

Report Date: July 18, 2023

Product Details:

Supplier:	Taiwan Semiconductor Co., Ltd.		
Test Vehicle/s:	TSZU52C15		
Reason for Rel:	Qualification		
Part Description:	150mW, 2V - 39V Zener Diode		
Package Type:	0603		
Assembly Site:		General Specification:	JESD22

Product Series Covered:

TSZU52C2V0 – TSZU52C39

Reliability Test Results Summary:

Stress Test	Abbrev	Test Methods	Test Conditions	Final Readpoint	Requirements		Results	
					SS	# Lots	Rej/SS	Remarks
Environmental and Lifetime Stress Tests								
Pre- and Post-Stress Electrical Test	TEST	Product Datasheet	Test at room temp	-	All	1	0 Fails	Passed
Extrenal Visual	EV	JESD22-B101	per reference standard	-	All	1	0 Fails	Passed
Preconditioning	PC	J-STD-020	MSL-1 (3x reflow at 260°C)	-	154	1	0/154	Passed
Temperature Cycle	TC	JESD22-A104	-55°C to +150°C; 15 mins dwell	1000 cycs	77	1	0/77	Passed
Highly Accelerated Stress Test	HAST	JESD22-A110	130°C/85% RH; V=80% VR; 42V max	96 hrs	77	1	0/77	Passed
High Humidity High Temp Reverse Bias	H3TRB	JESD22-A101	85°C/85% RH; Vin=80% rated V (100V max)	1000 hrs				Performed HAST
Resistance to Solder Heat	RSH	JESD22-B106	SMD (Pb free); 260°C; 10 sec	10 secs	10	1	0/10	Passed
Steady State Operating Life	SSOP	MIL-STD-750-1	N/A	1000 hrs	77	3	0/231	Passed
Package Assembly Integrity Tests								
Physical Dimension	PD	JESD22-B100	per assembly spec	results	30	1	0/30	Passed
Destructive Physical Analysis	DPA	AEC-Q101-004	Post-TC	results	2	1	0/2	Passed
Destructive Physical Analysis	DPA	AEC-Q101-004	Post-HAST	results	2	1	0/2	Passed
Wire Bond Shear	WBS	AEC Q101-003	per assembly spec	results	30	1	0/30	Passed

Conclusion:

PN TSZU52C2V0 – TSZU52C39 successfully passed Consumer-grade qualification