

SBRC560TR

Schottky Power Rectifier

This device employs the Schottky Barrier principle in a large area metal-to-silicon power diode. State-of-the-art geometry features epitaxial construction with oxide passivation and metal overlay contact. Ideally suited for low voltage, high frequency rectification, or as free wheeling and polarity protection diodes.

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	60	V
Average Rectified Forward Current	$I_{F(AV)}$	3.0 @ $T_L = 137^\circ\text{C}$ 4.0 @ $T_L = 127^\circ\text{C}$	A
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I_{FSM}	125	A
Storage Temperature Range	T_{stg}	-65 to +175	$^\circ\text{C}$
Operating Junction Temperature (Note 1)	T_J	-65 to +175	$^\circ\text{C}$

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1. The heat generated must be less than the thermal conductivity from Junction-to-Ambient: $dP_D/dT_J < 1/R_{\theta JA}$.



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SCHOTTKY BARRIER RECTIFIER 5 A, 60 V

ORDERING INFORMATION

See detailed ordering and shipping information on page 3 of this data sheet.

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ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Value	Unit
Maximum Instantaneous Forward Voltage (Note 2) ($i_F = 5.0 \text{ A}$, $T_J = 25^\circ\text{C}$) ($i_F = 5.0 \text{ A}$, $T_J = 100^\circ\text{C}$)	V_F	0.78 0.72	V
Maximum Instantaneous Reverse Current (Note 2) (Rated dc Voltage, $T_J = 25^\circ\text{C}$) (Rated dc Voltage, $T_J = 100^\circ\text{C}$)	i_R	0.150 2.5	mA

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

2. Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$.

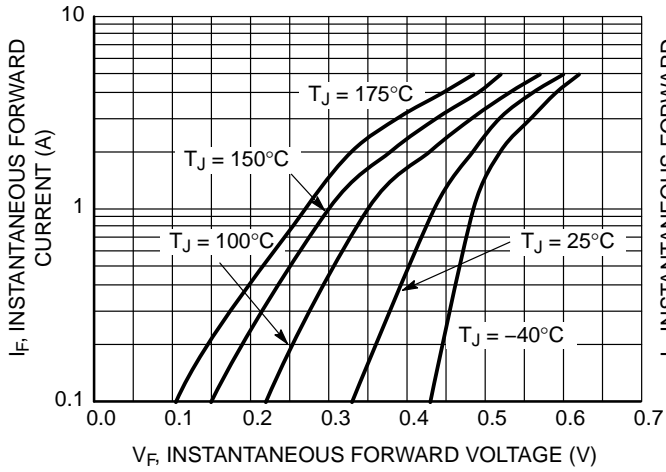


Figure 1. Typical Forward Voltage

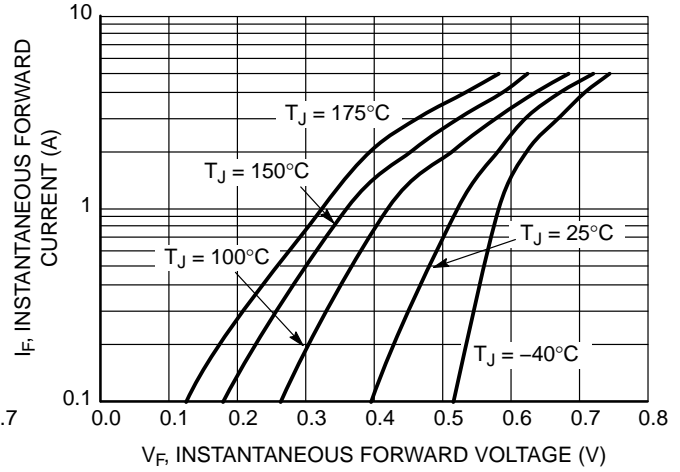


Figure 2. Maximum Forward Voltage

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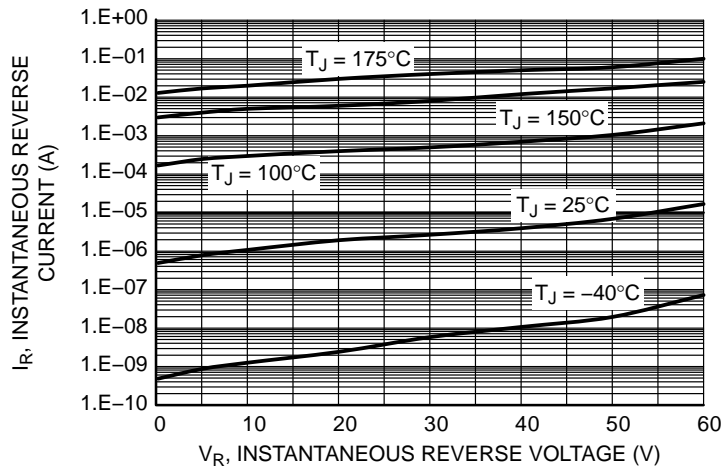


Figure 3. Typical Reverse Current

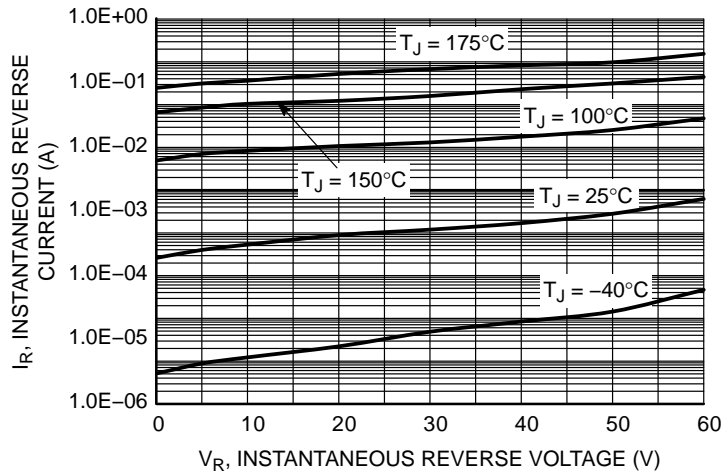


Figure 4. Maximum Reverse Current

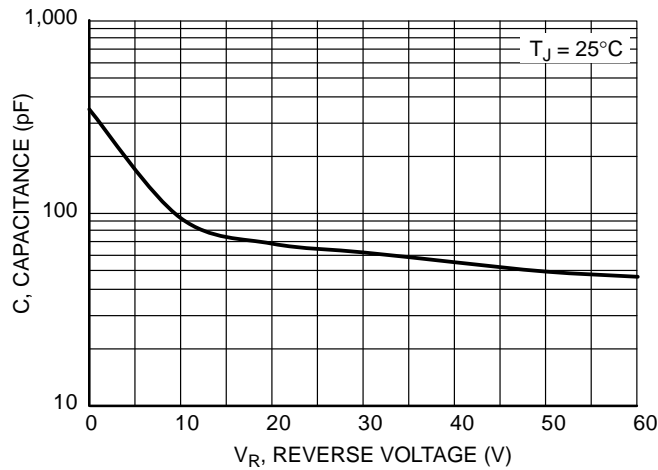


Figure 5. Typical Capacitance

ORDERING INFORMATION

Ordering Part Number	Topside Metal	Backside Metal	Thickness	Shipping Method†
SBRC560TR	TiW/NiAl	TiNiAg	10 mil	Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

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MECHANICAL DETAILS

MECHANICAL SPECIFICATIONS

Parameter	Condition	Unit
Die shape	Square	
Length (sawn)	60	mils
Width (sawn)	60	mils
Thickness	10	mils
Top pad length	56.2	mils
Top pad width	56.2	mils
Top pad composition	TiW NiV Al	
Back metal (underside)	Ti Ni Ag	

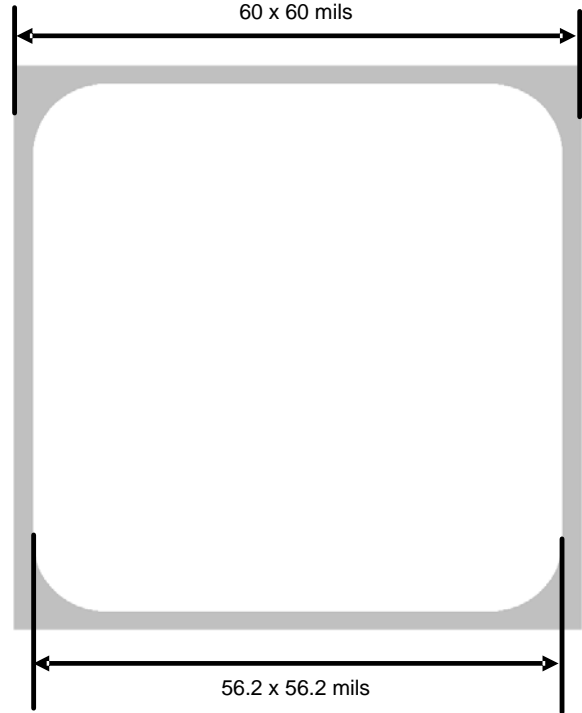



Figure 6. Die Dimensions

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