



HBRD20100S

Trench Schottky Barrier Rectifier
Reverse Voltage 100 Volts Forward Current 20 Amperes

Features

Ultra Low $V_F=0.49V$ at $I_F=5A$ ($25^{\circ}C$)

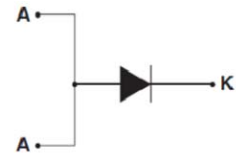
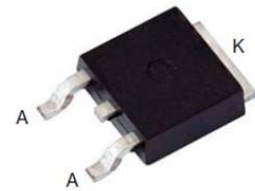
Ultra Low $V_F=0.59V$ at $I_F=10A$ ($25^{\circ}C$)

- 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: $260^{\circ}C$ Max. for 10 sec
- Shipped 2500 units per reel

TO-252 (D-PAK)



Maximum Ratings & Electrical Characteristics

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

PARAMETER		TEST CONDITIONS		SYMBOL	HBRD20100S	UNIT
Maximum repetitive peak reverse voltage				V_{RRM}	100	V
Working peak reverse voltage				V_{RWM}	100	V
Maximum DC blocking voltage				V_{DC}	100	V
Maximum average forward rectified current at $T_c=105^{\circ}C$ total device per diode				$I_F(AV)$	20 10	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode				I_{FSM}	150	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	$^{\circ}C$
Storage temperature range				T_{STG}	—55 to+150	$^{\circ}C$
Isolation voltage (ITO-220-AB only) from terminal to heatsink $t = 1$ sec				V_{AC}	1500	V
Maximum instantaneous forward voltage per leg		$I_F=10A$ $I_F=10A$	$T_C=25^{\circ}C$ $T_C=125^{\circ}C$	V_F	0.64(0.59 TYP) 0.58	V
Maximum reverse current per leg at working peak Reverse voltage			$T_J=25^{\circ}C$ $T_J=100^{\circ}C$	I_R	500 50	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				$^{\circ}C/W$
R θ JA	Thermal Resistance, Junction to Ambient per Leg	62.5				$^{\circ}C/W$

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



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Ratings and Characteristics Curves

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

FIG.1- FORWARD CURRENT DERATING CURVE

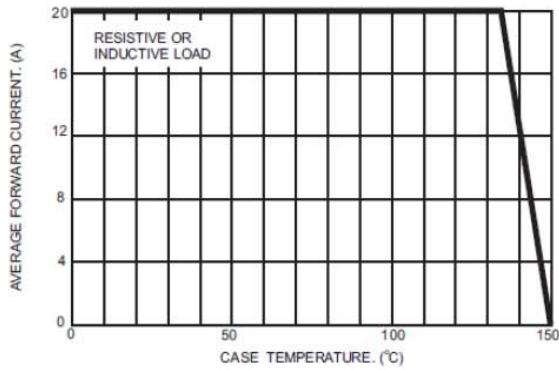


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

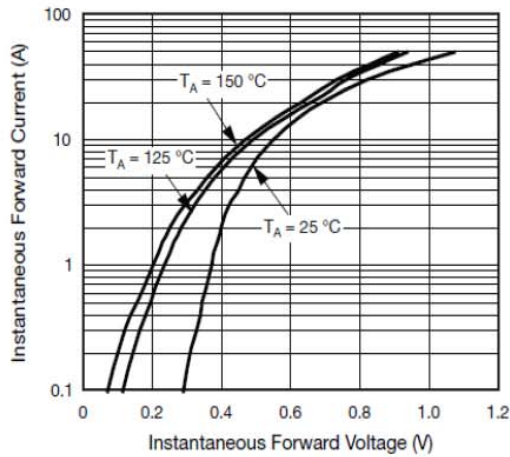
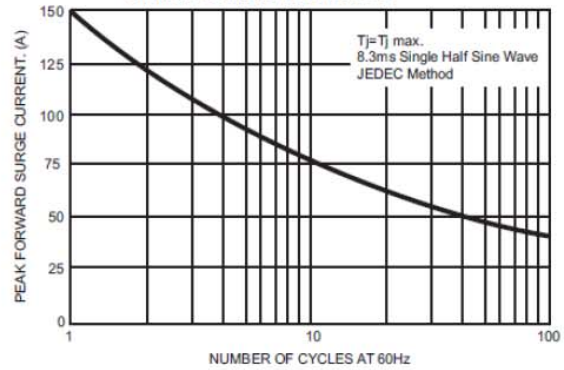


Fig. 3 - Typical Instantaneous Forward Characteristics

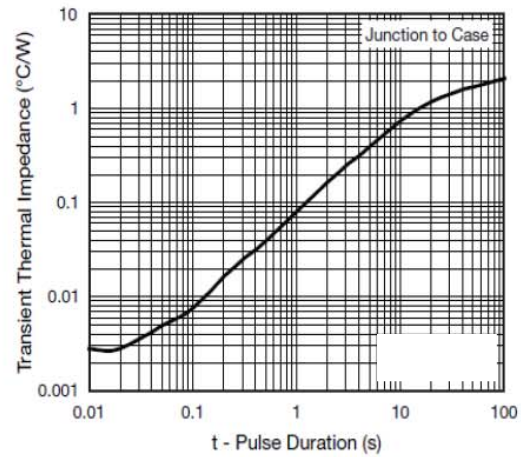


Fig. 6 - Typical Transient Thermal Impedance

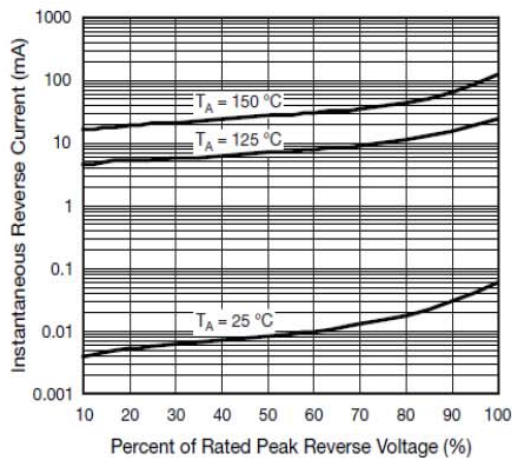


Fig. 4 - Typical Reverse Characteristics



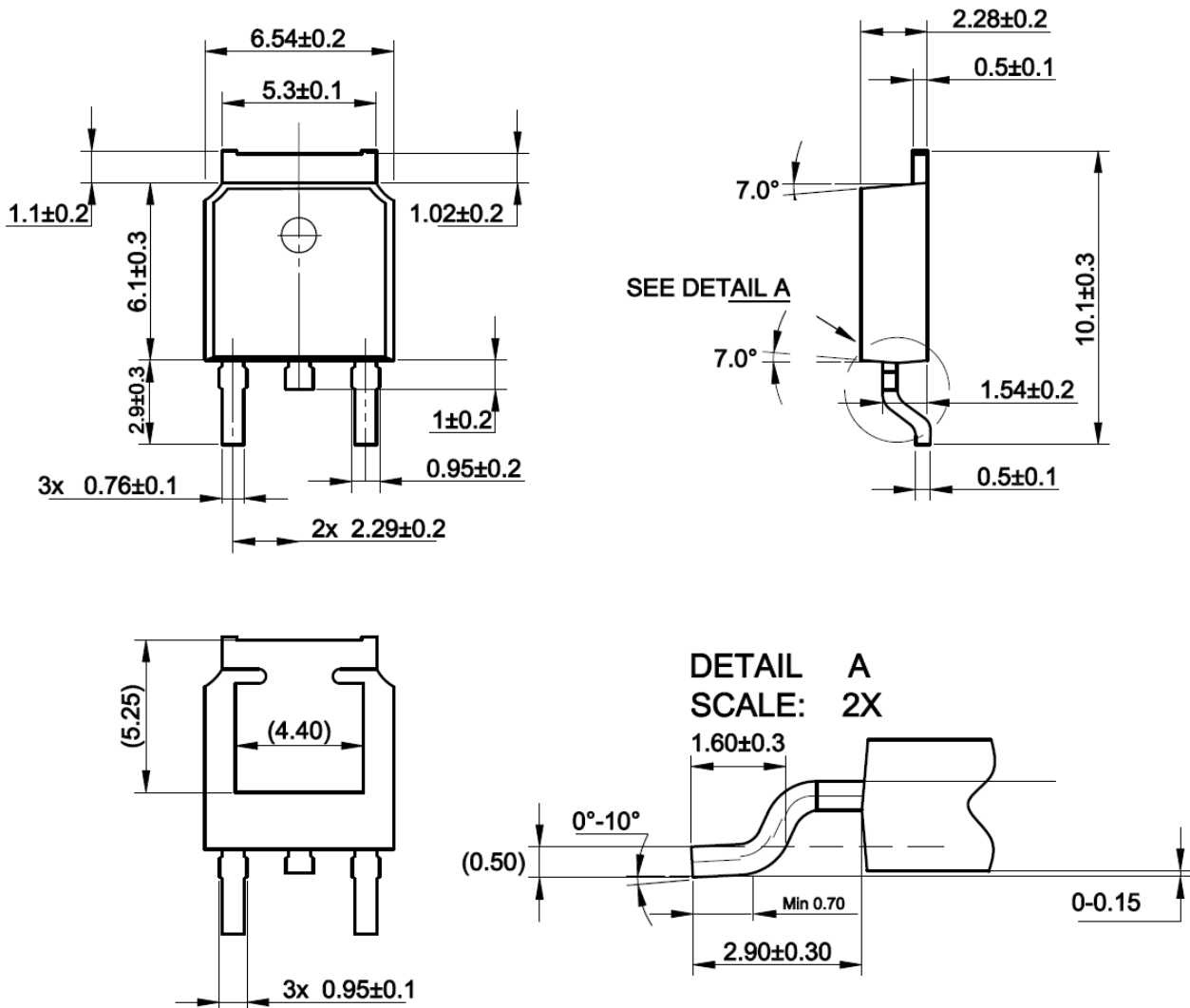
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Package Outline Dimensions

Unit: millimeters

TO-252(D-PAK)





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