

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: PCN24003 rev0

Title: Changing supplier and product datasheet revision for SOP-8

Issue Date: 2024/6/4

If you have any questions concerning this change, please contact:

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PCN Type:

Changing supplier and product datasheet revision for SOP-8

Effectivity:

Expected 1st device shipment date: 2024/9/2

Last Order Date: 2024/12/2

Last Delivery Date: 2025/12/1

Product Category (Description):

Affected parts of SOP-8 provided by Taiwan Semiconductor Co. Ltd.

Description of Change:

This PCN is being issued to inform TSC customers of qualifying a new supplier for affected SOP-8 devices. In addition, the new supplier uses different raw material in the production compared with old supplier. For the details, please see table of BOM difference.

The corresponding datasheets are revised to align with TSC new format.

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

1. Supplier

Item	From	To	Remarks
Supplier Code (factory code)	3467(B)	3250(Q)	New Source

2. BOM:

Item	Supplier(3467)	Supplier(3250)	Remarks
Wafer	TSM4925DCS: (CR) TSM4936/4953/9409: (P)	TSM4936DCS: (CW) TSM4925/4953/9409: (U)	Different
Lead frame	A194	A194	Same material, different supplier
Epoxy	Ag	Ag	Same
Wire bond	Cu Wire	Cu Wire	Same material, different supplier
Compound	CEL-9240	EME-G630AY	Different but with the same MSL level
Plating	Pure Sn	Pure Sn	Same material, different supplier

3. Packing information:

Item	Packing Code	Reel Size	Reel (pcs)	Box (pcs)	Carton (pcs)	Carton Size (mm)	MSL Level
From	RLG	13" Plastic	2,500	5,000	25,000	383x360x300	MSL 3
To	RLG	13" Plastic	2,500	5,000	40,000	520x390x360	MSL 3

4. Product Datasheet Revisions

Item	From	To
Datasheet	1. Old POD drawing 2. Old datasheet format 3. Parametric specification, details see comparison report	1. Modify POD drawing to align with JEDEC standard 2. Change to new format 3. Parametric specification, details see comparison report

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 2.30°C 60%RH 192H 3.Reflow 260°C 3×	3	77	PASS
2	High Temperature Reverse Bias	JESD22-A108, MIL-STD-750 M1038 Tj=Tjmax, at least 80% rated VDS, 1000Hours	3	77	PASS
3	Temperature Cycling	JESD22-A104 -55(-10/+0)°C/15min to 150(+15/-0)°C/15min, 1000 cycles	3	77	PASS
4	Unbiased Highly Accelerated Stress Test	JESD22-A118, Ta=130°C, 85%RH, 96hrs	3	77	PASS
5	Highly Accelerated Stress Test	JESD22-A110, 130°C/85% RH; V=80% VR; 42V max, 192 Hours	3	77	PASS
6	Intermittent Operational Life	JESD22A122, Ta=25°C; ΔTj=100°C; 2.0 min on/off, 15000 cycles	3	77	PASS
7	Resistance to Solder Heat	JESD22-A111 SMD Pb free: 260(+5/- 0)°C , 10+2-0 sec	3	30	PASS
8	High Temperature Storage Gate Bias	JESD22-A103 150°C (+10, -0) , 1000Hrs	3	77	PASS
9	High Temperature Gate Bias	JESD22-A108 150°C; V=100% rated Vgs, 1000Hrs	3	77	PASS
10	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	3	4	PASS
11	Thermal Resistance	JESD24, per product datasheet	1	5	PASS
12	Solderability	J-STD-002 245 °C ± 5 °C (Pb-free) 5sec	3	10	PASS
13	Wire Bond Shear	MIL-STD-750 per assembly spec	3	10	PASS
14	Wire Bond Pull	MIL-STD-750 per assembly spec	3	10	PASS
15	Die Shear	MIL-STD-750-2 per assembly spec	3	5	PASS
16	Parametric Verification	Product Datasheet, Test over the part temp range	3	10	PASS
17	ESD characterization	HBM, JS-001per product spec	3	30	Cap: 200V~600V
		CDM, JS-002 per product spec	3	30	Cap: 1000V

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:

Family	Package	TSC P/N
P-Channel Power MOSFET	SOP-8	TSM4925DCS RLG
N-Channel Power MOSFET	SOP-8	TSM4936DCS RLG
P-Channel Power MOSFET	SOP-8	TSM4953DCS RLG
P-Channel Power MOSFET	SOP-8	TSM9409CS RLG