

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: PCN25002 rev0

Title: TS1117B Series Change of Dice, Molding compound and Wire

Issue Date: 2025/1/22

PCN Type:

Change of Dice, Molding compound and Bonding Wire

Effectivity:

Expected 1st device shipment date: 2025/4/22

Last Order Date: 2025/7/21

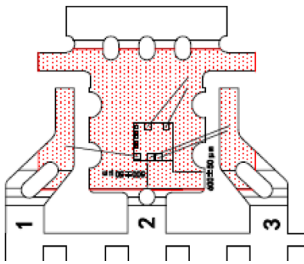
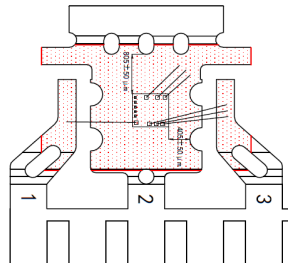
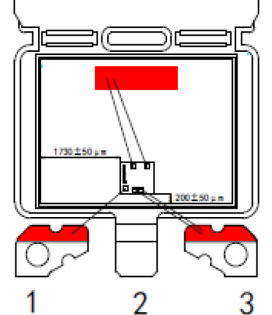
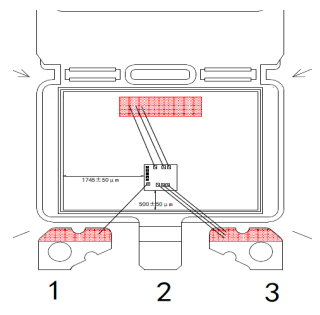
Last Delivery Date: 2026/7/16

Product Category (Description):
TS1117BCW Series and TS1117BCP Series

Description of Change:

Taiwan Semiconductor Company supplier (vendor code: 4108) successfully qualified the new die source, molding compound and wire for TS1117BCW and TS1117BCP series. This change is to ensure robust quality performance of these parts and supply sustainability.

BOM comparison:

Item	Before	After	Remarks
Dice	Source A	Source B	Different source
Die size	688um*736um	665um*705um	Smaller
Molding compound	Supplier H/ Green Compound	Supplier S / Green Compound	Both green compound but different supplier
Wire	PdCu 1MIL	AuPdCu 1MIL	Different material composition
Bonding diagram (SOT-223)			Different no. of wires but same electrical performance.
Bonding diagram (TO-252)			

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

Qualification and Reliability Result:

NO.	Test	Specification	Condition	Readpoint	Result (Rej/SS)
1	Preconditioning	JESD22A-113	1.Baking 125°C 24H 2.30°C 60%RH 192H 3.Reflow 260°C 3×	Soak: MSL3:192Hrs IR Reflow:3times	0/240
2	Temperature Cycling	JESD22-A104	-55(-10/+0)°C/15min to 150(+15/-0)°C/15min,	1000cycles	0/80
3	Unbiased Highly Accelerated Stress Test	JESD22-A118	Ta=130°C, 85%RH,	96hrs	0/80
4	Highly Accelerated Stress Test	JESD22-A110	130°C/85% RH; V=80% VR; 42V max	192 Hours	0/80
5	High Temperature Storage Life	JESD22-A103	150°C(+10, -0)	1000Hrs	0/80
6	High Temperature Operating Life	JESD22-A108	125°C; Vcc≥Vcc max,	1000hrs	0/80
7	Early Life Failure Rate	JESD22-A108	125°C; Vcc≥Vcc max,	48hrs	0/100
8	Wire Bond Shear	JESD22 B116	Per assembly spec CPK≥1.33		0/30
9	Wire Bond Pull	MIL 883	Per assembly spec CPK≥1.33		0/30
10	Solderability	J-STD-002 JESD22-B102	260°C		0/15
11	ESD-HBM	JS-001,	Per product spec		CAP: 2KV
12	ESD-CDM	JS-002	Per product spec		CAP: 500V
13	Electrical Distribution	AEC-Q100-009	Per product spec		0/30
14	Latch-up	JESD78	Ta = 25°C		Class II

Conclusion:

1. The change device successfully passed consumer product reliability requirement.
2. Electrical performance is comparable before and after change and can satisfy TSC datasheet specification. Data is available upon customer request.

Identification and Traceability:

Item	Identification
Traceability	Product date code

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	Ordering Code
Low Dropout Positive Voltage Regulator	SOT-223	TS1117BCW RPG
Low Dropout Positive Voltage Regulator	SOT-223	TS1117BCW12 RPG
Low Dropout Positive Voltage Regulator	SOT-223	TS1117BCW25 RPG
Low Dropout Positive Voltage Regulator	SOT-223	TS1117BCW33 RPG
Low Dropout Positive Voltage Regulator	SOT-223	TS1117BCW50 RPG
Low Dropout Positive Voltage Regulator	TO-252 (DPAK)	TS1117BCP ROG
Low Dropout Positive Voltage Regulator	TO-252 (DPAK)	TS1117BCP33 ROG
Low Dropout Positive Voltage Regulator	TO-252 (DPAK)	TS1117BCP50 ROG