

SR1090R THRU SR10100R

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SCHOTTKY BARRIER RECTIFIERS

Reverse Voltage - 90 to 100 V

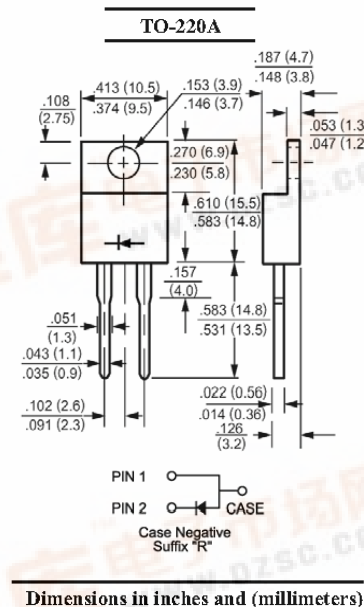
Forward Current - 10 A

Features

- Plastic package has Underwriters Laboratory flammability classifications 94V-0
- Metal silicon junction, majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss, high efficiency
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

Mechanical Data

- Case: Molded plastic, TO-220A
- Epoxy: UL 94V-0 rate flame retardant
- Terminals: Leads solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: As marked
- Mounting position: Any



Maximum Ratings and Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load, For capacitive load, derate current by 20%.

Parameter	Symbols	SR1090R	SR10100R	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	90	100	V
Maximum RMS Voltage	V_{RMS}	63	70	V
Maximum DC Blocking Voltage	V_{DC}	90	100	V
Maximum Average Forward Rectified Current at $T_C = 133^\circ\text{C}$	$I_{F(AV)}$	10		A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	150		A
Maximum Forward Voltage ¹⁾ at 10 A and $T_C = 25^\circ\text{C}$ at 20 A and $T_C = 25^\circ\text{C}$	V_F	0.8 0.95		V
Maximum Reverse Current Rated DC Blocking Voltage at $T_J = 25^\circ\text{C}$ at $T_J = 125^\circ\text{C}$	I_R	0.1 6		mA
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	60		$^\circ\text{C/W}$
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	2		$^\circ\text{C/W}$
Operating Temperature Range	T_J	- 55 to + 150		$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 175		$^\circ\text{C}$

¹⁾ Pulse test: 300 μs pulse width, 1% duty cycle

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ISO/TS 16949 : 2002
Certificate No. 05103

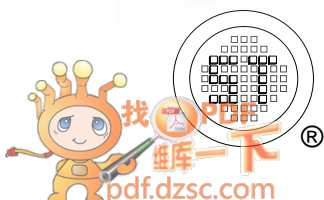


ISO 14001:2004
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Fig. 1 - Forward Current Derating Curve

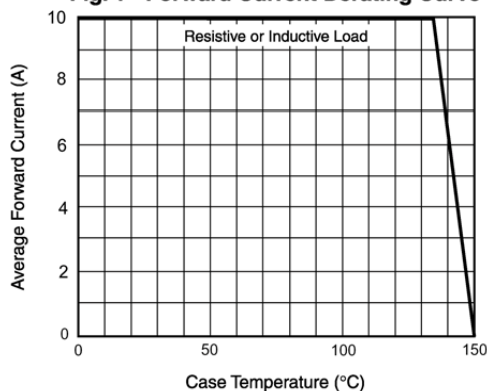


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

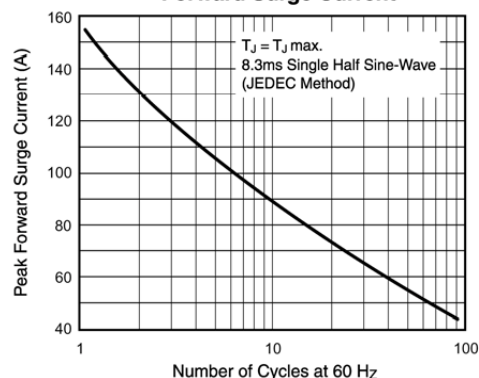


Fig. 3 - Typical Instantaneous Forward Characteristics

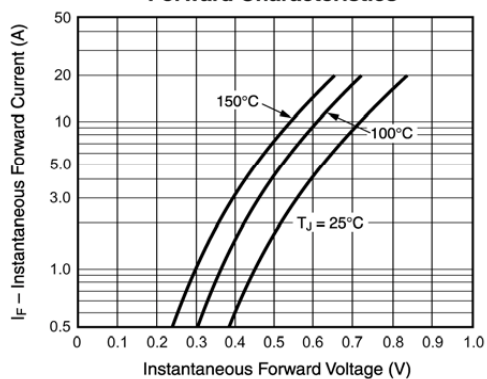


Fig. 4 - Typical Reverse Characteristics

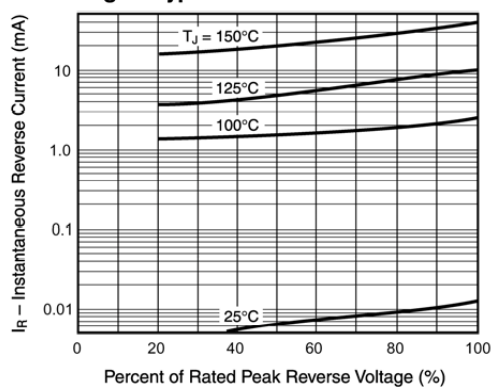
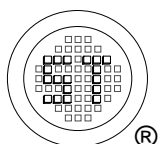
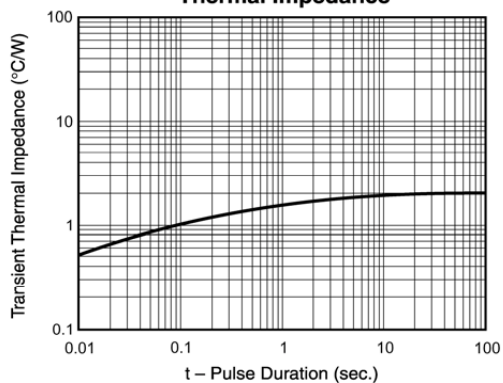


Fig. 5 - Typical Transient Thermal Impedance



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