

March 15, 2011

Notification of changes

Transfer of back-end production of PTC thermistors to China

TDK-EPC will shortly be transferring the back-end production of its EPCOS PTC thermistors from Batam, Indonesia, to Zhuhai, China.

Affected products¹⁾

Ordering code
B59*

¹⁾A list of all affected ordering codes is attached.

PTC thermistors that are sold as bare metallized disks (e.g. heaters or motor-start PTCs) are unaffected by this PCN.

Transfer schedule

- | | |
|------------|---|
| June 2011 | Qualification of first equipment and shipment of first samples for selected types from Zhuhai. Start of first shipments from Zhuhai, depending on customer release. |
| March 2012 | Completion of qualification and changeover of all deliveries to Zhuhai. |

During a transition period, products may be shipped from both plants. Even after the completion of the transfer in March 2012, products manufactured in Batam may be sold from our warehouse.

Quality

During the transfer period, responsibility for quality remains in Batam. After start-up of the Zhuhai plant, responsibility for quality will be transferred to the new plant.

Quality assurance measures

- Staged transfer of the affected product range between June 2011 and March 2012.
- Release of all affected processes and equipment in Zhuhai according to ISO/TS 16949.
- Intensive training program for the production personnel. With the increased level of automation, the dependence of quality on personnel is reduced.
The new Zhuhai facility is our production site for leaded varistors. The production lines for leaded PTC thermistors are very similar to those for leaded varistors, so we can use the available know-how.
- Zhuhai is certified according to ISO/TS 16949.
- Intensified process control and outgoing inspection during the ramp-up phase.

March 15, 2011

As soon as the various steps have been concluded, the country of origin mark will change to China.

Enclosure Notification of changes (PCN)
List of all ordering codes of affected products

Contact Dr. Stefan Benkhof, PPD PTC PM, Munich

Customers should kindly address inquiries directly to their sales contacts.



**Product / Process Change Notification
Produkt-/ Prozess-Änderungsmitteilung**

1. ID No. / ID-Nr.: PPD 22/T115		2. Date of announcement / Datum der Ankündigung: March 15, 2011	
3. Type / Produktgruppe: PTC thermistors / PTC-Thermistoren	Old ordering code / Alte Bestell-Nr.: B59* List of all affected ordering codes is attached / Liste aller Bestellnummern anbei.	New ordering code / Neue Bestell-Nr.: No change / Keine Änderung	Customer part number / Kundensachnummer:
4. Description of change / Beschreibung der Änderung: <p>Transfer of the back-end production of PTC thermistors from Batam, Indonesia, to Zhuhai, China. The following production steps are affected: ultrasonic drilling, soldering, coating, molding, resistance sorting, potting, assembly, final measurement, taping, packaging and outgoing inspection. PTC thermistors sold as bare metallized disks (e.g. heaters or motor start PTCs) are unaffected by this PCN.</p> <p>The process steps remain unchanged, with the following exceptions:</p> <ul style="list-style-type: none"> - Changeover from pad printing to laser marking for all molded PTC thermistors (materials with the ordering code B59*P*) and all leaded and coated PTC thermistors. The color of the laser marking will be from light grey to black, depending on the coating material that is used. - Changeover from black pad printing to black ink jet printing for all uncoated leaded PTC thermistors. - Increased degree of automation for the process steps of soldering, coating and resistance measurement of leaded PTC thermistors. In addition to an improved dosing technology for the solder, in-line AOI systems for direct quality control will also be installed. / <p>Verlagerung der Backend-Produktionsschritte von PTC-Thermistoren von Batam Island/Indonesien nach Zhuhai/China. Davon sind folgende Fertigungsschritte betroffen: Ultraschallbohren, Löten, Umhüllen (Lackieren), Umspritzen, Widerstandssortieren, Vergiessen, Montage, Endmessen, Gurten, Verpacken und Ausgangsprüfung.</p> <p>PTC-Thermistoren, die als metallisiertes unbedrahtetes Element verkauft werden (zum Beispiel Heizer oder Motorstart-PTC) sind von dieser PCN nicht betroffen.</p> <p>Bis auf folgende Ausnahmen bleiben die Prozessschritte unverändert:</p> <ul style="list-style-type: none"> - Umstellung von Tampondruck auf Laserdruck für alle umspritzten PTC-Thermistoren (Materialien mit der Bestellbezeichnung B59*P*) sowie alle lackierten bedrahteten PTC-Thermistoren. Die mit Laserdruck aufgebraute Markierung ist hellgrau bis schwarz, abhängig vom Typ des verwendeten Lacks. - Umstellung von Tampondruck (schwarz) auf Tintenstrahldruck (schwarz) bei allen unlackierten bedrahteten PTC-Thermistoren. - Erhöhter Automatisierungsgrad für die Prozessschritte Löten, Umhüllen und Messen von bedrahteten PTC. Neben einer verbesserten Dosiermethode für das Lot werden zusätzlich AOI-Systeme zur direkten Qualitätskontrolle in der Linie installiert. 			



5. Effect on the product or for customers (quality, specification, lead time) /

Auswirkung auf das Produkt oder für den Kunden (Qualität, Spezifikation, Lieferzeiten):

No change in appearance, function, quality, reliability or processability.

Exception: The described process changes for the markings result in a changed appearance of the markings on all leaded PTC with additional marking on all molded PTC (B59*P*). As all markings will be grey to black in future, in some cases the colour of the marking will be changed. The ink used for uncoated leaded PTC with markings has been changed. /

Keine Auswirkung auf Aussehen, Funktion, Qualität, Zuverlässigkeit und Verarbeitbarkeit.

Ausnahme: Die unter Punkt 4 genannte Prozessänderung für die Markierung führt zu einem leicht veränderten Erscheinungsbild der Bedruckung aller Materialien mit der Bestellbezeichnung B59*P* sowie aller bedrahteten PTC mit Bedruckung. Dadurch ändert sich teilweise auch die Farbe der Bedruckung. Bei den unlackierten bedrahteten PTC mit Markierung wird eine neue Tinte verwendet.

6. Quality assurance measures / Maßnahmen zur Qualitätssicherung:

- Staged transfer of the affected product range between June 2011 and March 2012.
- Release of all affected processes and equipment in Zhuhai according to ISO/TS 16949.
- Intensive training program for the production personnel. With the increased level of automation, the dependence of quality on personnel is reduced.
- The new Zhuhai facility is our production site for leaded varistors. The production lines for leaded PTC thermistors are very similar to those for leaded varistors, so we can use the available know-how.
- Zhuhai is certified according to ISO/TS 16949.
- Intensified process control and outgoing inspection during the ramp-up phase./
- Schrittweise Verlagerung des betroffenen Produktspektrums von Juni 2011 bis März 2012.
- Freigabe jedes einzelnen Prozesses bzw. Equipments in Zhuhai erfolgt nach den Regeln von ISO/TS 16949.
- Intensives Schulungsprogramm des Fertigungspersonals, wobei durch die Automatisierung wichtiger Prozessschritte die Abhängigkeit der Qualität vom Personal reduziert wird.
- Am neuen Standort in Zhuhai vorhandenes Know-How zur Produktion von bedrahteten Varistoren kann auch für die nahezu identischen Fertigungslinien für bedrahtete PTC-Thermistoren genutzt werden.
- Zhuhai ist nach ISO/TS 16949 zertifiziert.
- Während des Hochlaufs verstärkte Prozesskontrollen und Ausgangsprüfungen.

7. Scheduled date of introduction / Geplante Einführung:

Start June 15, 2011 for first products, depending on customer release. Completion of transfer by March 2012. During the transition period, products may be supplied from both production sites./

Start der Verlagerung 15.Juni 2011 für die ersten Typen, entsprechend Kundenfreigaben. Abschluss der Verlagerung März 2012. Während einer Übergangszeit können Produkte von beiden Standorten geliefert werden.

8. Customer feedback / Rückmeldung vom Kunden:

If EPCOS does not receive notification to the contrary within a period of 10 weeks, EPCOS assumes that the customer agrees to the change. For an interim period we cannot rule out that old as well as new products will be shipped.

Falls EPCOS innerhalb von 10 Wochen keine gegenteilige Mitteilung erhält, geht EPCOS davon aus, dass die geplante Änderung vom Kunden akzeptiert ist. Innerhalb einer Übergangszeit kann es vorkommen, dass sowohl alte wie auch neue Ware geliefert wird.

Quality Management:

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Signature

sgd. Dr. W. Pint



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Name: Dr. Stefan Benkhof

Signature

sgd. Dr. Stefan Benkhof

Customer acknowledgement

Bestätigung durch den Kunden

Signature



Electronic Parts and Components

**Annex of UPtoDATE 110315THERM1 and PCN PPD 22/T115 of March 15, 2011 /
Transfer of back-end production of PTC thermistors to China**

List of all ordering codes of affected products:

Ordering code	Ordering code	Ordering code	Ordering code	Ordering code
B59001J1140B040	B59008U1120B053	B59028C1080B053	B59061S1090A370	B59070B1105B151
B59001U1080B070	B59010B1120A070	B59029U1110B070V30	B59061S1090B370	B59071S1120B153
B59001U1090B070	B59010D1135B040	B59030C1120B070	B59061S1095A370	B59073S0120B054
B59001U1170B070	B59010D1150B040	B59030D1150B040	B59062B1080A155	B59076B1120B151
B59002P1120B062	B59011C1000A051	B59034S1145B070	B59063C1105B151	B59076B1120B153
B59003Z0999A099	B59011C1040A070	B59034S1155B070	B59063S1080B070	B59076C1120A151
B59004A1130B040	B59011C1060A070	B59037A1120B162	B59064C1040B070	B59076S1120B054
B59005U1140B053	B59011C1120A070	B59037U1080B070	B59065S1120B054	B59078U1145B070
B59008B1130A051	B59012B1080A053	B59042B1120B151	B59065S1120B070	B59078U1150B070
B59008C0060A040	B59012B1080B070	B59043A0191P040	B59065S1120B270	B59078U1155B070
B59008C0070A040	B59015U1055B070	B59045B1120B151	B59067S0160B070	B59078U1155B070V30
B59008C0080A040	B59018U1170B070	B59048B1080B151	B59067S1070B054	B59080G1120B262
B59008C0090A040	B59020S1120B054	B59050D1100B040	B59067S1080B054	B59081G1120A161
B59008C0100A040	B59022C0080B040	B59050D1120B040	B59067S1090B054	B59081G1120B261
B59008C0110A040	B59022S1120A051	B59050U1120B053	B59067U1140B070	B59082S1080B040
B59008C0120A040	B59023S1120A070	B59051U1160B070	B59068U1120B055	B59082S1080B054
B59008C0130A040	B59023U1120B054	B59053C1120B151	B59069B1080B051	B59082U1160B070
B59008C0140A040	B59024S1120A151	B59055C1100B140	B59069B1080B151	B59083G1120A161
B59008C0150A040	B59025C0120B070	B59056U1135B051	B59069B1120A051	B59084B1120A151
B59008C0160A040	B59026U1130B070	B59059U1120B051	B59069S0120B062	B59084B1120A151V03



Electronic Parts and Components

Ordering code	Ordering code	Ordering code	Ordering code	Ordering code
B59084G1120A161	B59100A1090A040	B59100C0100A051	B59100M1145A070V30	B59119C1120A070
B59084S1120B054	B59100A1100A040	B59100C0100A070	B59100M1150A070	B59120U1140B070
B59085G1120A161	B59100A1105A040	B59100C0110A051	B59100M1155A070	B59120U1160B070
B59086G1120B262	B59100A1110A040	B59100C0110A070	B59100M1155A070V30	B59121B1120A070
B59086U1080B053	B59100A1115A040	B59100C0120A070	B59100M1160A070	B59121U1160B070
B59087U1120B040	B59100A1120A040	B59100C0130A070	B59100M1160A070V30	B59122C1080A070
B59087U1120B070	B59100A1125A040	B59100C0140A070	B59100M1170A070	B59122U1160B070
B59088U1055A053	B59100A1130A040	B59100C0150A070	B59100M1180A070	B59123U1130B070
B59088U1055B053	B59100A1135A040	B59100C0150A151	B59100M1180A070V30	B59124U1120B070
B59088U1055B070	B59100A1140A040	B59100M1060A070	B59101P1080A062	B59126U0120B070
B59089S1120B070	B59100A1145A040	B59100M1060A070V30	B59101P1120A062	B59126U0160B070
B59091S1130B070	B59100A1150A040	B59100M1070A070	B59101S1155B070	B59130S1120A054
B59092U1110B070	B59100A1155A040	B59100M1070A070V30	B59101U1145B070	B59130U1080B070
B59094U1140B070	B59100A1160A040	B59100M1080A070	B59102S1160B070	B59130U1090B070
B59095U1120B070	B59100A1170A040	B59100M1080A070V30	B59105J0130A020	B59130U1100B070
B59095U1145B070	B59100A1180A040	B59100M1090A070	B59107J0130A020	B59130U1110B070
B59098C0110B055	B59100A1190A040	B59100M1090A070V30	B59109J0130A020	B59130U1120B070
B59098C1100B051	B59100C0010A070	B59100M1100A070	B59115P1080A062	B59130U1140B070
B59098C1100B051V01	B59100C0050A070	B59100M1110A070	B59115P1120A062	B59130U1150B070
B59098C1100B055	B59100C0060A070	B59100M1110A070V30	B59115S1100B054	B59130U1155B070
B59098U1170B070	B59100C0070A070	B59100M1120A070	B59118C1080A051	B59130U1160B070
B59099U1080B070	B59100C0080A054	B59100M1120A070V30	B59118C1080A070	B59130U1170B070
B59099U1100B070	B59100C0080A070	B59100M1130A070	B59118C1120A051	B59130U1180B070
B59100A1060A040	B59100C0090A051	B59100M1140A070	B59118C1120A070	B59131U1135B070
B59100A1070A040	B59100C0090A054	B59100M1140A070V30	B59119C1080A070	B59132U1120B070
B59100A1080A040	B59100C0090A070	B59100M1145A070	B59119C1120A051	B59133U1110B070



Electronic Parts and Components

Ordering code	Ordering code	Ordering code	Ordering code	Ordering code
B59142U0120B053	B59184C1120B153	B59268S1075A070	B59310B1110A051	B59451C1130A040
B59145S1100A054	B59184C1130A151	B59274U0160B053	B59310U1130B070	B59451C1130B070
B59148U0120B057	B59185S1120B054	B59300M1060A070	B59310U1140B070	B59509T1120A062
B59150U0160B053	B59185U1070B051	B59300M1080A070	B59310U1150B070	B59510T1120A062
B59150U1140B040	B59193U0120B051	B59300M1090A070	B59310U1160B070	B59525T1120A062
B59151S1160B040	B59196S1120B040	B59300M1100A070	B59310U1180B070	B59534S1120B110
B59154C1130A151	B59196U0120B051	B59300M1100A070V30	B59311U1110B070	B59535T1120A062
B59154C1130B151	B59200A1110A040	B59300M1110A070	B59315P1080A062	B59535T1120A262
B59154U1135B151	B59201P1080A062	B59300M1120A070	B59315P1120A062	B59550T1120A062
B59155A0160A040	B59201P1120A062	B59300M1130A070	B59339A1201P020	B59550T1120A262
B59155A0170A040	B59204B1120B151	B59300M1140A070	B59339A1202P020	B59585B1150A070
B59155A0180A040	B59204U0120B053	B59300M1145A070	B59339A1321P020	B59603B1120B157
B59162S1080B054	B59204U0160B053	B59300M1145A070V30	B59339A1501P020	B59635T1120A062
B59164U1120B070	B59207U0120B051	B59300M1150A070	B59339A1502P020	B59636B1120B151
B59168S1120B070	B59207U0160B051	B59300M1155A070	B59339A1800P020	B59650T1120A062
B59170S1120B054	B59208U1070B040	B59300M1160A070	B59346A1502P020	B59725T1120A062
B59170U1120B070	B59215P1080A062	B59300M1160A070V30	B59351U1160B070	B59735T1120A062
B59171U0120B070	B59215P1120A062	B59300M1170A070	B59380S1120B054	B59750B0120A070
B59173C1130A151	B59228U0120B070	B59300M1170A070V30	B59404B0060A040	B59750T1120A062
B59176S1100B054	B59235U1120B051	B59300M1180A070	B59404B0060A040V02	B59751B0120A070
B59179U0120B070	B59241U0120B051	B59300M1190A070	B59405B1060A040	B59751B0120B070
B59180U1120B070	B59248B1080B153	B59301P1080A062	B59405B1060A040V30	B59751C0120A070
B59181S1120B070	B59251U1080B051	B59301P1120A062	B59406B0060A040	B59752B0120A070
B59184B1120A151	B59251U1080B070	B59303M1110B070	B59407B0030A040	B59753B0120A070
B59184C1120A051	B59252U1080B070	B59305B1140B051	B59412C1130B070	B59754B0120A070
B59184C1120B140	B59268S1075A040	B59306B1160B051	B59450T1120A062	B59755B0115A070



Electronic Parts and Components

Ordering code	Ordering code	Ordering code	Ordering code	Ordering code
B59758B0110A070	B59831C0135A070	B59860C0130A040	B59873C0120A052	B59884C0120A055
B59758B0110A071	B59835T1120A062	B59860C0130A054	B59873C0120A070	B59884C0120A070
B59770B0120A070	B59840C0080A054	B59860C0130A070	B59873C0120A570	B59885C0080A051
B59770B0120B040	B59840C0080A070	B59860C0160A051	B59874C0120A051	B59885C0120A051
B59771B0120A070	B59840C0120A070	B59860C0160A070	B59874C0120A070	B59885C0120A054
B59772B0120A070	B59840C0120A370	B59861C0135A051	B59875C0120A051	B59885C0120A070
B59773B0120A070	B59840C0130A070	B59861C0135A070	B59875C0120A070	B59886C0060A070
B59774B0115A070	B59840C0160A070	B59861C1120A070	B59875C0120A570	B59886C0120A051
B59774C0115A070	B59841C0135A040	B59870C0080A051	B59875T1120A062	B59886C0120A070
B59801D0060A040	B59841C0135A070	B59870C0080A070	B59875U1120B051	B59890C0080A051
B59801D0080A040	B59850C0080A070	B59870C0120A051	B59880C0080A051	B59890C0080A054
B59801D0090A040	B59850C0120A051	B59870C0120A070	B59880C0080A070	B59890C0080A070
B59801D0100A040	B59850C0120A070	B59870C0120A370	B59880C0120A051	B59890C0120A051
B59801D0120A040	B59850C0120A370	B59870C0120A470	B59880C0120A054	B59890C0120A054
B59805T1080A062	B59850C0120A570	B59870C0130A051	B59880C0120A070	B59890C0120A070
B59810C0120A070	B59850C0130A051	B59870C0130A070	B59880C0120A370	B59890C0120A151
B59810C0130A070	B59850C0130A070	B59870C0160A051	B59880C0120A570	B59890C0120B070
B59810C0160A070	B59850C0160A070	B59870C0160A070	B59880C0130A070	B59890C0160A070
B59810T1120A062	B59850T1120A062	B59870C1120B151	B59880C0160A070	B59890S1120B154
B59811C0135A070	B59860C0080A070	B59870C1120B951	B59881C0135A070	B59890U0120A051
B59825T1120A062	B59860C0120A051	B59870C1120B970	B59883C0120A051	B59891C0135A053
B59830C0080A070	B59860C0120A054	B59871C0135A070	B59883C0120A070	B59891C0135A070
B59830C0120A070	B59860C0120A070	B59872B0120A070	B59883C0120A370	B59901D0060A040
B59830C0130A040	B59860C0120A370	B59872C0120A051	B59883C0120A570	B59901D0070A040
B59830C0130A070	B59860C0120A554	B59872C0120A070	B59883C0120B070	B59901D0080A040
B59830C0160A070	B59860C0120A570	B59873C0120A051	B59884C0120A054	B59901D0090A040



Electronic Parts and Components

Ordering code	Ordering code	Ordering code	Ordering code	Ordering code
B59901D0100A040	B59950C0080A070	B59970C0120B051	B59990C0120A070	
B59901D0110A040	B59950C0120A051	B59970C0130A070	B59990C0160A051	
B59901D0120A040	B59950C0120A070	B59970C0160A051	B59990C0120A051	
B59901D0130A040	B59950C0130A070	B59970C0160A070	B59990C0120A054	
B59902D0060B040	B59950C0160A070	B59970T1100A062	B59990C0160A070	
B59910C0120A070	B59955C0120A051	B59975C0120A051	B59995C0120A051	
B59910C0130A070	B59955C0120A070	B59975C0120A070	B59995C0120A070	
B59910C0160A070	B59955C0160A051	B59975C0160A051	B59995C0120B054	
B59915C0120A070	B59955C0160A070	B59975C0160A070	B59995C0160A051	
B59930C0080A070	B59960C0080A070	B59980C0080A051	B59995C0160A070	
B59930C0120A070	B59960C0120A051	B59980C0080A070		
B59930C0130A070	B59960C0120A054	B59980C0120A051		
B59930C0160A051	B59960C0120A070	B59980C0120A070		
B59930C0160A070	B59960C0130A070	B59980C0130A070		
B59935C0120A051	B59960C0160A070	B59980C0160A070		
B59935C0120A070	B59965C0120A051	B59985B0120A054		
B59940C0080A051	B59965C0120A070	B59985C0120A051		
B59940C0080A070	B59965C0160A051	B59985C0120A070		
B59940C0120A070	B59965C0160A070	B59985C0120B051		
B59945C0120A051	B59970C0080A051	B59985C0160A051		
B59945C0120A070	B59970C0080A053	B59985C0160A070		
B59945C0160A051	B59970C0080A070	B59990B0080A054		
B59945C0160A070	B59970C0120A051	B59990C0080A051		
B59950C0080A051	B59970C0120A070	B59990C0080A070		