

# PRODUCT CHANGE NOTIFICATION

Ref Nr: EBR-0176-17091301

Date: September, 13<sup>th</sup>, 2017

**TO:** Customer who may concern

**FROM:** Product Marketing, R-chip BU

**HEREWITH YOU ARE INFORMED OF OUR INTENTION TO RECTIFY THE FOLLOWING SPECIFICATION.**

**DESCRIPTION:**

This notification is to inform you that Yageo is going to rectify the temperature of solder bath for the test of soldering heat resistance and the highest temperature in our soldering file for SnAgCu solders to be 260°C.

By mistake the temperature of the soldering bath for the test of soldering heat resistance and the highest temperature in soldering profile for SnAgCu solders was indicated 270°C. Based on the reference standard "MIL-STD-202G-method 210F (the original version listed in mounting datasheet is version F. Version G is an updated version after version F)" which Yageo listed in mounting datasheet, the highest temperature is 260°C. Therefore Yageo is going to rectify this typo error.

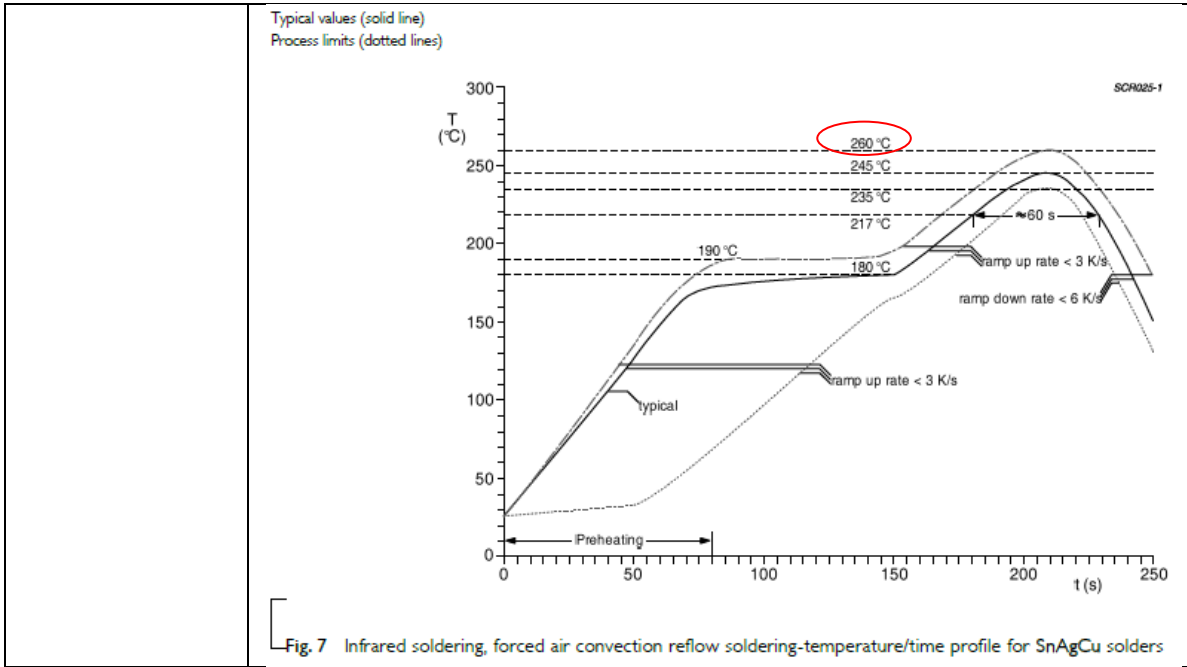
The following information is copied from "MIL-STD-202G-method 210F" for your reference.

MIL-STD-202G

TABLE I. Test conditions.

Solder technique simulation	Test condition	Temperature (°C)	Time (s)	Temperature ramp/ immersion and emersion rate	Number of heat cycles
Solder iron	A	350 ±10 (solder iron temp)	4 - 5		1
Dip	B	260 ±5 (solder temp)	10 ±1	25mm/s ±8 mm/s	1

	Before rectification		
<p>Soldering profile for SnAgCu solders</p>	<p><b>SOLDERING CONDITIONS</b></p> <p>The lead free Surface Mount Resistors are able to stand the reflow soldering conditions as below:</p> <ul style="list-style-type: none"> <li>• Temperature: above 220 °C</li> <li>• Endurance: 95 to 120 seconds</li> <li>• Cycles: 3 times</li> </ul> <p>The test of "soldering heat resistance" is carried out in</p> <p>Typical values (solid line) Process limits (dotted lines)</p>	<p>accordance with the schedule of "MIL-STD-202F-method 210F", "The robust construction of chip resistors allows them to be completely immersed in a solder bath of 270 °C for 10 seconds". Therefore, it is possible to mount Surface Mount Resistors on one side of a PCB and other discrete components on the reverse (mixed PCBs).</p>	<p>Surface Mount Resistors are tested for solderability at 245 °C during 2 seconds. The test condition for no leaching is 260 °C for 30 seconds. Typical examples of soldering processes that provide reliable joints without any damage, the recommended soldering profiles referring to "IEC 61760-1" are given in Figs 6, 7 and 8.</p>
<p>The graph shows temperature (T in °C) on the y-axis (0 to 300) and time (t in s) on the x-axis (0 to 250). A solid line represents the typical profile, and dotted lines represent process limits. Key points include: Preheating phase (0-50s), ramp up rate &lt; 3 K/s to 190°C, dwell at 190°C, ramp up rate &lt; 3 K/s to 217°C, dwell at 217°C, ramp up rate &lt; 3 K/s to 245°C, dwell at 245°C for 60s, ramp down rate &lt; 6 K/s to 180°C, dwell at 180°C, and final ramp down rate &lt; 6 K/s. A circled 270°C point is also indicated.</p>			
<p>Fig. 7 Infrared soldering, forced air convection reflow soldering-temperature/time profile for SnAgCu solders</p>			
After rectification			
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**REASONS:** To rectify the typo of the highest temperature in soldering profile for SnAgCu solders in mounting datasheet

**EXPECTED INFLUENCE ON PERFORMANCE:** N/A

**EXPECTED INFLUENCE ON QUALITY AND RELIABILITY:** N/A

**CHANGE:**

**WITHDRAWAL:** None

Quality REPORTS available: N/A

SAMPLES available: N/A

Implementation date: October 2<sup>nd</sup>, 2017

Type identification after change: N/A

**SUGGESTION FOR ALTERNATIVE PRODUCTS:** None

Quality Manager: *N.J. Chen*

Product Manager: *Branda Chen*

Sales Manager:

Signature:

Signature:

Signature:

Date: 2017-09-13

Date: 2017-09-13

Date:

**FOR MORE INFORMATION, CONTACT:** Yageo contact window

**RETURN YOUR COMMENTS BEFORE:** September 29<sup>th</sup>, 2017

Remarks:

Comments:

Date:

Function:

Signature: