



SCHOTTKY BARRIER SOLAR RECTIFIER

VOLTAGE 45 Volts CURRENT 16 Amperes

FEATURES

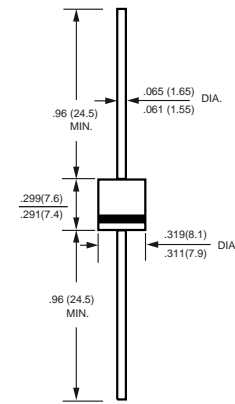
- * Low switching noise
- * Low forward voltage drop
- * Low thermal resistance
- * High current capability
- * High surge capability
- * High reliability
- * Ideal for solar panel PV application such as By-Pass diode

MECHANICAL DATA

- * Case: R-7 axial-leaded, molded plastic
- * Epoxy: Device has UL flammability classification 94V-0
- * Lead: MIL-STD-202E method 208C guaranteed
- * Mounting position: Any
- * Weight: 1.897 grams



R-7



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.

MAXIMUM RATINGS (@ TA=25 °C unless otherwise noted)

RATINGS	SYMBOL	SPK1645	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	45	Volts
Maximum RMS Voltage	V_{RMS}	31.5	Volts
Maximum DC Blocking Voltage	V_{DC}	45	Volts
Maximum DC Forward Current @TL=125°C(Note 1)	I_o	16	Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	300	Amps
Typical Current Square Time	I^2T	373.3	A ² S
Typical Thermal Resistance	$R_{\theta JA}$	12.5	°C/W
	$R_{\theta JC}$	9.3	
	$R_{\theta JL}$	6.2	
Operating Temperature Range	T_J	175($T_J \leq 200^\circ\text{C}$ in Bypass Mode)	°C
Storage Temperature Range	T_{STG}	-55 to + 175	°C

ELECTRICAL CHARACTERISTICS(@TA=25 °C unless otherwise noted)

CHARACTERISTICS	SYMBOL	SPK1645	UNITS
Maximum Instantaneous Forward Voltage at 16 A DC	@ $T_A = 25^\circ\text{C}$.52	Volts
	@ $T_A = 75^\circ\text{C}$.47	
Maximum Average Reverse Current at Rated DC Blocking Voltage	@ $T_A = 25^\circ\text{C}$	100	uA
	@ $T_A = 75^\circ\text{C}$	2.5	mA

- NOTES : 1. Heat-sink mounted 10mm max from body
 2. "Fully ROHS compliant", "100% Sn plating (Pb-free)".
 3. Available in Halogen-free epoxy by adding suffix -HF after the part nbr.

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REV: A

RATING AND CHARACTERISTICS CURVES (SPK1845)

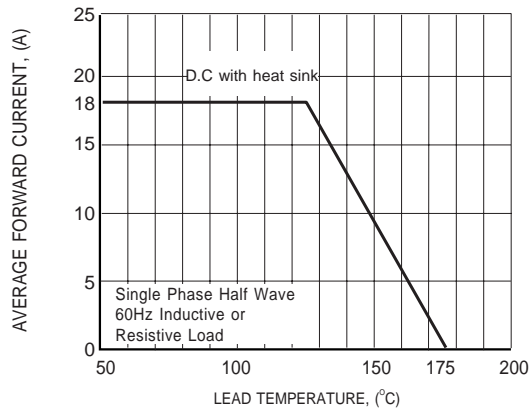


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

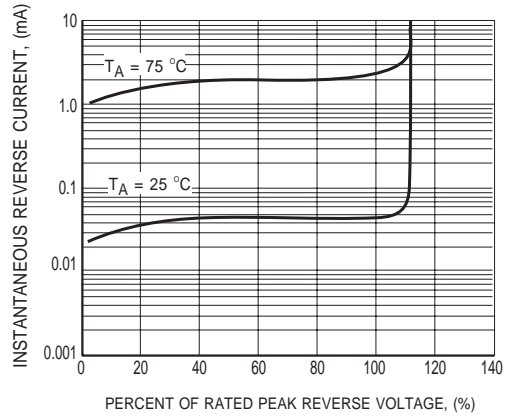


FIG.2 TYPICAL REVERSE CHARACTERISTICS

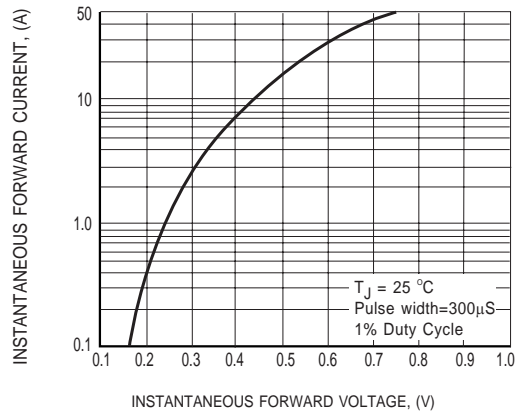


FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

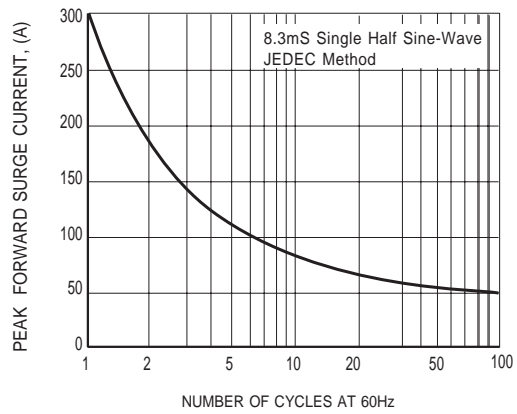


FIG.4 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

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