



SCHOTTKY BARRIER SOLAR RECTIFIER

VOLTAGE 45 Volts CURRENT 16 Amperes

FEATURES

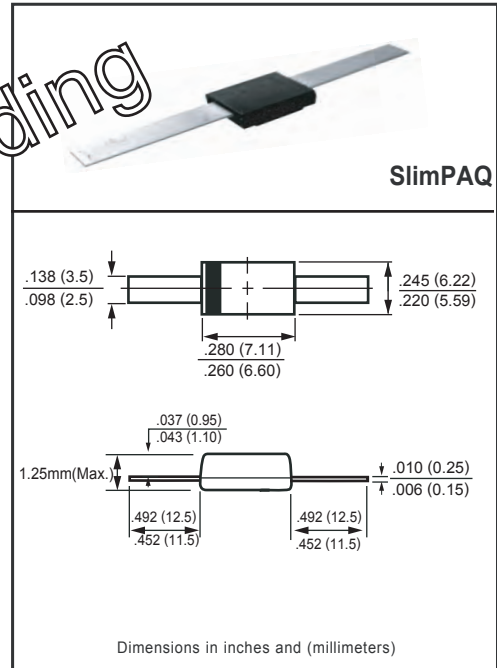
- * Low switching noise
- * Low forward voltage drop
- * Low thermal resistance
- * High current capability
- * High surge capability
- * High reliability
- * ideal for solar panel PV application such as By-Pass diode

MECHANICAL DATA

- * Case: Slim PAQ
- * Epoxy: Device has UL flame (UL) classification 94V-0
- * Lead: MIL-STD-202E method 208C guaranteed
- * Mounting position: Any

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.



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

RATINGS	SYMBOL	SPKC1645F	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 @ $T_L=125^{\circ}C$ (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^2S
Typical Thermal Resistance	$R_{\theta JA}$	6.3	$^{\circ}C/W$
	$R_{\theta JC}$	3.1	
	$R_{\theta JL}$	1.6	
Operating Temperature Range	T_J	175($T_J \leq 200C$ in Bypass Mode)	$^{\circ}C$
Storage Temperature Range	T_{STG}	-55 to + 175	$^{\circ}C$

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

CHARACTERISTICS	SYMBOL	SPKC1645F	UNITS
Maximum Instantaneous Forward Voltage at 16 A DC	V_F	@ $T_A = 25^{\circ}C$.54
		@ $T_A = 75^{\circ}C$.47
Maximum Average Reverse Current at Rated DC Blocking Voltage	I_R	@ $T_A = 25^{\circ}C$	100
		@ $T_A = 75^{\circ}C$	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 (SPKC1645F)

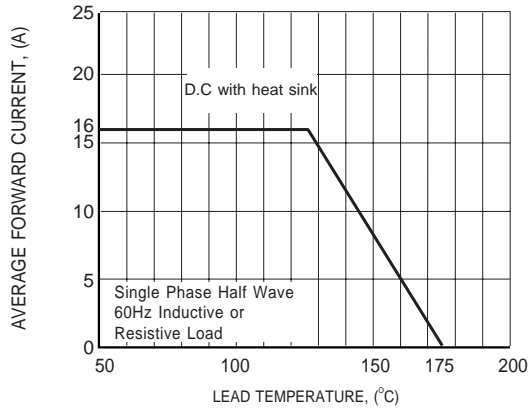


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

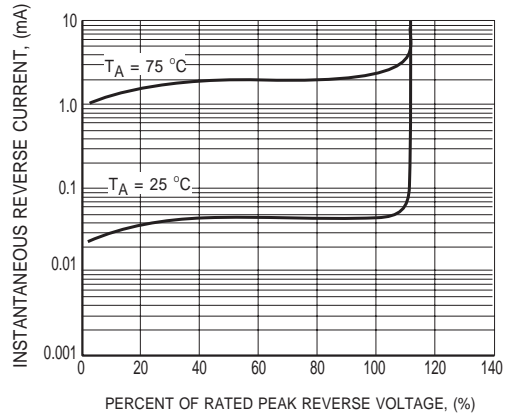


FIG.2 TYPICAL REVERSE CHARACTERISTICS

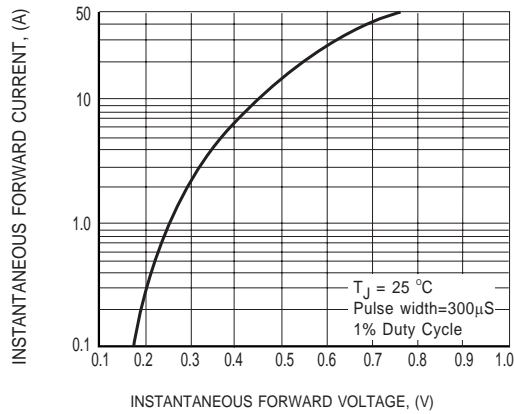


FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

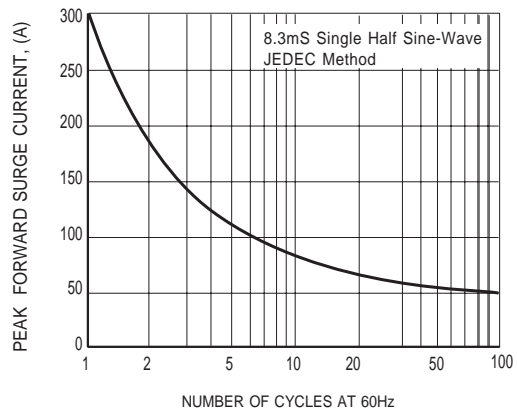


FIG.4 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

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