



Date: Mar 04, 2022

PCN No#: 030422-1

PCN Title: MCC Introduces Auto-Assembly Process for SMA6J Series.

Dear Customer:

This is an announcement of change(s) to products that are currently being offered by Micro Commercial Components Corp(MCC) .We request that you acknowledge receipt of this notification within 30 days of the date of this PCN. Please refer to the implementation date of this change as it is stated in the attached PCN form. Please contact your local sales representative to acknowledge receipt of this PCN.

If you have any questions about PCN's products, please contact your local sales representative.

Sincerely,

MCC PCN Team

## PRODUCT CHANGE NOTICE

Notification Date	Implementation Date	Change Type	Classification	PCN No
Mar 04, 2022	Jun 04, 2022	Auto-Assembly Process	Major	030422-1
<b>TITLE</b>				
MCC Introduces Auto-Assembly Process For SMA6J Series.				
<b>DESCRIPTION OF CHANGE</b>				
This PCN is being issued to notify customers that in order to assure continuity of supply, MCC added auto assembly line(Located in Yangzhou) for SMA6J Series. MCC has qualified the auto assembly line. Full electrical characterization and high reliability testing has been completed to ensure there is no change to device functionality or electrical specifications in the datasheet.				
<b>IMPACT</b>				
No change in datasheet electrical parameters and product performance. Table A: Appearance comparison				
<b>PRODUCTS AFFECTED</b>				
See Table B & Table C for the products affected.				
<b>WEB LINKS</b>				
<b>Terms And Conditions:</b>	<a href="https://www.mccsemi.com/Home/TermsAndConditions">https://www.mccsemi.com/Home/TermsAndConditions</a>			
<b>For More Information Contact:</b>	<a href="https://www.mccsemi.com/Contact/Index">https://www.mccsemi.com/Contact/Index</a>			
<b>Products:</b>	<a href="https://www.mccsemi.com/ProductCategories">https://www.mccsemi.com/ProductCategories</a>			
<b>DISCLAIMER</b>				
<b>Unless a MCC Sales representative is contacted in writing within 30 days of the posting of this notice, all changes described in this announcement are considered approved.</b>				

Table A - Appearance comparison(SMA6J18AHE3-TP)



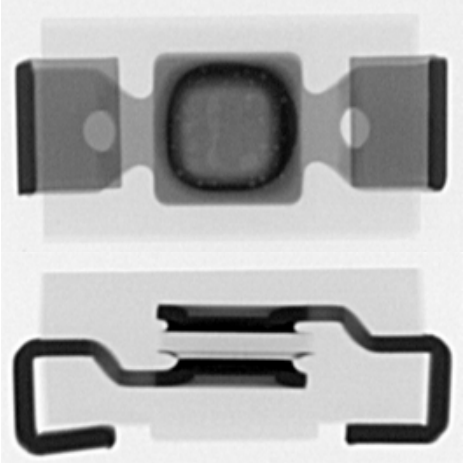
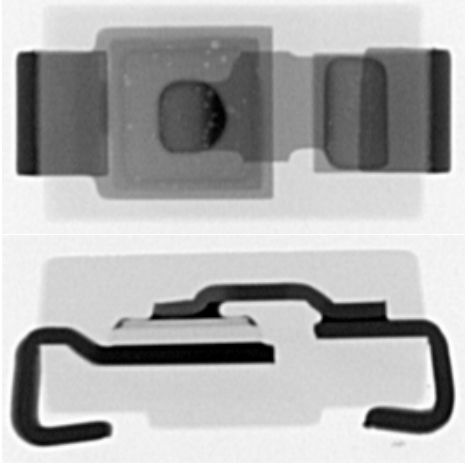
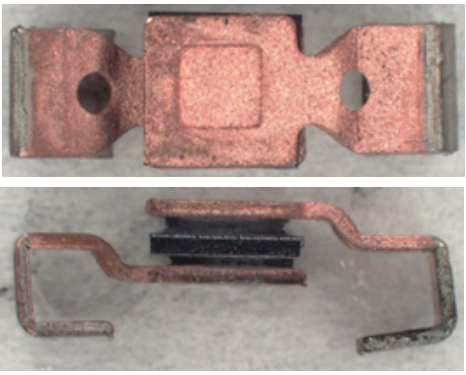
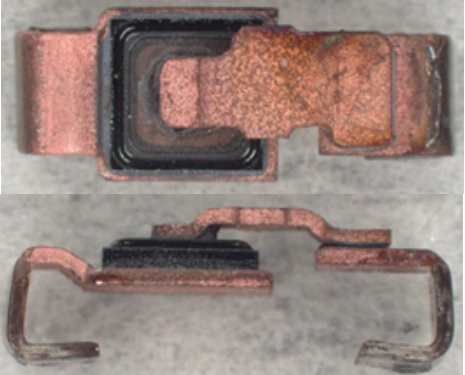
Current appearance and structure	New appearance and structure
 <p>Two photographs of the current component. The top photo shows the top surface with the marking 'MCC LT 2147'. The bottom photo shows the bottom surface with a central rectangular feature.</p>	 <p>Two photographs of the new component. The top photo shows the top surface with the marking 'MCC LT 2149'. The bottom photo shows the bottom surface with a central rectangular feature.</p>
 <p>Two CAD-style images of the current component. The top image is a top-down view showing a central circular feature. The bottom image is a side view showing the component's profile and mounting tabs.</p>	 <p>Two CAD-style images of the new component. The top image is a top-down view showing a central circular feature. The bottom image is a side view showing the component's profile and mounting tabs.</p>
 <p>Two photographs of the current component's structure. The top photo shows the top surface with a central square feature. The bottom photo shows the bottom surface with a central rectangular feature.</p>	 <p>Two photographs of the new component's structure. The top photo shows the top surface with a central square feature. The bottom photo shows the bottom surface with a central rectangular feature.</p>

Table B - List of affected products for industrial series

SMA6J5.0A-TP	SMA6J5.0CA-TP	SMA6J13A-TP	SMA6J13CA-TP	SMA6J28A-TP	SMA6J28CA-TP
SMA6J6.0A-TP	SMA6J6.0CA-TP	SMA6J14A-TP	SMA6J14CA-TP	SMA6J30A-TP	SMA6J30CA-TP
SMA6J6.5A-TP	SMA6J6.5CA-TP	SMA6J15A-TP	SMA6J15CA-TP	SMA6J33A-TP	SMA6J33CA-TP
SMA6J7.0A-TP	SMA6J7.0CA-TP	SMA6J16A-TP	SMA6J16CA-TP	SMA6J36A-TP	SMA6J36CA-TP
SMA6J7.5A-TP	SMA6J7.5CA-TP	SMA6J17A-TP	SMA6J17CA-TP	SMA6J40A-TP	SMA6J40CA-TP
SMA6J8.0A-TP	SMA6J8.0CA-TP	SMA6J18A-TP	SMA6J18CA-TP	SMA6J43A-TP	SMA6J43CA-TP
SMA6J8.5A-TP	SMA6J8.5CA-TP	SMA6J19A-TP	SMA6J19CA-TP	SMA6J45A-TP	SMA6J45CA-TP
SMA6J9.0A-TP	SMA6J9.0CA-TP	SMA6J20A-TP	SMA6J20CA-TP	SMA6J48A-TP	SMA6J48CA-TP
SMA6J10A-TP	SMA6J10CA-TP	SMA6J22A-TP	SMA6J22CA-TP	SMA6J51A-TP	SMA6J51CA-TP
SMA6J11A-TP	SMA6J11CA-TP	SMA6J24A-TP	SMA6J24CA-TP	SMA6J54A-TP	SMA6J54CA-TP
SMA6J12A-TP	SMA6J12CA-TP	SMA6J26A-TP	SMA6J26CA-TP	SMA6J58A-TP	SMA6J58CA-TP

Table C - List of affected products for automotive series

SMA6J13AHE3-TP	SMA6J13CAHE3-TP	SMA6J19AHE3-TP	SMA6J19CAHE3-TP	SMA6J30AHE3-TP	SMA6J30CAHE3-TP
SMA6J14AHE3-TP	SMA6J14CAHE3-TP	SMA6J20AHE3-TP	SMA6J20CAHE3-TP	SMA6J33AHE3-TP	SMA6J33CAHE3-TP
SMA6J15AHE3-TP	SMA6J15CAHE3-TP	SMA6J22AHE3-TP	SMA6J22CAHE3-TP	SMA6J36AHE3-TP	SMA6J36CAHE3-TP
SMA6J16AHE3-TP	SMA6J16CAHE3-TP	SMA6J24AHE3-TP	SMA6J24CAHE3-TP	SMA6J40AHE3-TP	SMA6J40CAHE3-TP
SMA6J17AHE3-TP	SMA6J17CAHE3-TP	SMA6J26AHE3-TP	SMA6J26CAHE3-TP		
SMA6J18AHE3-TP	SMA6J18CAHE3-TP	SMA6J28AHE3-TP	SMA6J28CAHE3-TP		

## Micro Commercial Components Corp.

## AECQ101 Discrete Device Reliability Test Report

Product Series: Surface Mount Transient Voltage Suppressor Diodes		Rel test No:RA2021120065				General Specification: AECQ101 Rev E			
Package type: DO-214AC (SMA)		Part No:SMA6J18AHE3				Lot No:SMA			
MSL Level: 1		Final Lead Finish: 100% Matte Sn				Lead frame: EYJ210195/EYJ210196/EYJ210197			
Manufacturing site: Yangzhou, China		Chip Type: SMA18A70				Qualification Reliability Date: 2022/1/15			
AECQ101 Item	Test Item	Test name	Ref. Specification	Test Condition	Lot #	Sample size	Result Fail/Total	Result	Remark
A1	PC	Preconditioning	JEDEC/IPC J-STD-020 JESD22-A-113	Performed on surface mount devices prior to TC, AC, H3TRB or HAST, and IOL.	3	308*3	0/308*3	ACC	
A2	HAST	Highly Accelerated Stress Test	JEDEC JESD22-A-110	130°C/85%RH, 80% rated VR(TVS:100%VRWM) or 42V max, 96 hours	3	77*3	0/77*3	ACC	
A2 alt	H3TRB	High Humidity High Temp. Reverse Bias	JEDEC JESD22-A-101	85°C/85%RH, 80% rated VR(TVS:100%VRWM) or 80V max, 1000 hours	NA	NA	NA	NA	Equivalent substitute by HAST
A3	UHASt	Unbiased HAST	JEDEC JESD22-A-118, or A101	130°C/85%RH, 96 hours	3	77*3	0/77*3	ACC	
A3 alt	AC	Autoclave	JEDEC JESD22-A-102	Ta = 121°C, P= 15 PSIG, RH = 100%, 96 Hours	NA	NA	NA	NA	Equivalent substitute by UHASt
A4	TC	Temperature Cycling	JEDEC JESD22-A-104 Appendix 6	-55°C to +150°C, t(dwell)>15 min), 1000 Cycles	3	77*3	0/77*3	ACC	
A4a	TCHT	Temperature Cycling Hot Test	JEDEC JESD22-A-104 Appendix 6	125°C TEST after TC using PV-determined limits at hot, followed by decap and wire pull (Test C3 WBP) on all wires from 5 devices per appendix 6 for parts with internal bond wire sizes 5 mil diameter and less. (Samples may be a sub set of test A4).	NA	NA	NA	NA	Required for MOSFETs parts with internal bond wire sizes 5 mil diameter and less.
A4a alt	TCDT	TC Delamination Test	JEDEC JESD22-A-104 Appendix 6 J-STD-035	100% AM inspection after TC, followed by decap, inspection or wire pull (Test C3 WBS) on all wires from 5 parts per appendix 6 for 5 highest delaminated parts. If AM shows no delaminating, no decap, inspection and wire pull is required.	NA	NA	NA	NA	
A5	IOL	Intermittent Operational Life	MIL-STD-750 Method 1037	Ta=25°C DeltaTj=100°C, t(on)=t(off)= 2 min, 15000 Cycles.	NA	NA	NA	NA	
A5 alt	PTC	Power Temperature Cycling	JEDEC JESD22-A-105	Perform PTC if Tj 100°C cannot be achieved with IOL.	NA	NA	NA	NA	
B1	HTRB	High Temperature Reverse Bias	MILSTD750-1 method M1038A	Tj= max, V=100% rated VR(TVS:100%VRWM), 1000 Hrs	3	77*3	0/77*3	ACC	
B1a	ACBV	AC Blocking Voltage	MIL-STD-750-1 M1040 Test condition A	Tj= max, AC=100% rated VR, 1000 Hrs	NA	NA	NA	NA	Required for Thyristors only.
B1b	SSOP	Steady State Operational	MIL-STD-750-1 M1038 condition B (Zeners)	1000 hours at rated IZ max, TA to rated Tj	NA	NA	NA	NA	Required for Voltage Regulators (Zeners) only.
B2	HTGB	High Temperature Gate Bias	JEDEC JESD22-A-108	Tj= max, Vgs=100%, 1000 Hrs	NA	NA	NA	NA	Required for MOS & IGBT parts only.
C1	DPA	Destructive Physical Analysis	AEC Q101-004 Section 4	Choose 2 pcs for DPA after H3TRB and TC respectively	1	4	0/4	ACC	
C2	PD	Physical Dimension	JEDEC JESD22-B-100	/	NA	NA	NA	NA	
C3	WBP	Wire Bond Pull Strength	MIL-STD-750-2 Method 2037 for Au and Al wire AEC Q006 for Cu wire	/	NA	NA	NA	NA	Refer to the initial procedure data
C4	WBS	Wire Bond Shear Strength	AEC Q101-003 JESD22-B116	/	NA	NA	NA	NA	
C5	DS	Die Shear	MIL-STD-750-2 Method 2017	/	NA	NA	NA	NA	
C6	TS	Terminal Strength	MIL-STD-750-2 Method 2036	/	NA	NA	NA	NA	Evaluate lead integrity of through-hole leaded parts only.
C7	RTS	Resistance to Solvents	JEDEC JESD22-B-107	/	NA	NA	NA	NA	Not required for laser etched parts or parts with no marking.
C8	RSH	Resistance to Solder Heat	JEDEC JESD22-A-111 (SMD) or B-106 (PTH)	260(+5,-0)°C, 10s	1	30	0/30	ACC	
C9	TR	Thermal Resistance	JEDEC JESD24-3, 24-4, 24-6 as appropriate	/	NA	NA	NA	NA	Refer to the initial procedure data
C10	SD	Solderability	JEDEC J-STD-002	245°C ±5°C, 3s	1	10	0/10	ACC	*
C11	WG	Whisker Growth Evaluation	AEC-Q005	/	NA	NA	NA	NA	For whisker requirements. Test to be done on a family basis (plating metallization, lead configuration).
C12	CA	Constant Acceleration	MIL-STD-750-2 Method 2006	/	NA	NA	NA	NA	
C13	VVF	Vibration Variable Frequency	JEDEC JESD22-B-103	/	NA	NA	NA	NA	Items C12 through C15 are sequential tests for hermetic packages.
C14	MS	Mechanical Shock	JEDEC JESD22-B-104	/	NA	NA	NA	NA	
C15	HER	Hermeticity	JEDEC JESD22-A-109	/	NA	NA	NA	NA	
D1	DI	Dielectric Integrity	AEC Q101-004 Section 3	/	NA	NA	NA	NA	Power MOS & IGBT only.
E0	EV	External Visual	JEDEC JESD22-B101	Device construction, marking, and workmanship	All	All	0/ALL	ACC	
E1	TEST	Pre and post stress electrical test	Device specification	/	All	All	0/ALL	ACC	
E2	PV	Parametric Verification	Device specification	Tested to device specification requirements	1	25	0/25	ACC	
E3	ESDH	ESD HBM Characterization	AEC Q101-001	100pF, 1500Ω. ±2KV	NA	NA	NA	NA	For ESD capable devices only.
E4	ESDC	ESD CDM Characterization	AEC Q101-005	±500V	NA	NA	NA	NA	For ESD capable devices only.
E5	UIS	Unclamped Inductive Switching	AEC Q101-004 Section 2		NA	NA	NA	NA	Power MOS and internally clamped IGBTs only.
E6	SC	Short Circuit Characterization	AEC Q101-006		NA	NA	NA	NA	For smart power parts only.

**Remark:** 1.\*: Solder-ability Test no need to test electricity, just for cosmetic check.

#### 2. Definition of Test Failure After Stressing:

Test failures are defined as devices exhibiting any of the following criteria:

- ①. Devices not meeting the electrical test limits defined in the device specification.
- ②. Devices not remaining within ± 20% of the initial reading of each test (with the exception of leakage limits which are not to exceed 10 times the initial value for moisture tests and 5 times the initial value for all others) after completion of environmental testing.
- ③. Any device exhibiting external physical damage attributable to the environmental test.

If the cause of failure is due to mishandling or ESD, the failure shall be discounted.

Prepared By: Jlawen Li

Approved By: Xiaojun Hou

Date: 2022/1/15

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