

October 17, 2014

## Product change

### Production location, marking and dry packaging of CSSP filters

The following changes will be introduced from April 2015 for EPCOS CSSP filters of the B39\*B43\* and B39\*B44\* series for automotive applications:

- The front-end production of lithium tantalate wafers for CSSP copper-frame components for applications in automotive electronics will be relocated from Munich, Germany, to our factory in Singapore.
- At the same time, the copper-frame panel preparation will move from Munich to subcontractor EPSON INDUSTRIAL PTE LTD in Singapore. EPSON will in future deliver the structured panels to the EPCOS plant in Singapore.
- To assure better traceability, the marking of the copper-frame components will be suitably adapted. The last five digits of the 7-digit production lot number will replace the previous date code, allowing to trace each component to a single production lot. These five digits will be encoded by a three-character Base47 notation. In addition, the type name will be encoded by a three-character Base32 notation (for details see Annexes 1 and 2).
- The dry packing material will be optimized with respect to the moisture barrier bag (MBB), desiccant and humidity indicator. The new moisture barrier bag and desiccant will enable a minimum storage time of 24 months after packing. For monitoring purposes, a humidity indicator card showing 5%, 10% and 50% relative humidity will be added to each bag.

#### Affected products

Ordering code
B39*B43*
B39*B44*

These changes will be effective for already released as well as for newly developed components.

This change will have no effect on product quality, specification or delivery performance.

The processes in Singapore will be qualified according to AEC-Q200 on the basis of reference types.

October 17, 2014

Scheduled date of introduction: April 18, 2015

Deadline for last orders for products in the previous version: January 17, 2015

Last shipments of products in the previous version: April 17, 2015

During a transition period, products of the previous and new versions may be shipped.

Customers holding PPAPs and other qualification documents (mainly automotive customers) will be contacted separately by EPCOS Sales.

**Enclosure** PCN

Annex 1: Marking change

Annex 2: Explanation of the new marking code

**Contact** Michael Pechloff, SAW AE PM, Munich

**Customers are asked to address inquiries directly to their sales contacts.**



## Product / Process Change Notification

<b>1. ID No.:</b> M265		<b>2. Date of announcement:</b> October 17, 2014	
<b>3. Product / product group:</b> SAW AE Automotive CSSP products	<b>Old ordering code:</b> B39*B43* B39*B44*	<b>New ordering code:</b> No change	<b>Customer part number:</b>
<b>4. Description of change:</b> <p>a) The front-end production of lithium tantalate wafers for CSSP copper-frame components for applications in automotive electronics will be relocated from Munich, Germany, to our factory in Singapore.</p> <p>b) At the same time, the copper-frame panel preparation will move from Munich to subcontractor EPSON INDUSTRIAL PTE LTD in Singapore. EPSON will in future deliver the structured panels to the EPCOS plant in Singapore.</p> <p>c) To assure better traceability, the marking of the copper-frame components will be suitably adapted. The last five digits of the 7-digit production lot number will replace the previous date code, allowing to trace each component to a single production lot. These five digits will be encoded by a three-character Base47 notation. In addition, the type name will be encoded by a three-character Base32 notation (for details see Annexes 1 and 2).</p> <p>d) The dry packing material will be optimized with respect to the moisture barrier bag (MBB), desiccant and humidity indicator. The new moisture barrier bag and desiccant will enable a minimum storage time of 24 months after packing. For monitoring purposes, a humidity indicator card showing 5%, 10% and 50% relative humidity will be added to each bag.</p> <p>These changes will be effective for already released as well as for newly developed components.</p>			
<b>5. Effect on the product or for the customer (benefit, quality, specification, lead time):</b> No effects on product quality, specification or delivery performance.			
<b>6. Quality assurance measures / risk assessment:</b> <p>a) The Singapore factory is a 1:1 copy of the Munich factory (equipment, materials, design, processes). The plant is certified according to ISO/TS16949 and ISO14001.</p> <p>b) The EPSON INDUSTRIAL PTE LTD factory in Singapore is a 1:1 copy of the Munich factory (equipment, materials, design, processes) with respect to the panel preparation processes. The plant is certified according to ISO/TS16949 and ISO14001.</p> <p>c) The laser marking method itself remains unchanged.</p> <p>d) The packaging method itself remains unchanged.</p> <p>The processes in Singapore will be qualified according to AEC-Q200 on the basis of reference types.</p>			
<b>7. Scheduled date of change:</b> Deadline for last orders for products from the front-end production and panel preparation in Munich with the old marking and packaging: January 17, 2015. Last manufacturing and shipments by: April 17, 2015. Please note our side letter (provided by EPCOS Sales) to all customers holding PPAPs and other qualification documents (mainly automotive customers).			
<b>8. Estimated date of first delivery of changed product:</b> April 18, 2015 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.			
<b>9. Identification of changed product (first date code / marking):</b> The changed product will be clearly identified by the new marking as in attachment 1.			



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<b>10. Customer feedback</b>	
Customer acknowledgement	Signature

Annex 1 to UPtoDATE 141017SAW1 of October 17, 2014 /  
Production location, marking and dry packaging of CSSP filters

Example of new marking of automotive-grade CSSP Cu frame components



**Annex 2 to UPToDATE 141017SAW1 of October 17, 2014 /  
Production location, marking and dry packaging of CSSP filters**

**A) Explanation of new marking code for SAW AE CSSP Cu frame products**

Adopted Base32 code for device name			
Decimal position value	Base32 code	Decimal position value	Base32 code
0	0	16	G
1	1	17	H
2	2	18	J
3	3	19	K
4	4	20	M
5	5	21	N
6	6	22	P
7	7	23	Q
8	8	24	R
9	9	25	S
10	A	26	T
11	B	27	V
12	C	28	W
13	D	29	X
14	E	30	Y
15	F	31	Z

Adopted Base47 code for last five digits of lot number			
Decimal position value	Base47 code	Decimal position value	Base47 code
0	0	24	R
1	1	25	S
2	2	26	T
3	3	27	U
4	4	28	V
5	5	29	W
6	6	30	X
7	7	31	Y
8	8	32	Z
9	9	33	b
10	A	34	d
11	B	35	f
12	C	36	h
13	D	37	n
14	E	38	r
15	F	39	t
16	G	40	v
17	H	41	\
18	J	42	?
19	K	43	{
20	L	44	}
21	M	45	<
22	N	46	>
23	P		

## B) Examples of encoding and decoding

<p><b>Device name encoding example B1234:</b>  <i>Without B in decimal code: 1234</i></p> <p>1234 : 32 = 38 with remainder 18          38 : 32 = 1 with remainder 6          1 : 32 = 0 with remainder 1</p> <p><i>(Combine the encoded remainders to form a new lot number in special Base32 code starting with the last remainder first)</i></p>	<p><b><i>In adopted Base32 code</i></b></p> <p>= J          = 6          = 1          1 6 J</p>
<p><b>Device name decoding example:</b>  <i>Lot number in special Base32 code: 16J</i></p> <p><math>1 \times 32^2 + 6 \times 32^1 + 18 (=J) \times 32^0 =</math></p>	<p><i>In decimal code:</i>  <b>1234</b></p>

Conversion for last five digits of lot number encoding follows the same principal except that division/multiplication must be performed using the number 47.

<p><b>Encoding example last 5 digits of lot number:</b>  <i>in decimal code: 12345</i></p> <p>12345 : 47 = 262 with remainder 31          262 : 47 = 5 with remainder 27          5 : 47 = 0 with remainder 5</p> <p><i>(Combine the encoded remainders to form a new lot number in special Base47 code starting with the last remainder first)</i></p>	<p><b><i>In adopted Base47 code</i></b></p> <p>= Y          = U          = 5          5 U Y</p>
<p><b>Device name decoding example:</b>  <i>Lot number in special Base47 code: 5UY</i></p> <p><math>5 \times 47^2 + 27 (=U) \times 47^1 + 31 (=Y) \times 47^0 =</math></p>	<p><i>In decimal code:</i>  <b>12345</b></p>