



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

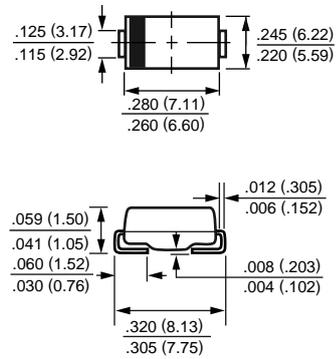
- * Case: SMCL surface-mount, molded-plastic
- * Epoxy: Device has UL flammability classification 94V-0
- * Lead: MIL-STD-202E method 208C guaranteed
- * Mounting position: Any
- * Weight: 0.2527 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.



SMCL



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

RATINGS	SYMBOL	SPKC1645	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	$R_{\theta JA}$	10.8	°C/W
	$R_{\theta JC}$	5.4	°C/W
Operating Temperature Range	T_J	175(T _J ≤200°C in Bypass Mode)	°C
Storage Temperature Range	T_{STG}	-55 to + 175	°C

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

CHARACTERISTICS	SYMBOL	SPKC1645	UNITS
Maximum Instantaneous Forward Voltage at 16 A DC	V_F	@T _A = 25°C	.54
		@T _A = 75°C	.47
Maximum Average Reverse Current at Rated DC Blocking Voltage	I_R	@T _A = 25°C	100
		@T _A = 75°C	2.5

- 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.

RATING AND CHARACTERISTICS CURVES (SPKC1645)

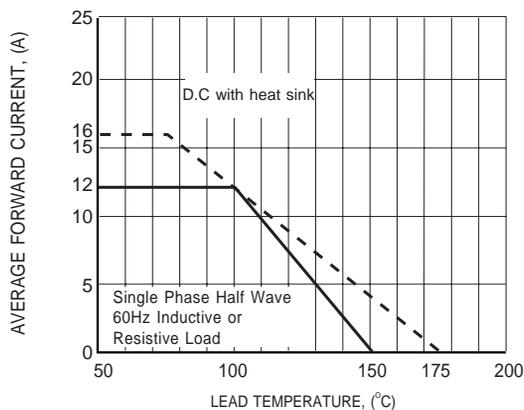


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

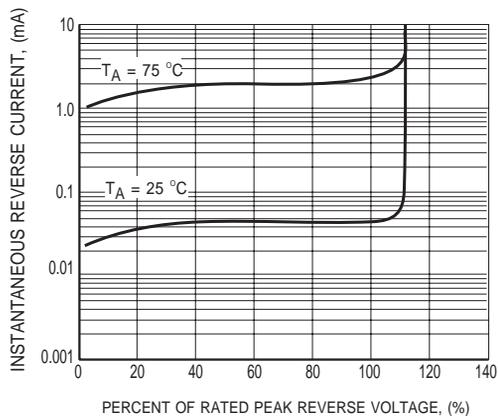


FIG.2 TYPICAL REVERSE CHARACTERISTICS

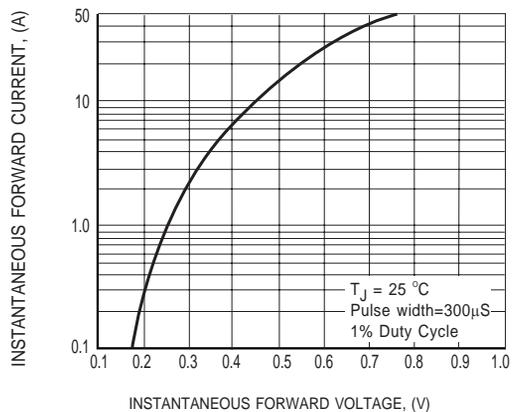


FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

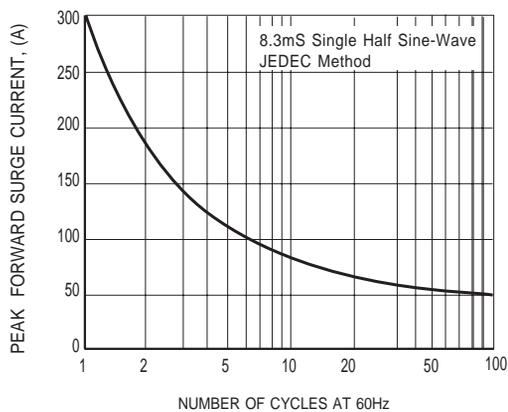


FIG.4 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

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