RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

SPK1845

SCHOTTKY BARRIER SOLAR RECTIFIER

VOLTAGE 45 Volts CURRENT 18 Amperes

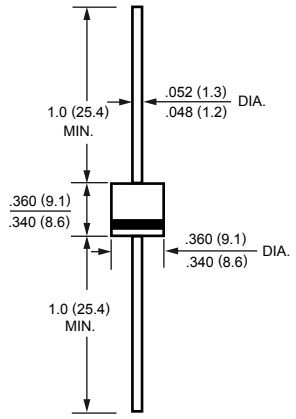
FEATURES

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

MECHANICAL DATA

* Case: R-6 axial-leaded, molded plastic
* Epoxy: Device has UL flammability classification 94V-O
* Lead: MIL-STD-202E method 208C guaranteed
* Mounting position: Any
* Weight: 1.897 grams

R-6



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	SPK1845	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=75°C(Note 1)	I_O	18	Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	300	Amps
Typical Thermal Resistance	$R_{\theta JA}$	35	°C/W
	$R_{\theta JL}$	3.3	
Operating Temperature Range	T_J	175	°C
Storage Temperature Range	T_{STG}	-55 to + 175	°C

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

CHARACTERISTICS		SYMBOL	SPK1845	UNITS
Maximum Instantaneous Forward Voltage at 18 A DC	@T_A = 25°C	V_F	.52	Volts
	@T_A = 75°C		.47	
Maximum Average Reverse Current at Rated DC Blocking Voltage	@T_A = 25°C	I_R	100	uA
	@T_A = 75°C		2.5	mA

NOTES : 1. Heat-sink mounted 10mm max from body
2. "Fully ROHS compliant", "100% Sn plating (Pb-free)".

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RATING AND CHARACTERISTICS CURVES (SPK1845)

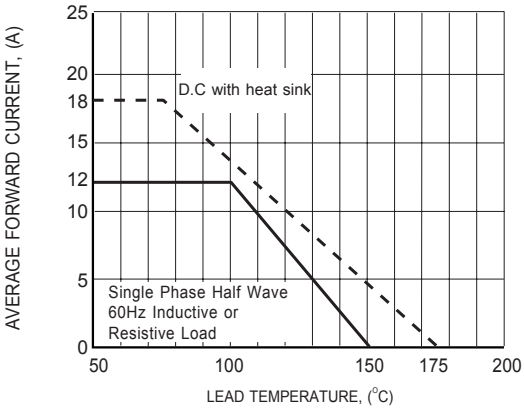

FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

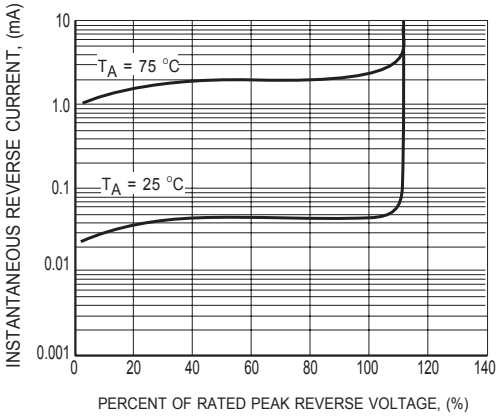

FIG.2 TYPICAL REVERSE CHARACTERISTICS

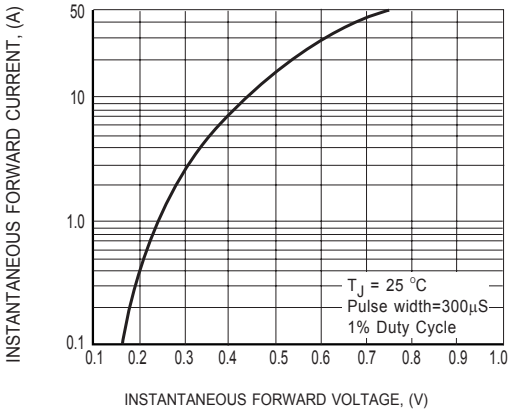

FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

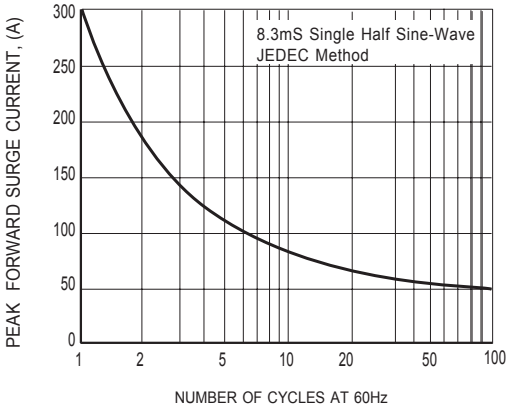

FIG.4 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

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