MURATA MANUFACTURING CO., LTD.

Attention: PK COMPONENTS ELEKT.BAUELEM.
VERTR. GMBH

No. : HEMCP-0006
Date : March 31, 2014

EMIFIL® (Capacitor type) Array Type NFA6CCC Series

Notification - Discontinuance of Legacy products

Dear Valued Customer,

Thank you very much for your patronage on our EMI Suppression Filters.
We would much appreciate to submit this letter to inform you about the Discontinuance of Legacy EMIFIL®(Capacitor type) NFA6CCC series.

1. Object Part

EMIFIL® (Capacitor type) Array Type NFA6CCC series

2. Applied Part Numbers and Murata Product Types

(1) Customer Part Number: Please find enclosed Appendix.
(2) Murata Product Types/Series subject to Discontinuation:

NFA6CCC220S1H4L/NFA6CCC470S1H4L/NFA6CCC101S1H4L/NFA6CCC221S1H4L
NFA6CCC471S1H4L/NFA6CCC102R1H4L/NFA6CCC222R1H4L/NFA6CCC223R1H4L

NFA6CCC220S1H4B/NFA6CCC470S1H4B/NFA6CCC101S1H4B/NFA6CCC221S1H4B
NFA6CCC471S1H4B/NFA6CCC102R1H4B/NFA6CCC222R1H4B/NFA6CCC223R1H4B

3. Reason

EMIFIL® (Capacitor type) Array Type NFA6CCC seires is specified as a unique product.
As it is unique market demand is low ,the machinery/tooling
for this product has been deteriorating which has lead to low productivity.This has lead us to consider that the continuance of production is not feasbile in near future.

4. Discontinuance Schedule

Date of Last Time Buy : August 31, 2014
Date of Discontinue Production : February 28, 2015
Please return this form with your signature by August 31, 2014.

We would like to take action after your acceptance.
Please feel free to contact us, if you have any question or request on our proposal.

No. : HEMCP0-0006

5. Proposal of alternate product

There is what can introduce the substitution.
We will introduce also about it by attached data.

(1) Structure

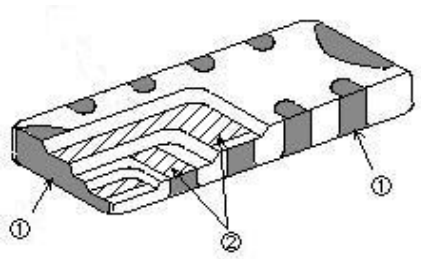

Table A

No.	NAME	Material	
		NFA6CCC	NFA31CC
①	Termination		
	External layer	Solder(Sn-3.0Ag-0.5Cu)	Tin
	Intermediate layer	-	Nickel
	Groundwork Electrode	Ni alloy	Ni alloy
②	Inner electrode	Silver-Palladium or Palladium	Palladium
Dielectric layer		Ceramic dielectric	Ceramic dielectric

(2) Please see attached Typical Reliability Test Data for your reference.

Yours very truly,

Y. Nakayama / Manager

Product Engineering Department
Capacitor Division Ⅰ
Fukui Murata MFG. Co., Ltd.

The notification for the acceptance

Date :
Company :
Signature :
Comment :

∗ Please return this form with your signature to our sales representative by **August. 31, 2014.**

Appendix

Customer P/N	MurataP/N	
	Current	Substitution
NFA6CCC223R1H4L	NFA6CCC223R1H4L	NFA31CC223R1C4D

※Customer Part Number registered with Murata is above.
About Customer Part Number without registered, the Object Part is targeted for all.

Reliability Test Comparison Data of NFA6CCC223R1H4 vs NFA31CC223R1C4

添付資料
Appendix

弊社品番/NFA6CCC223R1H4 vs NFA31CC223R1C4
Murata Part No./NFA6CCC223R1H4 vs NFA31CC223R1C4

試験項目、条件 Testing Item、Condition	サンプル数 Sample Size	評価項目 Confirmed Item		NFA6CCC223R1H4	NFA31CC223R1C4	判定値 Acceptance Value	判定 OK/NG
1.初期値/Initial	30	静電容量/Capacitance(pF)	AVG	23439	22749	NFA6C: 22000pF +50/-20% NFA31: 22000pF+/-	OK
		(at 1kHz,1V(rms))	MAX	24235	24320		
			MIN	22947	21918		
			σ	220.4	439.0		
		直流抵抗:Rdc/	AVG	0.138	0.083	NFA6C: 1.0Ωmax. NFA31: 0.4Ωmax.	OK
		DC Resistance	MAX	0.168	0.097		
		(Ω)	MIN	0.118	0.069		
			σ	0.009	0.007		
		絶縁抵抗:IR/	AVG	3.0E+10	2.0E+11	1.0E+09Ω MIN	OK
		Insulation Resistance (Ω)	MAX	9.9E+10	3.0E+11		
		(between Signal Line and Ground	MIN	1.0E+10	1.0E+11		
			σ	2.2E+10	3.0E+10		
2.はんだ耐熱/Resistance to Soldering Heat ﾌﾗｯｸｽ/Flux : Ethanol solution of rosin, 予熱/Pre-Heating : 150℃ 1minute はんだ/Solder : Sn-3.0Ag-0.5Cu はんだ温度/Solder Temperature : 270±5℃ 浸せき時間/Immersion Time : 10±1.0s	10	外観/Appearance		OK	OK	No damaged	OK
		静電容量変化率/	AVG	0.99	1.24	Within ±7.5%	OK
		Capacitance Change (%)	MAX	1.66	1.50		
			MIN	-0.22	0.97		
		直流抵抗変化率/	AVG	1.13	1.07	Within±20%	OK
		DC Resistance change	MAX	6.78	4.60		
		(%)	MIN	-1.45	-2.93		
		絶縁抵抗(試験後)/	AVG	2.3E+11	1.8E+10	1.0E+09Ω MIN	OK
		Insulation Resistance(After test)	MAX	2.7E+11	2.4E+10		
		(Ω)	MIN	1.0E+11	1.2E+10		
3.耐湿性/Humidity 温度/Temperature : 40℃ 湿度/Humidity : 95%(RH) 時間/Time : 500h	30	外観/Appearance		OK	OK	No damaged	OK
		静電容量変化率/	AVG	-6.90	-3.49	Within ±12.5%	OK
		Capacitance Change (%)	MAX	-5.57	-2.21		
			MIN	-8.30	-4.11		
		直流抵抗変化率/	AVG	-5.90	-0.44	Within±20%	OK
		DC Resistance change	MAX	2.20	-0.02		
		(%)	MIN	-9.48	-0.70		
		絶縁抵抗(試験後)/	AVG	5.6E+11	1.1E+10	1.0E+09Ω MIN	OK
		Insulation Resistance(After test)	MAX	6.5E+11	1.2E+10		
		(Ω)	MIN	3.6E+11	1.0E+10		
4.高温負荷/Heat Life 温度/Temperature : 85℃ 電圧/Voltage : Rated Voltage x2.0 電流/Curent : Rated Curent 時間/Time : 1000h	30	外観/Appearance		OK	OK	No damaged	OK
		静電容量変化率/	AVG	-3.06	-7.67	Within ±12.5%	OK
		Capacitance Change (%)	MAX	1.13	-7.08		
			MIN	-4.09	-8.34		
		直流抵抗変化率/	AVG	-5.61	-0.81	Within±20%	OK
		DC Resistance change	MAX	1.64	-0.26		
		(%)	MIN	-9.42	-1.23		
		絶縁抵抗(試験後)/	AVG	5.6E+11	9.0E+10	1.0E+09Ω MIN	OK
		Insulation Resistance(After test)	MAX	6.1E+11	1.1E+11		
		(Ω)	MIN	4.9E+11	1.9E+10		
5.温度ｻｲｸﾙTemperature Cycle 1ｻｲｸﾙ条件/1 Cycle condition Min Temperature/30 minutes to Max temperature/30 minutes 回数/Total of Cycles :10 cycles	30	外観/Appearance		OK	OK	No damaged	OK
		静電容量変化率/	AVG	-1.35	-5.93	Within ±20%	OK
		Capacitance Change (%)	MAX	-0.48	-4.91		
			MIN	-2.37	-6.35		
		直流抵抗変化率/	AVG	0.1	-0.75	Within±20%	OK
		DC Resistance change	MAX	2.1	-0.12		
		(%)	MIN	-0.6	-1.22		
		絶縁抵抗(試験後)/	AVG	1.3E+11	1.2E+11	1.0E+09Ω MIN	OK
		Insulation Resistance(After test)	MAX	1.7E+11	1.4E+11		
		(Ω)	MIN	1.1E+11	9.0E+10		