



SBRD545S

Trench Schottky Barrier Rectifier
Reverse Voltage 45 Volts Forward Current 5 Amperes

Features

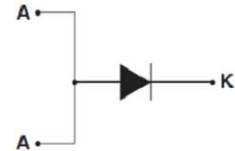
Ultra Low $V_F=0.34V$ at $I_F=1A$ (25°C)

Ultra Low $V_F=0.47V$ at $I_F=5A$ (25°C)

- Low forward voltage drop, low power losses
- High efficiency operation
- Plastic package has underwriters Laboratory Flammability Classification 94V-0

Mechanical Data

- Case: Epoxy, Molded
- Weight: 0.4grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 sec
- Shipped 2500 units per reel



Maximum Ratings & Electrical Characteristics

($T_A=25^\circ C$ unless otherwise noted)

PARAMETER	TEST CONDITIONS		SYMBOL	SBRD545S	UNIT
Maximum repetitive peak reverse voltage			V_{RRM}	45	V
Working peak reverse voltage			V_{RWM}	45	V
Maximum DC blocking voltage			V_{DC}	45	V
Maximum average forward rectified current at $T_c=105^\circ C$ total device per diode			$I_F(AV)$	5	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode			I_{FSM}	100	A
Peak repetitive reverse current per leg at $t_p=2.0\mu s$, 1KHz			I_{RRM}	2.0	A
Voltage rate of change (rated V_R)			DV/dt	10000	V/ μs
Operating junction temperature range			T_J	-55 to +150	°C
Storage temperature range			T_{STG}	-55 to +150	°C
Isolation voltage (ITO-220-AB only) from terminal to heatsink $t = 1$ sec			V_{AC}	1500	V
Maximum instantaneous forward voltage per leg	$I_F=5A$ $I_F=5A$	$T_C=25^\circ C$ $T_C=125^\circ C$	V_F	0.50(0.47 TYP) 0.42	V
Maximum reverse current per leg at working peak Reverse voltage			I_R	200 15	μA mA
Thermal Characteristics $T_A=25^\circ C$ unless otherwise noted					
Symbol	Parameter		TYP (TO252)		Unit
R θ JC	Thermal Resistance, Junction to Case per Leg		3.5		°C /W
R θ JA	Thermal Resistance, Junction to Ambient per Leg		62.5		°C /W

Note: Pulse test:300us pulse width, duty cycle=2%



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Ratings and Characteristics Curves

($T_A = 25^\circ\text{C}$ unless otherwise noted)

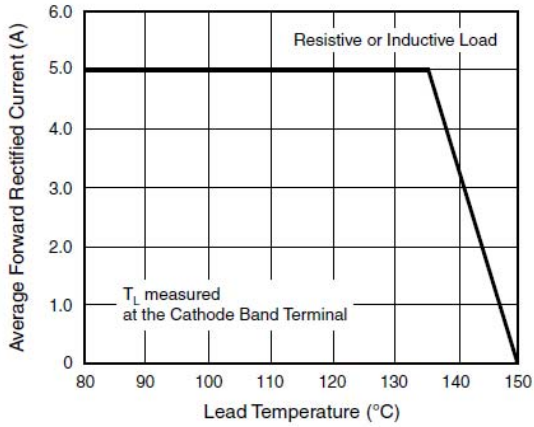


Fig. 1 - Maximum Forward Current Derating Curve

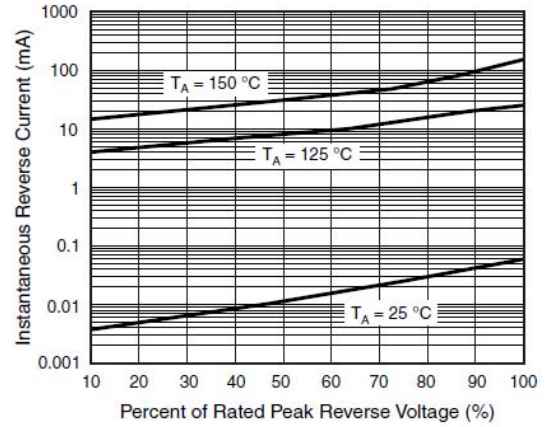


Fig. 4 - Typical Reverse Leakage Characteristics

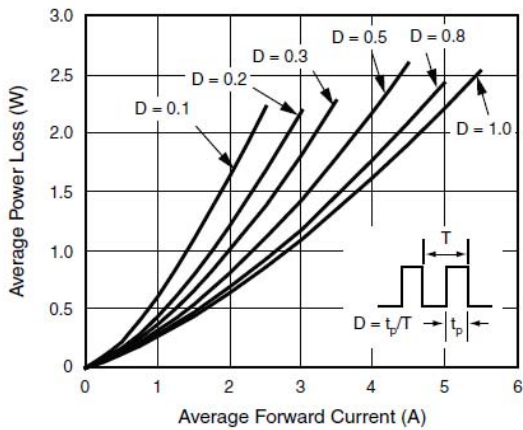


Fig. 2 - Forward Power Loss Characteristics

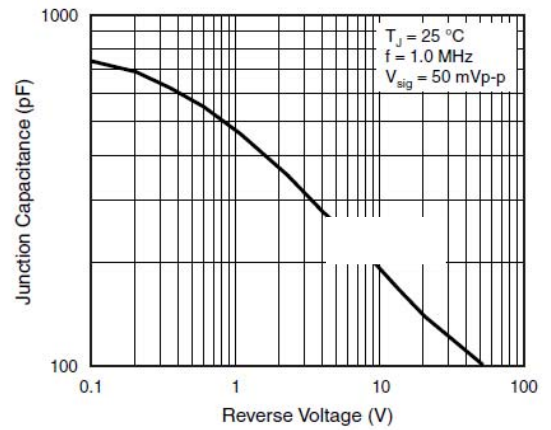


Fig. 5 - Typical Junction Capacitance

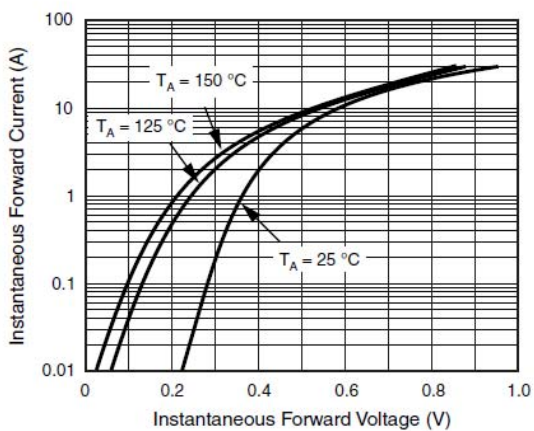


Fig. 3 - Typical Instantaneous Forward Characteristics

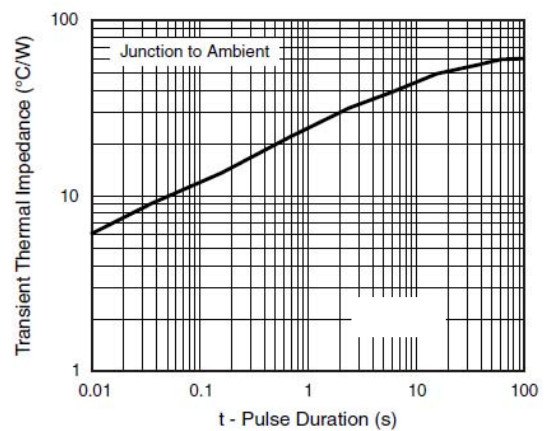


Fig. 6 - Typical Transient Thermal Impedance



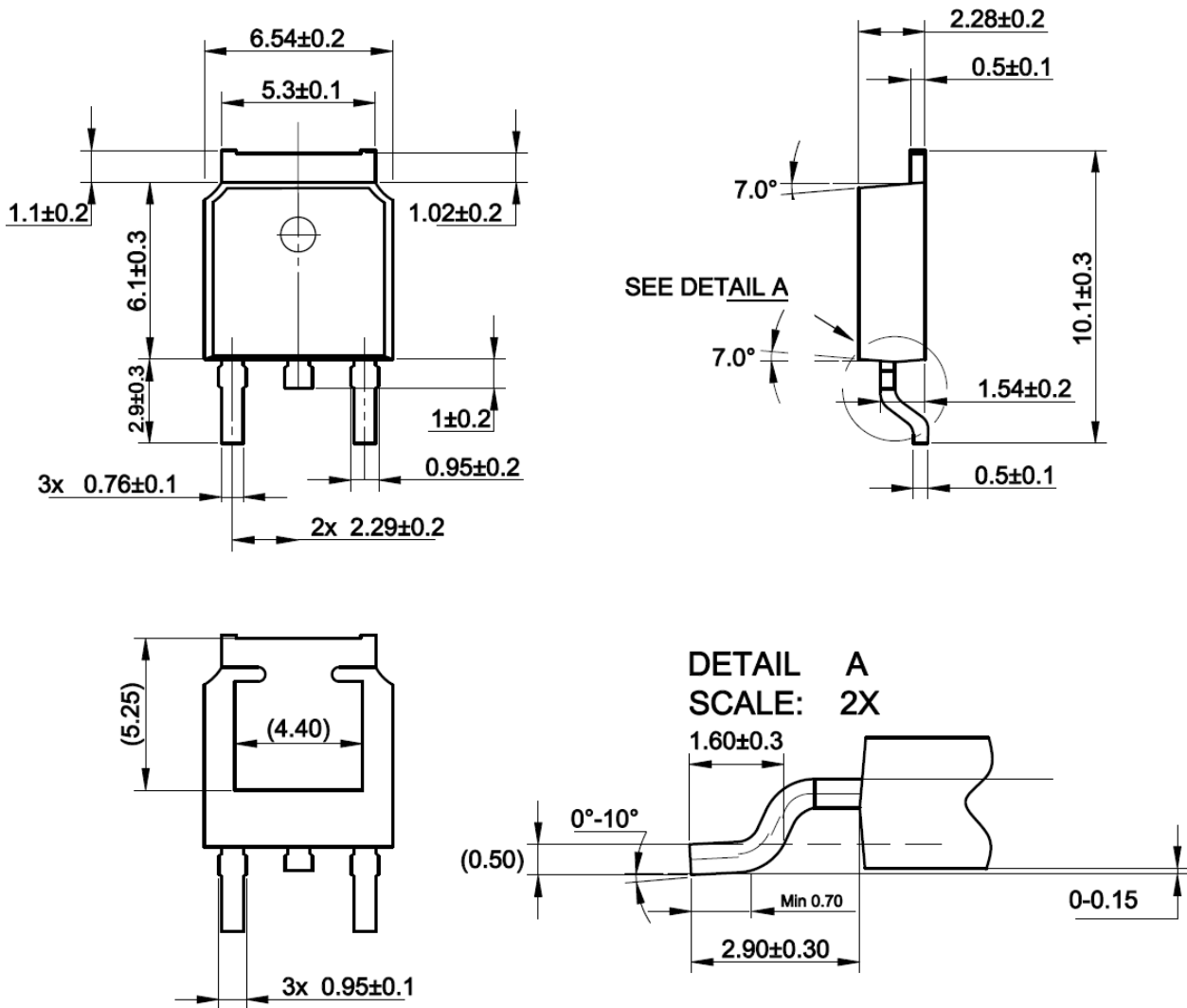
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Package Outline Dimensions

Unit: millimeters

TO-252(D-PAK)





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