

Process Change Notification

This is to inform you that a design and/or process change will be implemented to the affected product(s) and this notification is for your information and concurrence. This change is planned to take effect in 90 calendar days from the date of this notification.

Please work with your local Taiwan Semiconductor Sales Representative to manage your inventory of unchanged product if your evaluation of this change will require more than 90 calendar days.

Please contact your local Taiwan Semiconductor Field Quality Service or Customer Quality Engineer within 45 days of receipt of this notification if you require any additional data or samples.

PCN No: PCN25009 rev0

Title: Additional molding compound for SOT&SOD

Issue Date: 2025/5/12

PCN Type:

Additional molding compound for SOT&SOD

Effectivity:

Expected 1st device shipment date: 2025/8/11 or earlier if approved by customer

Product Category (Description):

Affected parts of SOT-363, SOT-323, SOT-23, SOD-123F

Description of Change:

This PCN is being issued to inform TSC customers of qualifying additional molding compound supplier with similar molding compound type for affected devices.

This will ensure the continuity of supply and guarantee commitment on customer service and satisfaction.

Package	Before	After	Remarks
SOD-123F, SOT-363	Supplier K	Supplier K & S	Green Compound
SOT-323	Supplier K & E	Supplier K, E & S	Green Compound
SOT-23	Supplier K, S	Supplier K, S	Green Compound

Please note that this change in mold compound only affects parts from vendor 4999, whereas vendor 4793 remains unchanged. Details for the molding compound information is in the annex of this letter.

Remark: Detailed information in the comparison report will be provided upon customer request.

Qualification and Reliability Result:

NO.	Test	Test Conditions/ Standard	No. of Lots	Sample Size	Result
1	Preconditioning	JESD22A-113 1.Baking 125°C 24H 2.85°C 85%RH 168H 3.Reflow 260°C 3×	13	77	PASS
2	High Temperature Reverse Bias	JESD22-A108, MIL-STD-750 M1038 Tj=Tjmax, at least 80% rated VR, 1000hrs	12	77	PASS
3	Temperature Cycling	JESD22-A104 -55(-10/+0)°C/15min to 150(+15/-0)°C/15min, 1000 cycles	13	77	PASS
4	Unbiased Highly Accelerated Stress Test	JESD22-A118, Ta=130°C, 85%RH, 96hrs	13	77	PASS
5	Highly Accelerated Stress Test	JESD22-A110, 130°C/85% RH; V=80% VR; 42V max, 192 Hours	13	77	PASS
6	Intermittent Operational Life	JESD22A122, Ta=25°C; ΔTj=100°C; 2.0 min on/off, 15000 cycles	13	77	PASS
7	Steady State Operational	MIL-STD-750-1 M1038 Condition B (Zeners) rated IZ max, Tj = 150°C	1	77	PASS
8	Resistance to Solder Heat	JESD22-A111 SMD Pb free: 260(+5/- 0)°C , 10+2-0 sec	13	10	PASS
9	Destructive Physical Analysis	AEC-Q101-004 TC passed choose 1 lot 2pcs HAST or H3TRB passed choose 1lot 2 pcs;Visual inspection,SAM,X-ray,de-capsulation than Visual inspection	13	4	PASS

NO.	Test	Test Conditions/ Standard	No. of Lots	Sample Size	Result
10	Thermal Resistance	JESD24, per product datasheet	13	5	PASS
11	Solderability	J-STD-002 245 °C ± 5 °C (Pb-free) 5sec	13	10	PASS
12	Parametric Verification	Product Datasheet, Test over the part temp range	13	10	PASS

Conclusion: The new supplier successfully passed consumer product reliability requirement.

Identification and Traceability:

Item	Identification
Traceability	Lot number on the label

Effect of Change:

There is no impact in product electrical specification, functionality, quality and reliability. This change will guarantee Taiwan Semiconductor commitment on customer service and satisfaction through continuous improvement.

List of Affected Devices:

Package	TSC P/N	Package	TSC P/N	Package	TSC P/N
SOT-363	BAT54AD	SOT-363	BAT54BR	SOT-363	BAT54CD
SOT-363	BAT54SD	SOT-363	BAT54T	SOT-363	TESD5V0V4UCU6
SOT-323	BAV99W	SOT-323	RB706F-40	SOT-323	BAT54W
SOT-323	BAT54AW	SOT-323	BAT54CW	SOT-323	BAT54SW
SOT-323	BC817-16W	SOT-323	BC817-25W	SOT-323	BC817-40W
SOT-323	BC846AW	SOT-323	BC846BW	SOT-323	BC846CW
SOT-323	BC847AW	SOT-323	BC847BW	SOT-323	BC847CW
SOT-323	BC848AW	SOT-323	BC848BW	SOT-323	BC848CW
SOT-323	BC849AW	SOT-323	BC849BW	SOT-323	BC849CW
SOT-323	BC850AW	SOT-323	BC850BW	SOT-323	BC850CW
SOT-323	BC807-16W	SOT-323	BC807-25W	SOT-323	BC807-40W
SOT-23	BAS16	SOT-23	BAS19	SOT-23	BAS20
SOT-23	BAS21	SOT-23	BAS21A	SOT-23	BAS21C
SOT-23	BAS21S	SOT-23	BAV70	SOT-23	BAV99
SOT-23	BAW56	SOT-23	MMBD3004	SOT-23	MMBD3004CA
SOT-23	MMBD3004CC	SOT-23	MMBD3004SE	SOT-23	BAS70
SOT-23	BAS70-04	SOT-23	BAS70-05	SOT-23	BAS70-06
SOT-23	BAT54	SOT-23	BAT54A	SOT-23	BAT54C
SOT-23	BAT54S	SOT-23	RB495D	SOT-23	BC817-16
SOT-23	BC817-25	SOT-23	BC817-40	SOT-23	BC846A
SOT-23	BC846B	SOT-23	BC847A	SOT-23	BC847B

Package	TSC P/N	Package	TSC P/N	Package	TSC P/N
SOT-23	BC847C	SOT-23	BC848A	SOT-23	BC848B
SOT-23	BC848C	SOT-23	MMBT3904	SOT-23	BC807-16
SOT-23	BC807-25	SOT-23	BC807-40	SOT-23	BC856A
SOT-23	BC856B	SOT-23	BC857A	SOT-23	BC857B
SOT-23	BC857C	SOT-23	BC858A	SOT-23	BC858B
SOT-23	BC858C	SOT-23	MMBT2907A	SOT-23	MMBT3906
SOD-123F	BZT52B10	SOD-123F	BZT52B11	SOD-123F	BZT52B12
SOD-123F	BZT52B13	SOD-123F	BZT52B15	SOD-123F	BZT52B16
SOD-123F	BZT52B18	SOD-123F	BZT52B20	SOD-123F	BZT52B22
SOD-123F	BZT52B24	SOD-123F	BZT52B27	SOD-123F	BZT52B2V4
SOD-123F	BZT52B2V7	SOD-123F	BZT52B30	SOD-123F	BZT52B33
SOD-123F	BZT52B36	SOD-123F	BZT52B39	SOD-123F	BZT52B3V0
SOD-123F	BZT52B3V3	SOD-123F	BZT52B3V6	SOD-123F	BZT52B3V9
SOD-123F	BZT52B43	SOD-123F	BZT52B47	SOD-123F	BZT52B4V3
SOD-123F	BZT52B4V7	SOD-123F	BZT52B51	SOD-123F	BZT52B56
SOD-123F	BZT52B5V1	SOD-123F	BZT52B5V6	SOD-123F	BZT52B62
SOD-123F	BZT52B68	SOD-123F	BZT52B6V2	SOD-123F	BZT52B6V8
SOD-123F	BZT52B75	SOD-123F	BZT52B7V5	SOD-123F	BZT52B8V2
SOD-123F	BZT52B9V1	SOD-123F	BZT52C10	SOD-123F	BZT52C11
SOD-123F	BZT52C12	SOD-123F	BZT52C13	SOD-123F	BZT52C15
SOD-123F	BZT52C16	SOD-123F	BZT52C18	SOD-123F	BZT52C20
SOD-123F	BZT52C22	SOD-123F	BZT52C24	SOD-123F	BZT52C27
SOD-123F	BZT52C2V4	SOD-123F	BZT52C2V7	SOD-123F	BZT52C30
SOD-123F	BZT52C33	SOD-123F	BZT52C36	SOD-123F	BZT52C39
SOD-123F	BZT52C3V0	SOD-123F	BZT52C3V3	SOD-123F	BZT52C3V6
SOD-123F	BZT52C3V9	SOD-123F	BZT52C43	SOD-123F	BZT52C47
SOD-123F	BZT52C4V3	SOD-123F	BZT52C4V7	SOD-123F	BZT52C51
SOD-123F	BZT52C56	SOD-123F	BZT52C5V1	SOD-123F	BZT52C5V6
SOD-123F	BZT52C62	SOD-123F	BZT52C68	SOD-123F	BZT52C6V2
SOD-123F	BZT52C6V8	SOD-123F	BZT52C75	SOD-123F	BZT52C7V5
SOD-123F	BZT52C8V2	SOD-123F	BZT52C9V1	SOD-123F	MMSZ5221B
SOD-123F	MMSZ5225B	SOD-123F	MMSZ5226B	SOD-123F	MMSZ5227B
SOD-123F	MMSZ5228B	SOD-123F	MMSZ5229B	SOD-123F	MMSZ5230B
SOD-123F	MMSZ5231B	SOD-123F	MMSZ5232B	SOD-123F	MMSZ5234B
SOD-123F	MMSZ5235B	SOD-123F	MMSZ5236B	SOD-123F	MMSZ5237B
SOD-123F	MMSZ5239B	SOD-123F	MMSZ5240B	SOD-123F	MMSZ5241B
SOD-123F	MMSZ5242B	SOD-123F	MMSZ5243B	SOD-123F	MMSZ5245B
SOD-123F	MMSZ5246B	SOD-123F	MMSZ5248B	SOD-123F	MMSZ5250B
SOD-123F	MMSZ5251B	SOD-123F	MMSZ5252B	SOD-123F	MMSZ5254B
SOD-123F	MMSZ5256B	SOD-123F	MMSZ5257B	SOD-123F	MMSZ5258B
SOD-123F	MMSZ5259B	SOD-123F	MMSZ5260B	SOD-123F	MMSZ5261B
SOD-123F	MMSZ5262B	SOD-123F	1N4148W	SOD-123F	1N4448W
SOD-123F	1N914BW	SOD-123F	BAV19W	SOD-123F	BAV20W
SOD-123F	BAV21W	SOD-123F	B0520LWF	SOD-123F	B0530WF
SOD-123F	B0540WF				

Annex: Source information of specific part number

NO.	Package	TSC P/N	B&S Subcon	Molding compound	From	To	Remark
1	SOT-363	BAT54T/AD/CD/S D/BR	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
2	SOT-363	TESD5V0V4UCU6	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
3	SOT-323	BAV99W	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
			Vendor code:4793	Green	Supplier E	Supplier E	No change
4	SOT-323	RB706F-40	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
5	SOT-323	BAT54W	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
			Vendor code:4793	Green	Supplier E	Supplier E	No change
6	SOT-323	BAT54AW/CW/SW	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
7	SOT-323	BC817-16W/-25W/-40W	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
			Vendor code:4793	Green	Supplier E	Supplier E	No change
8	SOT-323	BC846AW - BC850CW	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
			Vendor code:4793	Green	Supplier E	Supplier E	No change
9	SOT-323	BC807-16W/-25W/-40W	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
			Vendor code:4793	Green	Supplier E	Supplier E	No change
10	SOT-23	BAS16	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
			Vendor code:4793	Green	Supplier S	Supplier S	No change
11	SOT-23	BAS19/BAS20	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
			Vendor code:4793	Green	Supplier S	Supplier S	No change
12	SOT-23	BAS21 / A / C / S	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
			Vendor code:4793	Green	Supplier S	Supplier S	No change
13	SOT-23	BAW56	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
			Vendor code:4793	Green	Supplier S	Supplier S	No change
14	SOT-23	BAV70	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
			Vendor code:4793	Green	Supplier S	Supplier S	No change

NO.	Package	TSC P/N	B&S Subcon	Molding compound	From	To	Remark
15	SOT-23	BAV99	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
			Vendor code:4793	Green	Supplier S	Supplier S	No change
16	SOT-23	MMBD3004/CA/C C/SE	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
			Vendor code:4793	Green	Supplier S	Supplier S	No change
17	SOT-23	BAS70 / -04 / -05 / -06	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
			Vendor code:4793	Green	Supplier S	Supplier S	No change
18	SOT-23	BAT54 / A / C / S	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
			Vendor code:4793	Green	Supplier S	Supplier S	No change
19	SOT-23	RB495D	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
20	SOT-23	TESD24VS2BT	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
21	SOT-23	BC817-16/-25/-40	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
			Vendor code:4793	Green	Supplier S	Supplier S	No change
22	SOT-23	BC846A/B, BC847A/B/C, BC848A/B/C	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
			Vendor code:4793	Green	Supplier S	N/A	No change
23	SOT-23	MMBT2222A	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
			Vendor code:4793	Green	Supplier S	N/A	No change
24	SOT-23	MMBT3904	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
			Vendor code:4793	Green	Supplier S	N/A	No change
25	SOT-23	BC807-16/-25/-40	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
			Vendor code:4793	Green	Supplier S	N/A	No change
26	SOT-23	BC856A/B, BC857A/B/C, BC858A/B/C	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
			Vendor code:4793	Green	Supplier S	N/A	No change
27	SOT-23	MMBT2907A	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
			Vendor code:4793	Green	Supplier S	N/A	No change
28	SOT-23	MMBT3906	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
			Vendor code:4793	Green	Supplier S	N/A	No change

NO.	Package	TSC P/N	B&S Subcon	Molding compound	From	To	Remark
29	SOD-123F	BZT52B2V4-BZT52B75	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
30	SOD-123F	BZT52C2V4-BZT52C75	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
31	SOD-123F	MMSZ5221B-5262B	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
32	SOD-123F	1N4148W/1N4448W/1N914BW	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
33	SOD-123F	BAV19W/BAV20W/BAV21W	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional
34	SOD-123F	B0520LWF,B0530WF,B0540WF	Vendor code:4999	Green	Supplier K	Supplier K&S	Additional