8                        | +120/-120          | 81            | 3000VAC   | RoHS          |
| QA04      | 12                  | 9-15                     | +15/-8                        | +100/-80           | 80            | 3000VAC   | RoHS          |
| QA02      | 12                  | 11.6-12.4                | +15/-8.7                      | +80/-40            | 80            | 3000VAC   | RoHS          |
| QA01-17   | 15                  | 14.5-15.5                | +17/-8.7                      | +80/-40            | 77            | 3000VAC   | RoHS          |
| QA15115R2 | 15                  | 13.5-16.5                | +15/-2.5                      | +100/-100          | 80            | 3500VAC   | RoHS          |
| QA156D-24 | 15                  | 13.5-16.5                | +24                           | +150               | 80            | 12000VDC  | RoHS          |
| QA152D    | 15                  | 13.5-16.5                | +15/-9                        | +200/-200          | 83            | 4000VAC   | RoHS          |
| QAU242D2G | 24                  | 9-36                     | +24/+24                       | +150/+150          | 85            | 4200VAC   | RoHS          |
| QAW02     | 24                  | 18-36                    | +15/-9                        | +200/-200          | 85            | 3000VDC   | RoHS          |
| QAW01     | 12                  | 9-18                     | +15/-9                        | +200/-200          | 85            | 3500VAC   | RoHS          |

## Hybrid integrated IGBT driver




| Series   | VCE (max.) | Power Supply VCC(VDC) | Power Supply VEE(VDC) | Gate Voltage | Output Peak Current | Max. Frequency | Driving Channels | Isolation |
|----------|------------|-----------------------|-----------------------|--------------|---------------------|----------------|------------------|-----------|
| QC962-8A | 1700V      | 15                    | -10                   | +15V/-9V     | ±8A                 | 40KHz          | 1                | 3750VAC   |

## Hybrid integrated IGBT driver (Built-in isolated DC/DC converter)



| Series       | VCE (max.) | Power Supply VCC(VDC) | Gate Voltage | Output Peak Current | Max. Frequency | Driving Channels | Isolation | Certification |
|--------------|------------|-----------------------|--------------|---------------------|----------------|------------------|-----------|---------------|
| QP12W08S-37  | 1700V      | 15                    | +15V/-9V     | ±8A                 | 20KHz          | 1                | 3750VAC   | RoHS          |
| QP12W08S-37A | 1700V      | 12                    | +15V/-9V     | ±8A                 | 20KHz          | 1                | 3750VAC   | RoHS          |

## EMC Auxiliary Device



| Series    | Function                           | Input Voltage Range | Max. Output Power/Current | Certification |
|-----------|------------------------------------|---------------------|---------------------------|---------------|
| FC-LX1D   | EMC Filter                         | 85-305VAC           | 1.5A                      | RoHS          |
| FC-LX1D2  | EMC Filter                         | 85-305VAC           | 1.5A                      | RoHS          |
| FC-L01DV1 | EMC Filter                         | 85-305VAC           | 0.3A                      | RoHS          |
| FC-A01D   | EMC Filter                         | 9-36VDC             | 1A                        | RoHS          |
| FC-AX3D   | EMC Filter                         | 10-36VDC            | 30W                       | RoHS          |
| FC-B01D   | EMC Filter                         | 18-75VDC            | 1A                        | RoHS          |
| FC-B02D   | EMC Filter                         | 18-75VDC            | 30W                       | RoHS          |
| FC-D03D   | EMC Filter                         | 18-36VDC            | 50W                       | RoHS          |
| FC-E03D   | EMC Filter                         | 36-75VDC            | 75W                       | RoHS          |
| FC-C01D   | EMC Filter                         | 40-160VDC           | 10W                       | RoHS          |
| FC-CX1D   | EMC Filter                         | 40-160VDC           | 30W                       | RoHS          |
| FC-C03D   | EMC Filter                         | 40-160VDC           | 50W                       | RoHS          |
| FC-CX3D   | EMC Filter                         | 66-160VDC           | 100W                      | RoHS          |
| FI-B03D   | EMI Filter                         | 0-80VDC             | 3A                        | RoHS          |
| FS-TD01D  | 485-AB Bus Surge Protection Module | 0-5VDC              | ≤0.1                      | RoHS          |
| FT-AX1D   | EFT Suppressor                     | 0-40VDC             | 1.5A                      | RoHS          |
| FT-BX1D   | EFT Suppressor                     | 0-80VDC             | 1.5A                      | RoHS          |
| FL2D      | Common Mode Filter                 | /                   | 0.5,1,3A                  | RoHS          |




# Industrial Bus Isolation Transceiver Module/ Isolation Transmitter Selection Guide

## Industrial Bus Isolation Transceiver Module

|  | Series   | Function  | Power Supply           | Data Rate   | Nodes   | Certification |
|--|--|---|------------------------|-------------|---------|---------------|
| <br>DFN Package  | TD041S485H <b>NEW</b>  | DFN package isolated RS485 Transceiver  | 2.375-5.5,4.5-5.5VDC   | 1Mbps       | 256     | RoHS          |
|  | TD(H)541S485H <b>NEW</b>   | DFN package isolated RS485 Transceiver  | 4.75-5.25VDC           | 1Mbps       | 256     | RoHS          |
|  | TD041S485S-F <b>NEW</b>  | full duplex DFN package isolated RS485 transceiver                            | 2.375-5.5,4.5-5.5VDC   | 20Mbps      | 256     | RoHS          |
|  | TD(H)541S485S-F <b>NEW</b>   | full duplex DFN package isolated RS485 transceiver                            | 4.5-5.5VDC             | 20Mbps      | 256     | RoHS          |
|  | TD041S485H-A <b>NEW</b>  | DFN package isolated RS485 transceiver(automatic switching)                   | 2.375-5.5,4.5-5.5VDC   | 500kbps     | 256     | RoHS          |
|  | TD(H)541S485H-A <b>NEW</b>   | DFN package isolated RS485 transceiver(automatic switching)                   | 4.5-5.5VDC             | 500kbps     | 256     | RoHS          |
|  | TD041S485S <b>NEW</b>  | Ultrahigh speed DFN package isolated RS485 transceiver                        | 2.375-5.5,4.5-5.5VDC   | 20Mbps      | 256     | RoHS          |
|  | TD(H)541S485S <b>NEW</b>   | Ultrahigh speed DFN package isolated RS485 transceiver                        | 4.5-5.5VDC             | 20Mbps      | 256     | RoHS          |
|  | TD321/521D485-L  | Low power consumption single RS485 isolated transceiver module                | 3.17-3.45,4.75-5.25VDC | 19.2kbps    | 16      | RoHS CE       |
|  | TD331/531S485-L  | Low power consumption SMD single high-rate RS485 isolated transceiver module  | 3.15-3.45,4.75-5.25VDC | 19.2kbps    | 16      | RoHS CE       |
|  | TD321/521D485  | Cost-effective single RS485 isolated transceiver module                       | 3.15-3.45,4.75-5.25VDC | 19.2kbps    | 64      | RoHS CE       |
|  | TD321/521S485  | Cost-effective SMD single RS485 isolated transceiver module                   | 3.15-3.45,4.75-5.25VDC | 19.2kbps    | 64      | RoHS CE       |
|  | TD331/531S485  | SMD single RS485 isolated transceiver module                                  | 3.15-3.45,4.75-5.25VDC | 19.2kbps    | 64      | RoHS CE       |
|  | TDH301/501D485H-E  | Single high speed high isolation RS485 isolation transceiver module(enhanced) | 3.17-3.45,4.75-5.25VDC | 1Mbps       | 256     | RoHS CE       |
|  | TD322/522D485H-A   | Dual channel RS485 isolated transceiver module (automatic switching)          | 3.15-3.45,4.75-5.25VDC | 120kbps     | 32      | RoHS CE       |
| TD331/531S485H   | SMD single high-rate RS485 isolated transceiver module             | 3.15-3.45,4.75-5.25VDC  | 150kbps                | 128         | RoHS CE |               |
| TD331/531S485H-A   | SMD single RS485 isolated transceiver module (automatic switching) | 3.15-3.45,4.75-5.25VDC  | 150kbps                | 128         | RoHS CE |               |
| TD321/521D485H   | Single high-rate RS485 isolated transceiver module                 | 3.15-3.45,4.75-5.25VDC  | 200kbps                | 64          | RoHS CE |               |
| TD321/521S485H   | SMD single high-rate RS485 isolated transceiver module             | 3.15-3.45,4.75-5.25VDC  | 200kbps                | 64          | RoHS CE |               |
| TD301/501M485  | Single high-rate compact size RS485 isolated transceiver module    | 3.15-3.45,4.75-5.25VDC  | 500kbps                | 64          | RoHS CE |               |
| TD321/521D485H-A   | Single RS485 isolated transceiver module (automatic switching)     | 3.15-3.45,4.75-5.25VDC  | 500kbps                | 128         | RoHS CE |               |
| TD321/521S485H-A   | SMD single RS485 isolated transceiver module (automatic switching) | 3.15-3.45,4.75-5.25VDC  | 500kbps                | 128         | RoHS CE |               |
| TD321/521D485H-E   | Single high-rate RS485 isolated transceiver module (enhanced)      | 3.15-3.45,4.75-5.25VDC  | 500kbps                | 256         | RoHS CE |               |
| TD321/521S485H-E   | SMD single high-rate RS485 isolated transceiver module (enhanced)  | 3.15-3.45,4.75-5.25VDC  | 500kbps                | 256         | RoHS CE |               |
| TD331/531S485H-E   | SMD single high-rate RS485 isolated transceiver module (enhanced)  | 3.15-3.45,4.75-5.25VDC  | 500kbps                | 256         | RoHS CE |               |
| <br>DFN Package | TD041S232H <b>NEW</b>  | DFN package isolated 232 transceiver  | 2.375-5.5,4.5-5.5VDC   | 0-120kbps   | 1       | RoHS          |
|  | TD541S232H <b>NEW</b>  | DFN package isolated 232 transceiver  | 4.5-5.5VDC             | 0-120kbps   | 1       | RoHS          |
|  | TD331/531S232H   | SMD single high-rate RS232 isolated transceiver module                        | 3.15-3.45,4.75-5.25VDC | 0-115.2kbps | 1       | RoHS CE       |
|  | TD302/502D232H   | Dual channels high-rate RS232 isolated transceiver module                     | 3.0-3.6,4.5-5.5VDC     | 0-115.2kbps | 2       | RoHS          |
|  | TD041SCANH <b>NEW</b>  | DFN package isolated CAN transceiver  | 2.375-5.5,4.5-5.5VDC   | 1Mbps       | 110     | RoHS          |
|  | TD041SCANFD <b>NEW</b>   | DFN package isolated CANFD transceiver  | 2.375-5.5,4.5-5.5VDC   | 5Mbps       | 110     | RoHS          |
|  | TD(H)541SCANH <b>NEW</b>   | DFN package isolated CAN transceiver  | 4.75-5.25VDC           | 1Mbps       | 110     | RoHS          |
|  | TD(H)541SCANFD <b>NEW</b>  | DFN package isolated CANFD transceiver  | 4.75-5.25VDC           | 5Mbps       | 110     | RoHS          |
|  | TD321/521DCAN  | Single universal CAN isolated transceiver module                              | 3.15-3.45,4.75-5.25VDC | 5k-1Mbps    | 110     | RoHS CE       |
|  | TD321/521SCAN  | SMD single universal CAN isolated transceiver module                          | 3.15-3.45,4.75-5.25VDC | 5k-1Mbps    | 110     | RoHS CE       |
|  | TD301/501DCANHE  | High surge protective CAN isolated transceiver module                         | 3.15-3.45,4.75-5.25VDC | 20k-1Mbps   | 110     | RoHS CE       |
|  | TD301/501DCANHW  | Wakeable high-speed CAN isolated transceiver module                           | 3.15-3.45,4.75-5.25VDC | 40k-1Mbps   | 110     | RoHS          |
|  | TDH301/501DCAN   | Single high isolation CAN isolation transceiver module                        | 3.15-3.45,4.75-5.25VDC | 5k-1Mbps    | 110     | RoHS          |
|  | TD301/501MCAN  | Single high-rate compact size CAN isolated transceiver module                 | 3.15-3.45,4.75-5.25VDC | 40k-1Mbps   | 110     | RoHS CE       |
|  | TD321/521DCANH   | Single high-rate CAN isolated transceiver module                              | 3.15-3.45,4.75-5.25VDC | 40k-1Mbps   | 110     | RoHS CE       |
| TD321/521SCANH   | SMD single high-rate CAN isolated transceiver module               | 3.15-3.45,4.75-5.25VDC  | 40k-1Mbps              | 110         | RoHS CE |               |
| TD322/522DCAN  | Dual channels CAN isolated transceiver module                      | 3.15-3.45,4.75-5.25VDC  | 40k-1Mbps              | 110         | RoHS CE |               |
| TD331/531SCANH   | SMD single high-rate CAN isolated transceiver module               | 3.15-3.45,4.75-5.25VDC  | 40k-1Mbps              | 110         | RoHS CE |               |
| CTD331/531SCANH  | Automotive SMD single high-rate CAN isolated transceiver module    | 3.15-3.45,4.75-5.25VDC  | 40k-1Mbps              | 110         | RoHS CE |               |
| TD301/501MCANFD  | Single high-rate compact size CANFD isolated transceiver module    | 3.15-3.45,4.75-5.25VDC  | 40k-5Mbps              | 110         | RoHS CE |               |
| TD331/531SCANFD  | SMD single CANFD isolated transceiver module                       | 3.15-3.45,4.75-5.25VDC  | 40k-5Mbps              | 110         | RoHS CE |               |
|                | TLAXX-03KCAN   | Integrated isolated CAN AC/DC power supply                                    | 85-305VAC/100-430VDC   | 5-1000kbps  | 110     | RoHS CE       |
|  | TLAXX-03K485L  | Integrated isolated 485 AC/DC power supply                                    | 85-305VAC/100-430VDC   | 19.2kbps    | 128     | RoHS CE       |
|  | TLAXX-03K485   | Integrated isolated 485 AC/DC power supply                                    | 85-305VAC/100-430VDC   | 500kbps     | 128     | RoHS CE       |
| TD3/SUSPCAN <b>NEW</b>   | Isolated UART/SPI T to CAN Module                                  |   | 3.15-3.45,4.75-5.25VDC | 5k-1Mbps    | 110     | RoHS CE       |

## Signal isolator/ isolation barrier

|  | Series   | Function                       | Input Signal                         | Output Signal           | Feature               |
|--|----------|--------------------------------|--------------------------------------|-------------------------|-----------------------|
|  | TAXx0W   | Analog signal                  | 4-20mA,0-10V                         | 0/4-20mA,0-10V          | DIN-Rail power supply |
|  | TAx05W   | DC current input analog signal | 4-20mA                               | 4-20mA,1-5V,0-10V       | DIN-Rail power supply |
|  | TAx06W   | Passive Barrier                | 4-20mA                               | 4-20mA                  | /                     |
|  | TRxx0PW  | Programmable RTD               | Pt100,Cu50,Cu100                     | 0/4-20mA,0/1-5V,0/2-10V | DIN-Rail power supply |
|  | TR1x0PWE | Programmable RTD               | Pt100,Cu50,Cu100                     | 0/4-20mA,0/1-5V,0/2-10V | DIN-Rail power supply |
|  | TCxx0PW  | Programmable thermocouple      | R,S,K,J,T,B,E thermocouple,mV signal | 0/4-20mA,0/1-5V,0/2-10V | DIN-Rail power supply |

# Signal Conditioning Module/LED driver Transformer Selection Guide

## Signal Conditioning Module



| Series          | Function  | Input Signal                | Output Signal        | Isolation | Certification     |
|-----------------|---|-----------------------------|----------------------|-----------|-------------------|
| T_L             | Two-wire loop power supply                                | 0-2.5V                      | 3.7-22mA             | 2000VAC   | RoHS CE           |
| T_HL            | Two-wire self-powered module with HART                    | 0-2.5V                      | 3.7-22mA             | 2000VAC   | RoHS CE           |
| TE_HN           | Active high precision high isolated detection type signal | 0-5V                        | 0-5V                 | 4000VAC   | RoHS              |
| TF_GN           | Active module   | 0-5V                        | ±10V                 | 2000VAC   | RoHS CE           |
| TF_N            | Active module   | 0-5V,0-10V                  | 0/4-20mA,0-5V,0-10V  | 2000VAC   | RoHS CE           |
| TN_T <b>NEW</b> | SMD signal self-driving module                            | 0-2.5V,0-5V,0-10V           | 0/4-10mA,0-2.5/5/10V | 2500VDC   | RoHS CE (pending) |
| TE_AN           | Active module positive and negative signal                | ±5V,±10V                    | 0-5V,0-10V           | 2000VAC   | RoHS CE           |
| TE_CN           | Active module positive and negative signal                | ±5V,±10V                    | ±5V,±10V             | 2000VAC   | RoHS CE           |
| TI_CP           | Active high precision signal                              | ±5V,±10V                    | ±5V/±10V,±20mA       | 2500VDC   | RoHS              |
| TM_P            | Active high precision signal (mV-class)                   | 0-10/20/30/50/75/100mV      | 0/4-20mA,0-5V,0-10V  | 2500VDC   | RoHS              |
| TM_CP           | Active high precision signal (mV-class)                   | ±10/±20/±50/±75/±100/±200mV | ±5V/±10V             | 2500VDC   | RoHS              |
| TEM_AN          | Active, mV-class, positive and negative signal            | ±75mV/±100mV                | 0-5V                 | 2000VAC   | RoHS CE           |
| TEM_CN          | Active, mV-class, positive and negative signal            | ±50mV/±100mV/±200mV         | ±5V/±10V             | 2000VAC   | RoHS CE           |
| T1100N          | Passive module  | 4-20mA                      | 4-20mA               | 3000VDC   | RoHS CE           |
| T1100L          | Passive module  | 4-20mA                      | 4-20mA               | 3000VDC   | RoHS CE           |
| T1100L-F        | Passive module (loop power supply)                        | 4-20mA                      | 4-20mA               | 3000VDC   | RoHS CE           |
| TE_N            | Active module   | 0-5V,0-10V,4-20mA           | 0-5V,0-10V           | 2000VAC   | RoHS CE           |
| TE_T <b>NEW</b> | Active high precision positive signal                     | 0-5V,4-20mA                 | 0-5V,0-5V            | 2000VAC   | RoHS              |
| T_P             | Active module   | 0-5V,0-10V,0/4-20mA         | 0/4-20mA,0-5V,0-10V  | 2500VDC   | RoHS              |
| TFW_N           | Active high precision PWM signal                          | PWM signal 0-100%           | 0-20mA,0-10V         | 2000VAC   | RoHS CE           |
| TRP_P           | RTDs detection type isolated module                       | Pt100(0-500°C)              | 4-20mA               | 2000VAC   | RoHS CE           |

## LED driver



| Series            | Input Voltage Range | Output Voltage (VDC) | Output Current (mA)           | Effi(%) (Typ) | Package | Certification |
|-------------------|---------------------|----------------------|-------------------------------|---------------|---------|---------------|
| KC24H-1000        | 5.5-48VDC           | 3.3-36               | 1000                          | 97            | DIP     | RoHS          |
| KC24H-1200        | 5.5-48VDC           | 3.3-36               | 1200                          | 97            | DIP     | RoHS          |
| KC24H-R           | 5.5-46VDC           | 3.3-36               | 0-300,0-350,0-500,0-600,0-700 | 95            | DIP     | RoHS          |
| KC24W             | 5.5-48VDC           | 3.3-36               | 0-300,0-350,0-500,0-600,0-700 | 96            | DIP     | RoHS          |
| KC24RT            | 5.5-48VDC           | 3.3-36               | 0-300,0-350,0-500,0-600,0-700 | 96            | SMD     | RoHS          |
| KC24JT <b>NEW</b> | 6-36VDC             | 3.3-36               | 300,700                       | 94            | SMD     | RoHS          |

## Transformer



| Series        | Power | Input Voltage Range | Output Voltage (VDC) | Output Channels | Control Mode | Bobbin | Package | Isolation | Certification |
|---------------|-------|---------------------|----------------------|-----------------|--------------|--------|---------|-----------|---------------|
| TSHT5.8-01    | 1W    | 4.5-5.5VDC          | 5                    | 1               | push-pull    | /      | SMD     | 3000VDC   | RoHS          |
| TTB05xx-1T    | 1W    | 4.5-5.5VDC          | 5,9                  | 1               | push-pull    | /      | SMD     | 1650VDC   | RoHS          |
| TTURB-6T      | 6W    | 9-36VDC             | 5                    | 1               | flyback      | ER11.5 | SMD     | 1650VDC   | RoHS          |
| TTURA-10T     | 10W   | 9-36,18-75VDC       | ±5,±15               | 2               | flyback      | ER11.5 | SMD     | 1650VDC   | RoHS          |
| TTURB-10T     | 10W   | 9-36,18-75VDC       | 5                    | 1               | flyback      | ER11.5 | SMD     | 1650VDC   | RoHS          |
| TTURB-20T     | 20W   | 9-36VDC             | 5                    | 1               | flyback      | ER14.5 | SMD     | 1650VDC   | RoHS          |
| TTLS03-15B-T  | 3W    | 85-305VAC           | 5,12                 | 1               | flyback      | EPC13  | SMD     | 3000VAC   | RoHS          |
| TTLDE05-20B-D | 5W    | 85-264VAC           | 5,12                 | 1               | flyback      | EE10   | SIP     | 4000VAC   | RoHS          |
| TTLHE10-20B-D | 10W   | 85-264VAC           | 5,12                 | 1               | flyback      | EFD15  | SIP     | 3000VAC   | RoHS          |
| TTLHE20-20B-D | 20W   | 85-264VAC           | 12                   | 1               | flyback      | EFD20  | SIP     | 4000VAC   | RoHS          |
| TTLHE25-20B-D | 25W   | 85-264VAC           | 12                   | 1               | flyback      | EFD25  | SIP     | 4000VAC   | RoHS          |


## Transformer for automotive (Meet AEC-Q200 standard)



| Series     | Power | Input Voltage Range | Output Voltage (VDC) | Output Channels | Control Mode | Bobbin | Package | Isolation       | Certification |
|------------|-------|---------------------|----------------------|-----------------|--------------|--------|---------|-----------------|---------------|
| CTTF-1T    | 1W    | 4.5-5.5VDC          | 5                    | 1               | push-pull    | /      | SMD     | 3000VDC         | RoHS          |
| CTTFB-1T   | 1W    | 4.5-5.5VDC          | 5                    | 1               | push-pull    | /      | SMD     | 3000VAC/4250VDC | RoHS          |
| CTTURB-6T  | 6W    | 9-36VDC             | 5                    | 1               | flyback      | ER11.5 | SMD     | 1650VDC         | RoHS          |
| CTTURA-10T | 10W   | 9-36,18-75VDC       | ±5,±15               | 2               | flyback      | ER11.5 | SMD     | 1650VDC         | RoHS          |
| CTTURB-10T | 10W   | 9-36,18-75VDC       | 5                    | 1               | flyback      | ER11.5 | SMD     | 1650VDC         | RoHS          |
| CTTURB-20T | 20W   | 9-36VDC             | 5                    | 1               | flyback      | ER14.5 | SMD     | 1650VDC         | RoHS          |


# IC Selection Guide

## AC/DC power control IC



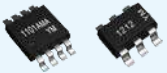
| Series   | Power | Topology | Control Mode     | Fsw <sup>1</sup> (kHz) | Vds(max) (V) | HV <sup>2</sup> | OTP <sup>3</sup> | OVP <sup>4</sup> | OCP <sup>5</sup> | Package |
|----------|-------|----------|------------------|------------------------|--------------|-----------------|------------------|------------------|------------------|---------|
| SCM1703A | ≤5W   | flyback  | current mode SSR | 110                    | 650V         | built-in        | built-in         | built-in         | built-in         | SOP-7   |
| SCM1710A | 5-60W | flyback  | current mode SSR | 110                    | /            | /               | external         | built-in         | built-in         | SOP-8   |
| SCM1733A | ≤20W  | flyback  | current mode SSR | 70                     | 650V         | built-in        | built-in         | built-in         | built-in         | SOP-8   |
| SCM1725A | ≤20W  | flyback  | current mode PSR | 120                    | /            | built-in        | built-in         | built-in         | built-in         | SOP-7   |
| SCM1738A | ≤8W   | flyback  | current mode PSR | 110                    | 650V         | built-in        | built-in         | built-in         | built-in         | SOP-7   |

## AC/DC power start-up IC




| Series   | Input Voltage Range | Ivdd(min)(mA) | Ivdd(max)(mA) | Operating Junction Temperature | Vvdd(max)(V) | Package |
|----------|---------------------|---------------|---------------|--------------------------------|--------------|---------|
| SCM9601A | 40-700VDC           | 0.8           | 4             | -40°C to +125°C                | 20           | SOT-23  |
| SCM9602A | 40-700VDC           | 1             | 4             | -40°C to +125°C                | 20           | SOT-23  |

## DC/DC power control IC



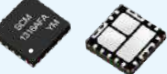
| Series   | Power | Topology        | Control Mode | Vds(max) (V) | OTP <sup>3</sup> | OCP <sup>5</sup> | SCP <sup>6</sup> | UVLO <sup>7</sup> | OLP <sup>8</sup> | Package  |
|----------|-------|-----------------|--------------|--------------|------------------|------------------|------------------|-------------------|------------------|----------|
| SCM1101A | 5-40W | flyback/forward | current mode | 480          | /                | built-in         | built-in         | built-in          | built-in         | MSOP-8   |
| SCM1212A | ≤1W   | push-pull       | current mode | /            | built-in         | /                | built-in         | built-in          | /                | SOT-23-5 |

## DC/DC power start-up IC



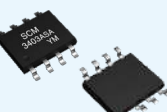
| Series   | Input Voltage Range | Ivdd(min)(mA) | Ivdd(max)(mA) | Operating Junction Temperature | Vvdd(max)(V) | Package |
|----------|---------------------|---------------|---------------|--------------------------------|--------------|---------|
| SCM9603B | 4-85VDC             | 2.3           | 20            | -40°C to +125°C                | 10           | SOT-23  |

## DC/DC power non-isolated buck control IC




| Series   | Vcc(V) | Output Current (max)(A) | Switching Frequency(KHz) | Operating Junction Temperature | Synchronous Rectification | Package   |
|----------|--------|-------------------------|--------------------------|--------------------------------|---------------------------|-----------|
| SCM1301A | 4.5-40 | 1                       | 700                      | -40°C to +150°C                | /                         | TSOT23-6L |
| SCM1316A | 7-38   | 6                       | 130-300                  | -40°C to +150°C                | ✓                         | QFN5*5-20 |

## Interface IC



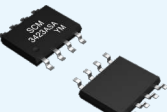
| Series   | Vcc(V)  | Data Bus    | Duplex Mode | Nodes | NO. of TX | NO. of TR | Baud Rate (Mbps) | Package |
|----------|---------|-------------|-------------|-------|-----------|-----------|------------------|---------|
| SCM3403A | 3.0-5.5 | RS485/RS422 | Half        | /     | 1         | 1         | 12               | SOP-8   |
| SCM3421A | 4.5-5.5 | CAN         | Half        | 110   | 1         | 1         | 1                | SOP-8   |
| SCM3422A | 4.5-5.5 | CAN         | Half        | 110   | 1         | 1         | 1                | SOP-8   |
| SCM3423A | 4.5-5.5 | CAN         | Half        | 110   | 1         | 1         | 1                | SOP-8   |

## Contact power saving controller IC



| Series   | Vcc(V)   | Fast Shutdown Function | F <sub>BUCK</sub> <sup>9</sup> | V <sub>ACT_AC</sub> <sup>10</sup> | V <sub>OFF_AC</sub> <sup>11</sup> | Package |
|----------|----------|------------------------|--------------------------------|-----------------------------------|-----------------------------------|---------|
| SCM1501B | 16.5-500 | ✓                      | 23.5kHz                        | 2.4V                              | 1.6V                              | ESOP-8  |
| SCM1502A | 7-40     | ✓                      | 23.7kHz                        | 0.8V                              | 0.6V                              | ESOP-8  |

## Digital Isolators IC



| Series   | Vcc(V)  | Transmission Rate(bps) | NO. of TX | NO. of TR | Withstand Voltage(kV rms) | Default Output | Package |
|----------|---------|------------------------|-----------|-----------|---------------------------|----------------|---------|
| SCM3721A | 3.0-5.5 | 150K                   | 2         | 1         | 3                         | High           | SOP-8   |
| SCM3723A | 3.0-5.5 | 150K                   | 2         | 2         | 3                         | High           | SOP-8   |
| SCM3725A | 3.0-5.5 | 10M                    | 2         | 1         | 3                         | High           | SOP-8   |
| SCM3728A | 3.0-5.5 | 10M                    | 2         | 2         | 3                         | Low            | SOP-8   |

### Note:

Fsw<sup>1</sup>: operating switching frequency

HV<sup>2</sup>: internal high voltage start-up switch

OTP<sup>3</sup>: over-temperature protection

OVP<sup>4</sup>: over-voltage protection

OCP<sup>5</sup>: over-current protection

SCP<sup>6</sup>: short circuit protection

UVLO<sup>7</sup>: under-voltage lockout

OLP<sup>8</sup>: open-loop protection

F<sub>BUCK</sub><sup>9</sup>: post-stage average switching frequency

V<sub>ACT\_AC</sub><sup>10</sup>: VT pin contactor operating voltage

V<sub>OFF\_AC</sub><sup>11</sup>: VT pin contactor turn-off voltage

# Caution

## ■ Purpose:

To prevent potential safety problems while using the products.

## ■ Scope:

AC/DC, DC/DC, EMC Auxiliary Device, Isolation Transmitter, LED Driver and IGBT Driver manufactured by Mornsun Guangzhou Science & Technology Co., Ltd.

## ■ Contents:

Users should comply to all the contents of Product Datasheet carefully before selection, design, or production, and design and use the products according to the requirements of Product Datasheet.



More information about application, please contact us.

Tel: 020-38601850 E-mail: fae801@mornsun.cn

# 15-1000W

## Enclosed Switching Power Supply



Website



Reliable performance



Low cost



Fast delivery



20+ years experience

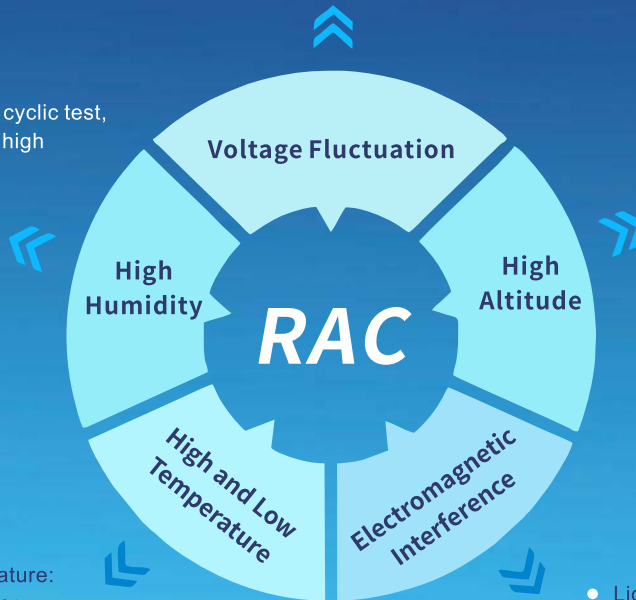
# 305RAC AC/DC

85-305VAC Input • Reliable under All Conditions

- Input voltage may rise above 264vac when voltage fluctuation caused by load change or power source as generator

- Humidity test:  
Temperature/humidity cyclic test,  
High temperature and high humidity test,  
Constant temperature & humidity test

- Operation altitude up to 5000m  
Altitude simulation test:  
high temperature test,  
low temperature test,  
aging test, etc



- Low temperature:  
-25°C to -40°C
- High temperature:  
+70°C to +80°C

- Lightning/Surge Immunity
- EMI: CISPR32/EN55032  
CLASS A/B



**Best-in-class  
performance**



**handle voltage  
fluctuations easily**



**Widely used in  
almost any harsh  
conditions**

305

85-305VAC input voltage

RAC

— Reliable under All Conditions

Best-in-class performance. Handle the voltage fluctuation easily. High-input-voltage capability, high-low-temperature reliability, high-humidity reliability, high-altitude reliability and good EMC performance under almost any harsh conditions.



Website

More information, please visit:

[www.mornsun-power.com](http://www.mornsun-power.com)



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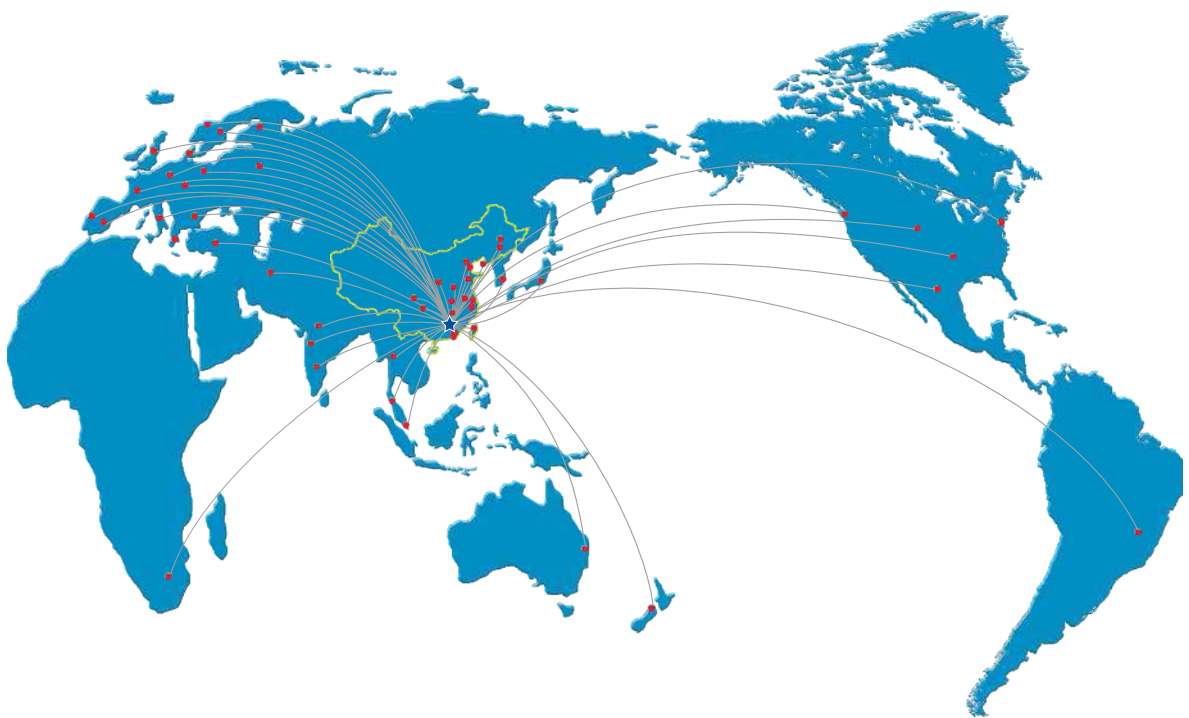
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