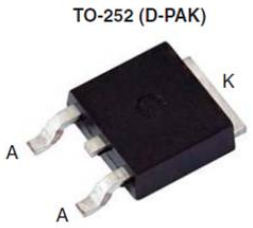
HBRD20100S

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

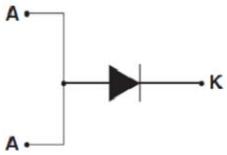
Features



Ultra Low V_F=0.49V at IF=5A (25°C)

Ultra Low V_F=0.59V at IF=10A (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℃ 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°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=2.0us ,1KHz			I_{RRM}	2.0	A
Voltage rate of change（rated V_R）			$D_{V/dt}$	10000	V/us
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=10A I_F=10A	T_C=25℃ T_C=125℃	V_F	0.64(0.59 TYP) 0.58	V
Maximum reverse current per leg at working peak Reverse voltage		T_J=25℃ T_J=100°C	I_R	500 50	uA mA

Thermal Characteristics T_A=25℃ unless otherwise noted

Symbol	Parameter	TYP（TO252）	Unit
RθJC	Thermal Resistance, Junction to Case per Leg	3.5	°C /W
RθJA	Thermal Resistance, Junction to Ambient per Leg	62.5	°C /W

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

Ratings and Characteristics Curves

(T_A = 25℃ unless otherwise noted)

FIG.1- FORWARD CURRENT DERATING CURVE

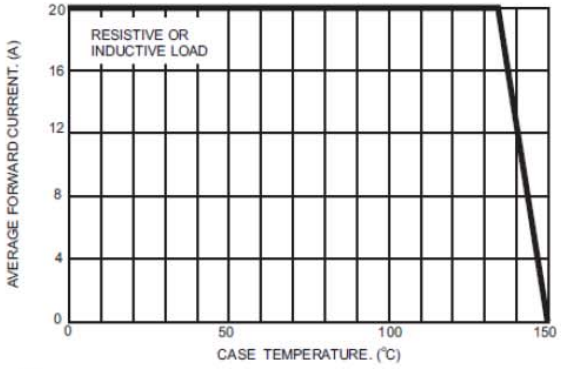
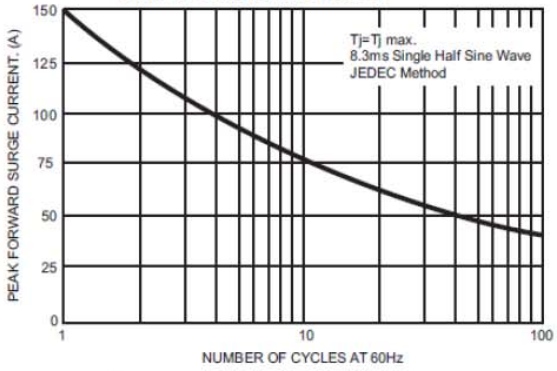


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG



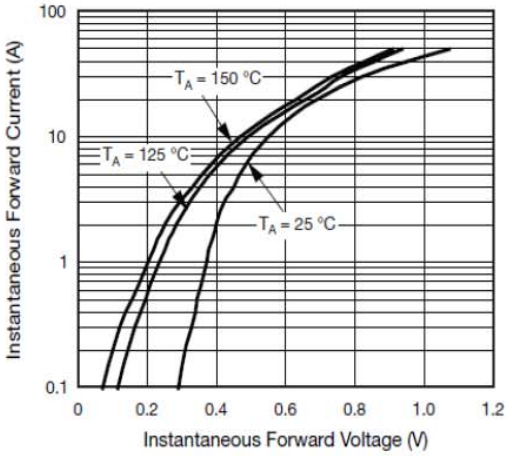


Fig. 3 - Typical Instantaneous Forward Characteristics

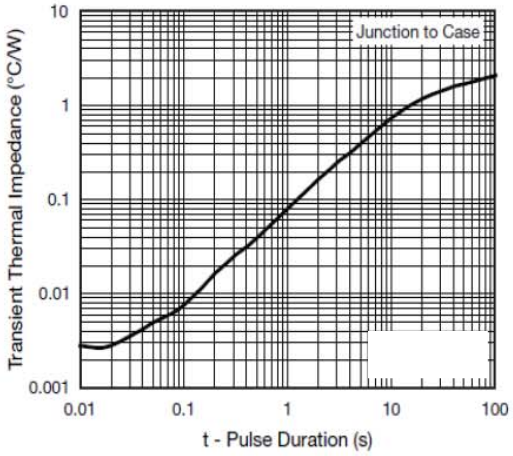


Fig. 6 - Typical Transient Thermal Impedance

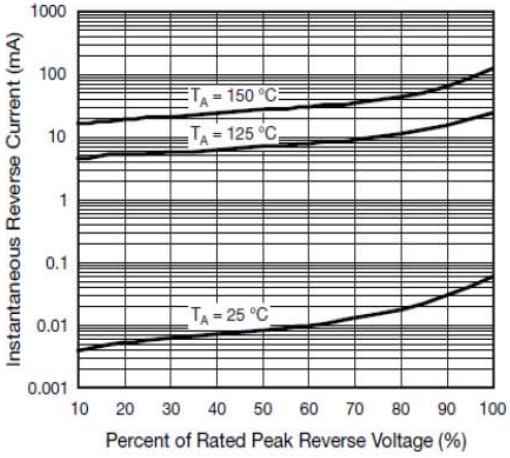
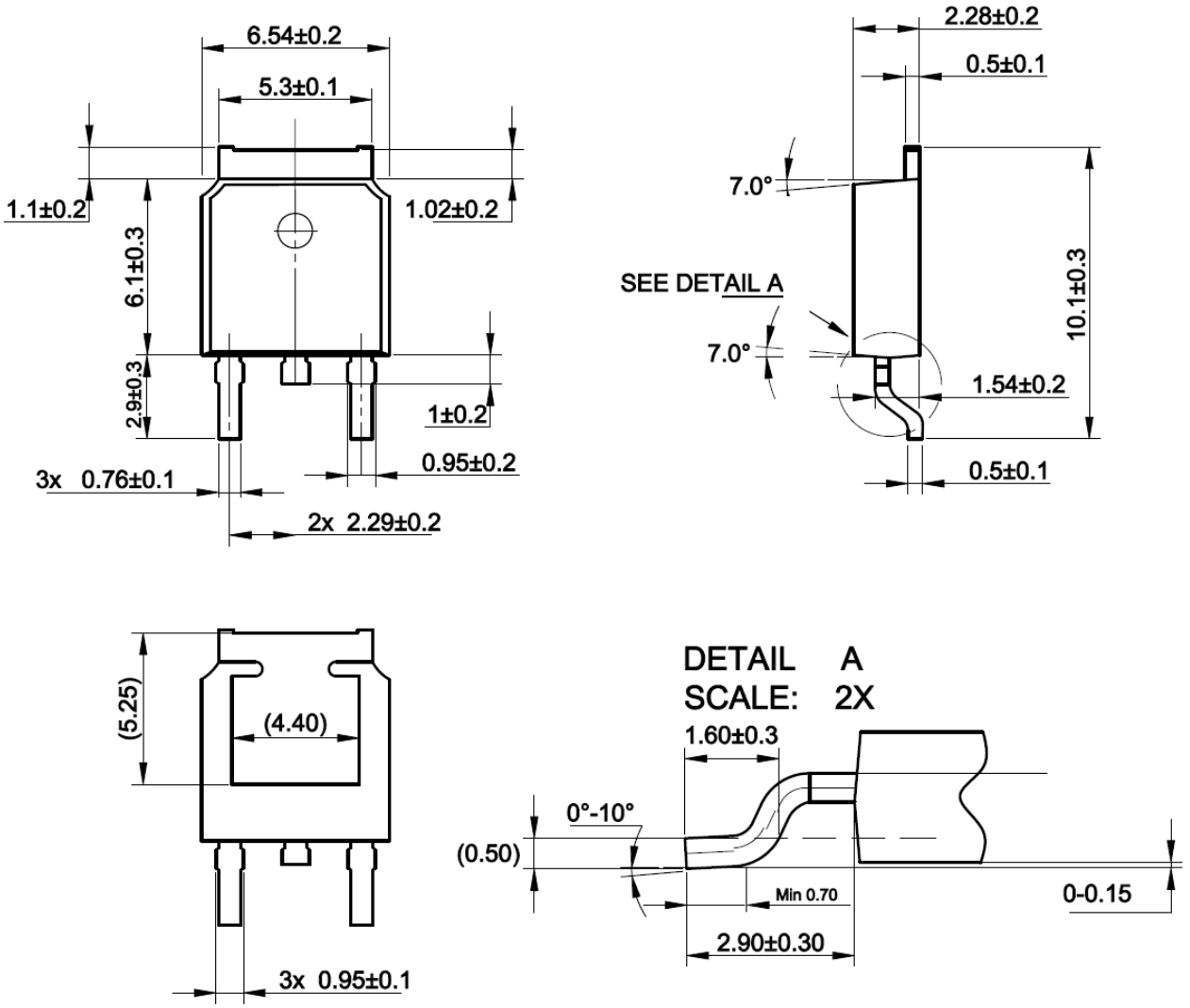


Fig. 4 - Typical Reverse Characteristics

Package Outline Dimensions

Unit: millimeters

TO-252(D-PAK)



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