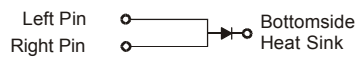


Schottky Barrier Rectifier

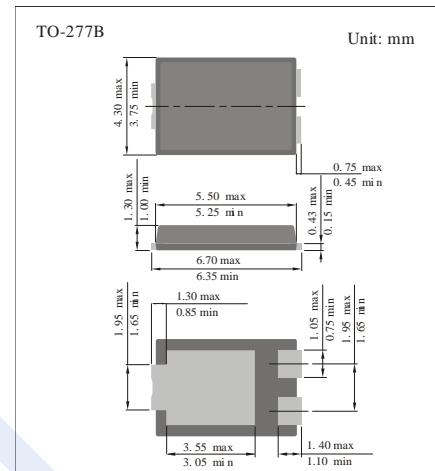
KBR5U10SPR5

■ Features

- Guard Ring Die Construction for Transient Protection
- High Maximum Junction Temperature
- Very Low Leakage Current
- Highly Stable Oxide Passivated Junction
- Low Forward Voltage Drop
- High Forward Surge Current Capability



Note: Pins Left & Right must be electrically connected at the printed circuit board.

■ Absolute Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load. For capacitance load, derate current by 20%.

Parameter	Symbol	Rating	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	100	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _R		
RMS Reverse Voltage	V _{R(RMS)}	71	V
Average Rectified Output Current	I _O	5	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load	I _{FSM}	250	

■ Thermal Characteristics

Characteristic	Symbol	Typ	Max	Unit
Typical Power Dissipation (Note 3)	P _D	2.5		W
Thermal Resistance Junction to Case (Note 5)	R _{θJC}		5	°C/W
Thermal Resistance Junction to Soldering Point	R _{θJS}		2	
Thermal Resistance Junction to Ambient Air (Note 1) T _A = 25°C	R _{θJA}	85		
Thermal Resistance Junction to Ambient Air (Note 2) T _A = 25°C	R _{θJA}	70		
Thermal Resistance Junction to Ambient Air (Note 3) T _A = 25°C	R _{θJA}	45		
Operating and Storage Temperature Range	T _J	-65 to +175		°C

Schottky Barrier Rectifier

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■ Electrical Characteristics (@ $T_A = 25^\circ\text{C}$, unless otherwise specified.)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse breakdown voltage (Note 4)	$V_{(BR)R}$	$I_R = 3.5\mu\text{A}$	100			
Forward voltage	V_F	$I_F = 5\text{ A}, T_S = 25^\circ\text{C}$			0.71	V
		$I_F = 5\text{ A}, T_S = 125^\circ\text{C}$			0.58	
		$I_F = 10\text{ A}, T_S = 25^\circ\text{C}$			0.8	
		$I_F = 10\text{ A}, T_S = 125^\circ\text{C}$			0.66	
Reverse leakage current (Note 10)	I_R	$V_R = 100\text{ V}, T_S = 25^\circ\text{C}$			3.5	μA
		$V_R = 100\text{ V}, T_S = 125^\circ\text{C}$			4.5	mA

Notes: 1.FR-4 PCB, 2 oz. Copper, minimum recommended pad layout.

2.Polyimide PCB, 2 oz. Copper, minimum recommended pad layout.

3.Polyimide PCB, 2 oz. Copper. Cathode pad dimensions 9.4mm x 7.2mm. Anode pad dimensions 2.7mm x 1.6mm.

4.Short duration pulse test used to minimize self-heating effect.

5.Device mounted on Polyimide 10cm x 10cm copper PC board,

■ Typical Characteristics

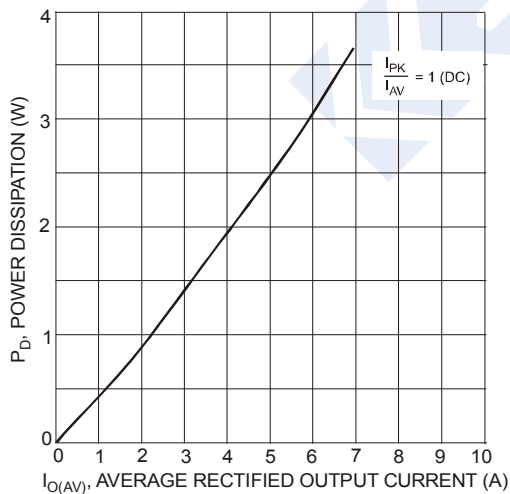


Fig. 1 Forward Power Dissipation

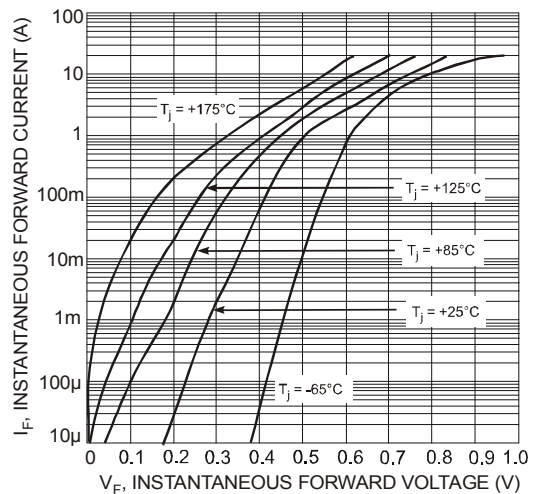


Fig. 2 Typical Forward Characteristics

Schottky Barrier Rectifier

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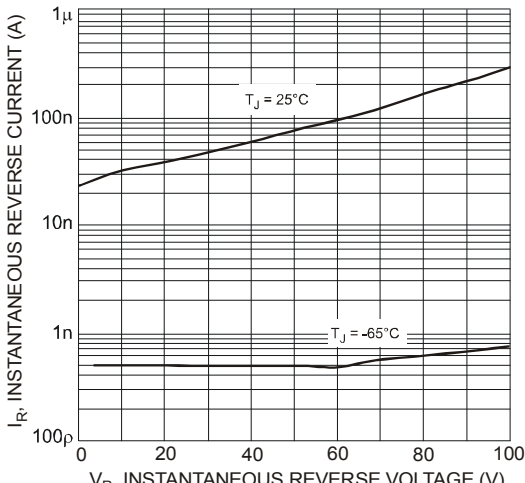


Fig. 3 Typical Reverse Characteristics

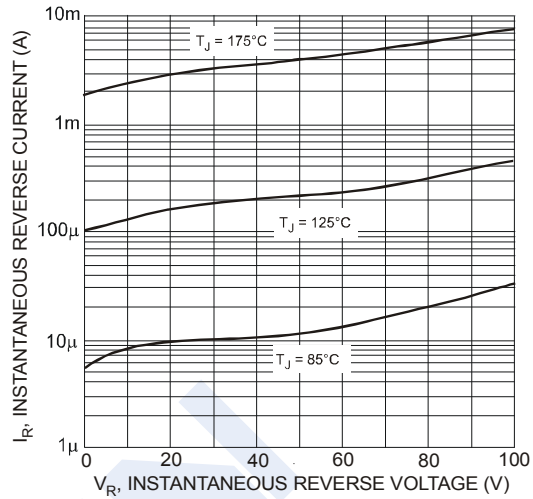


Fig. 4 Typical Reverse Characteristics

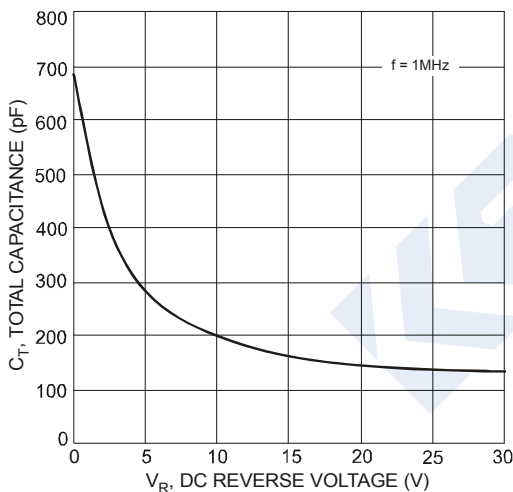


Fig. 5 Total Capacitance vs. Reverse Voltage

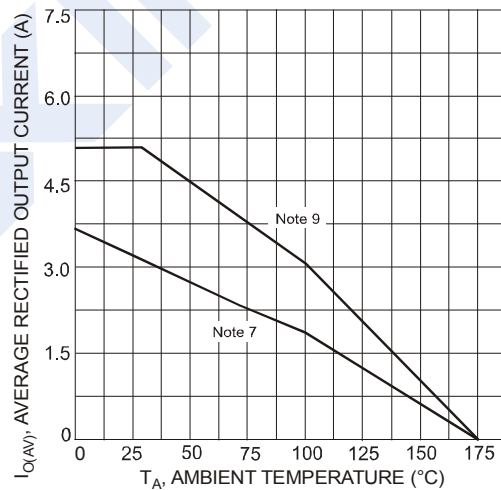


Fig. 6 Forward Current Derating Curve

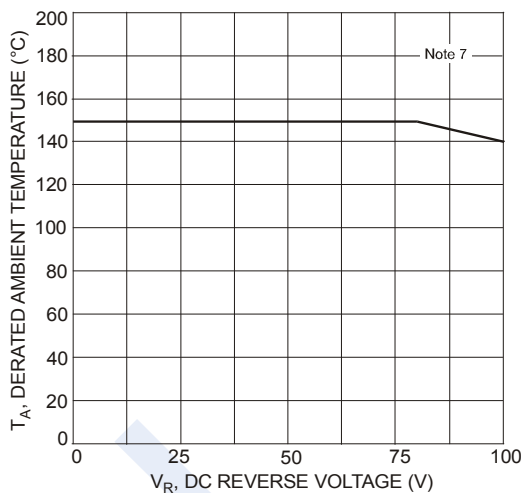


Fig. 7 Operating Temperature Derating