



GSOT, GSOTxxC vs. VSGSOT, VGSOTxxC

COMPARISON TABLE			
SUPPLIER: VISHAY SEMICONDUCTOR LTD		PART NO.	GSOTxx, GSOTxxC vs. VSGSOTxx, VGSOTxxC
NAME OF LABORATORY: VSA RELIABILITY LAB			
TYP	AEC-Q101	AEC-Q006	ROBUSTNESS
GSOTxx	Yes	No	Yes
GSOTxxC	Yes	No	Yes
VGSOTxx	Yes	Yes ⁽¹⁾	Yes
VGSOTxxC	Yes	Yes ⁽¹⁾	Yes

Note

⁽¹⁾ For copper bonding

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NAME OF LABORATORY: VSA RELIABILITY LAB							
TEST NO.	TEST DESCRIPTION	TEST CONDITION	GSOTxx	GSOTxxC	VGSOTxx	VGSOTxxC	REMARK
TEST GROUP - A ACCELERATED ENVIRONMENT STRESS TESTS							
A1	Preconditioning	J-STD-020 / JESD22-A113 MSL = 1	Yes	Yes	Yes	Yes	-
A2	HAST	JESD22-A110; 130 °C / 85 % RH, 80 % V _R (max. 42 V) test at 0 h, 48 h, 96 h	-	-	-	-	Alternative test to H2TRB
A2 alt	H3TRB	JESD22-A101; 85 °C / 85 % RH, 80 % V _R (max. 100 V) test at 0 h, 500 h, 1000 h	Yes	Yes	Yes	Yes	-
A3	UHAST	JESD22-A118; 130 °C / 85 % RH / 33.3 psia, test at 0 h, 48 h, 96 h	-	-	-	-	Alternative test for AC
A3 alt	AC(PCT)	JESD22-A102; 121 °C / 100 % RH / 15 psig, test at 0 h, 48 h, 96 h	Yes	Yes	Yes	Yes	-
A4	TC	JESD22-A104; -55 °C / 150 °C, test at 0 h, 500 h, 1000 h	Yes	Yes	Yes	Yes	-
A5	IOL	MIL-STD-M750-M1037; $\Delta T_J = 100$ °C, $t_{on} = 2$ min, $t_{off} = 2$ min, test at 0 cycles, 7500 cycles, 15 000 cycles	-	-	-	-	Not applicable for ESD products
TEST GROUP - B ACCELERATED LIFETIME SIMULATION TESTS							
B1	HTRB	MIL-STD-750-M1038; $T_J = T_{Jmax}$, 100 % V _{RRM} , test at 0 h, 500 h, 1000 h	Yes	Yes	Yes	Yes	
B2	HTGB	-	n/a	n/a	n/a	n/a	Not applicable for diode products
TEST GROUP - C PACKAGE ASSEMBLY INTEGRITY TESTS							
C1	DPA	AEC-Q004; post sample of HAST / H3TRB and TC	Yes	Yes	Yes	Yes	-
C2	Physical Dimension	JEDEC22B-100	Please refer to PPAP's dimension result sheet				-
C3	Wire bond pull strength	-	Yes	Yes	Yes	Yes	-
C4	Wire bond shear strength	-	Yes	Yes	Yes	Yes	-
C5	Die shear	-	Yes	Yes	Yes	Yes	-
C6	Terminal strength	MIL-STD-M750-M2036 2.2 LB / 60 s	Yes	Yes	Yes	Yes	-



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TEST NO.	TEST DESCRIPTION	TEST CONDITION	GSOTxx	GSOTxxC	VGSOTxx	VGSOTxxC	REMARK
C7	Resistance to solvent	-	n/a	n/a	n/a	n/a	Not required for laser etched parts
C8	Solder dip (RSH)	JESD22A-111, MSL1 pre-con +265 °C / 10 s, fully submerged	Yes	Yes	Yes	Yes	-
C9	Thermal resistance	JESD51-3	Please refer to product datasheet R _{th} info				-
C10	Solderability	J-STD-002, 8 h steam aging +245 °C / 5 s	Yes	Yes	Yes	Yes	-
C11	Whisker growth evaluation	JESD201A	Yes				Meet Whisker Class 2
C12	Constant accelerate	-	n/a	n/a	n/a	n/a	Not applicable on non-hermetic products
C13	Vibration variable frequency	-	n/a	n/a	n/a	n/a	
C14	Mechanical shock	-	n/a	n/a	n/a	n/a	
C15	Hermeticity	-	n/a	n/a	n/a	n/a	
TEST GROUP - D DIE FABRICATION RELIABILITY TESTS							
D1	Dielectric integrity	-	n/a	n/a	n/a	n/a	Not applicable on diode products
TEST GROUP - E ELECTRICAL VERIFICATION TESTS							
E0	External visual	JESD22-B101	Yes	Yes	Yes	Yes	-
E1	Pre and post stress electrical test	Electrical characterization at 25 °C	Yes	Yes	Yes	Yes	-
E2	PV	Product datasheet	Yes	Yes	Yes	Yes	Please refer to PPAP PV information sheet
E3	ESD (HBM)	AEC-Q101-001	Yes	Yes	Yes	Yes	HBM - 8 kV
E4	ESD (CDM)	AEC-Q101-005	n/a	n/a	n/a	n/a	Not applicable for smaller package based on AEC-Q101 requirement
E5	Unclamped switch	-	n/a	n/a	n/a	n/a	Not applicable on diode products
E6	Short circuit	-	n/a	n/a	n/a	n/a	
TEST GROUP - AEC-Q006							
-	AEC-Q006	-	No	No	Yes	Yes	For copper wire bonding