

To:DIGI-KEY/THIEF RIVER FALLS/MN/HQ

Date: 21th, Nov. 2014
 Murata Manufacturing Co.,Ltd. Head Office
 Nagaokakyo-shi, Kyoto 617-8555 Japan
 Phone : +81 - 75 - 955 - 6863
 Fax : +81 - 75 - 955 - 6579

Re : The electrode manufacturing process change for lead type PTC thermistors

We thank you very much for your continuous business relationship regarding Murata Thermistor products. Because the Japanese Environmental Regulation (the law of water pollution) will be revised in next year 2015, we Murata will have to change our electrode manufacturing process for lead type PTC thermistors. We decide that we will stop our Ni plating process in Yokaichi Factory by the end of May 2015. We considered if we could keep doing the plating process by investment to our plant; however we could not find any solutions without a sudden price rise for PTC thermistors. Under this circumstance, we decided to select the better plating process for each series of lead type PTC thermistors. We also decided to stop production of our lead type PTC thermistors whose actual production record is very few. We would like you to read carefully below contents and let us know your approval. We are sorry for any inconvenience however your understanding would be very appreciated.

1. Concerned Product

Product series; Lead type PTC thermistors Ni-Ag plating electrode products
 Product P/N: PTGL / PTRL series

2.Change classification and contents

There are three classification(I 、 II 、 III)according to P/N. The details of change subjects, time schedule of this change and the subject to your company's P/N will be shown in P2 and after. And the P/N for your company, please identify an attached Shipping Record.

Class	Change contents	Before Change (Current)	After Change	Change Point
I	1) Process of electrode 2) Production location	1) Electrode-less Plating 2) Murata Yokaichi Plant	1) Spattering Process 2) Wuxi Murata in CHN	1)Design Products 2)Production location
II	Production Company for PTC pill	Murata Yokaichi Plant	Cooperative company in oversea (Not operated by Murata)	Production location
III	STOP Production	-	-	-

3. The due date of reply

Mar. 31, 2015

We would like you to reply the attached document to our sales office.

If you have any questions or requests, please do not hesitate to contact us.
Your kind understands and cooperation would be greatly appreciated.
Sincerely yours,

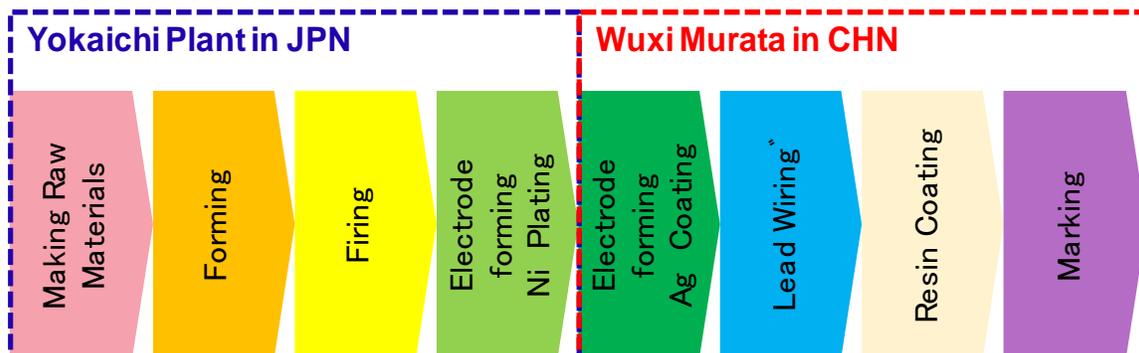


Authorized by Toshiya Kumada
General Manager
Thermistor and Variable Products Department

Classification I : The Change of electrode manufacturing process and production location
■The contents of change

The reason for change	Change points: Product Design and production location	
	Reason: ①Because the revision of the law of Japanese Environmental Regulation (the law of water pollution), we Murata can't keep manufacturing the Ni-Ag plating electrode ②Keep supplying to Murata products to customers	
Change Contents	Before Change	After Change
	●Ni-Ag Plating Electrode ※Refer to the construction figure on C12-1	●Sputtering Electrode ※Refer to the construction figure on C12-1
	●Production Location ・forming/ firing/ Electrode forming ▼Murata MFG. Co., Ltd. Yokaichi Plant (Japan)	●Production Location forming/ firing/ Electrode forming (Sputtering) / Lead wiring/ Resign coating/ Marking ▼Wuxi Murata Electronics co., Ltd (China)
Schedule	June 2015 (Change without notice)	
Murata P/N	NOT change	
Others	Discrimination with current series : The date of manufacturing Characteristic and Specification will not be changed	

Process Flow in case of Before Change



After Change



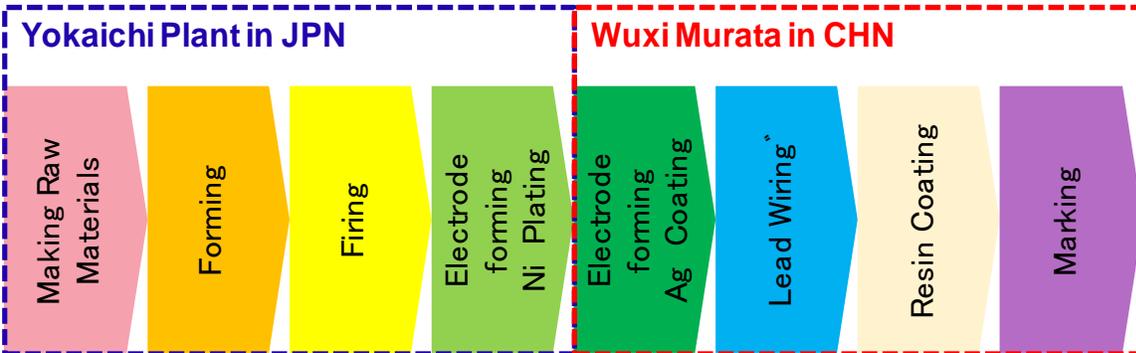
Classification II: The change of manufacturing company of Ceramic pill

■The contents of change

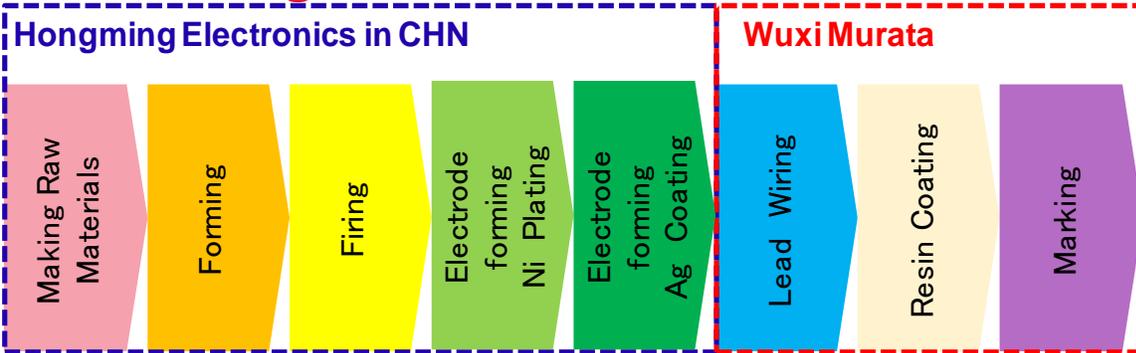
The reason for change	Change points: Manufacturing Company of ceramic pill Manufacturing commission to other company in oversea	
	Reason: ①Because the revision of the law of Japanese Environmental Regulation (the law of water pollution), we Murata can't keep manufacturing the Ni-Ag plating electrode ②Keep supplying to Murata products to customers	
Change Contents	Before Change	After Change
	<ul style="list-style-type: none"> ●Production Location •raw materials/ forming/ firing/ Electrode forming(Ni) ▼Murata Manufacturing Co., Ltd. Yokaichi Plant (Japan) •Electrode forming(Ag) ▼Wuxi Murata Electronics co., Ltd (China) 	<ul style="list-style-type: none"> ●Production Location •raw materials/ forming/ firing/ Electrode forming(Ni) / Electrode forming(Ag) ▼Hongming Electronics Co., Ltd. (China) *Please see attached company profile document C12-3
	【Reference】Below manufacturing process will NOT be changed	
	•Wiring/ Resign coating/ Marking	
	▼Wuxi Murata Electronics co., Ltd (China)	
Schedule	June 2015 (Change without notice)	
Murata P/N	NOT change	

Others	Discrimination with current series : The date of manufacturing Characteristic and Specification will not be changed
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Process Flow in case of Before Change



After Change



Classification III Stop Production

■ **The reason for stop production**

Due to the revision of the Japanese Environmental Regulation (the law of water pollution), we will stop our Ni plating process in Murata Yokaichi Factory by the end of May 2015.

Judging from the current actual manufacturing record of each item, the P/N whose actual production is very few will be EOL at this time.

We would appreciate your kind understanding.

■ **The last time buy, the last time delivery**

Please note that we would like to announce the below schedule for customer support.

If you have any order request, please let us know your last time buy order by below due date.

The last time buy order request: Mar. 31, 2015

The last time for delivery May. 30, 2015

Response paper

Destination;
 Murata Manufacturing Co., Ltd.
 Thermistor and Variable Products Department

Date:

Approval	Check	Issue

Company DIGI-KEY/THIEF RIVER FALLS/MN/HQ

Subject	The electrode manufacturing process change for lead type PTC Thermistors due to the revision of the law of Japanese Environmental Regulation (The law of water pollution).
Decision	<input type="checkbox"/> Approve <input type="checkbox"/> Not approve
Notes	

Please check (☐) the applicable box and return us by Mar. 31, 2015