



**SCHOTTKY BARRIER SOLAR RECTIFIER**

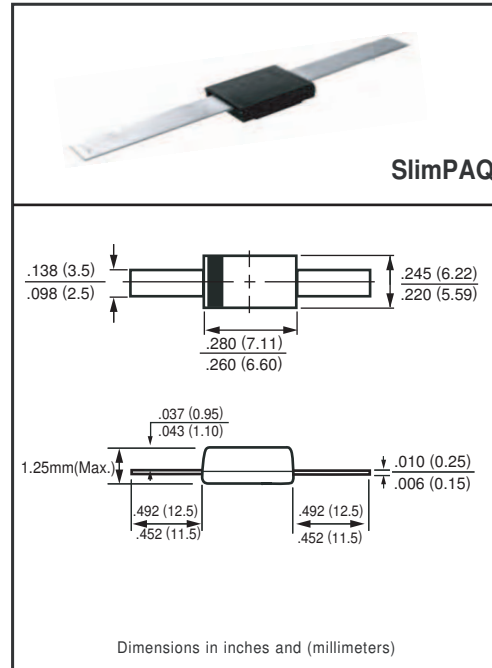
**VOLTAGE 45 Volts CURRENT 6 Amperes**

**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 flammability classification 94V-O
- \* 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	SPKC645F	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	45	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	31.5	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	45	Volts
Maximum DC Forward Current @T <sub>L</sub> =125°C(Note 1)	I <sub>O</sub>	6	Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	300	Amps
Typical Current Square Time	I <sup>2</sup> T	373.3	A <sup>2</sup> S
Typical Thermal Resistance	R <sub>θJC</sub>	7.6	°C/W
	R <sub>θJA</sub>	15.0	
	R <sub>θJL</sub>	3.8	
Operating Temperature Range	T <sub>J</sub>	175(T <sub>J</sub> ≤ 200C in Bypass Mode)	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to + 175	°C

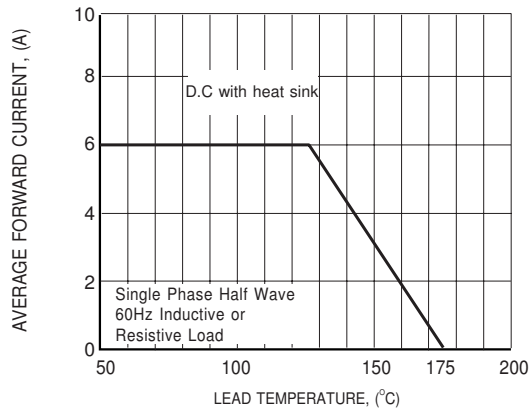
**ELECTRICAL CHARACTERISTICS**(@TA=25 °C unless otherwise noted)

CHARACTERISTICS	SYMBOL	SPKC645F	UNITS
Maximum Instantaneous Forward Voltage at 6 A DC	V <sub>F</sub>	@T <sub>A</sub> = 25°C	.55
		@T <sub>A</sub> = 75°C	.47
Maximum Average Reverse Current at Rated DC Blocking Voltage	I <sub>R</sub>	@T <sub>A</sub> = 25°C	100
		@T <sub>A</sub> = 75°C	2.5

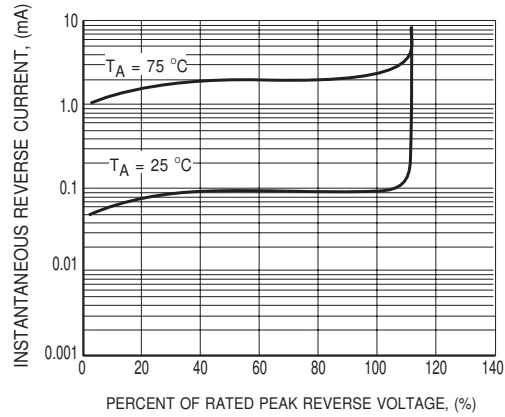
- NOTES : 1. Heat-sink mounted 10mm max from body  
 2. "Fully ROHS compliant", "100% Sn plating (Pb-free)".  
 3. Available in Halogen-free epoxy by adding suffix -HF after the part nbr.

2010-05  
REV: A

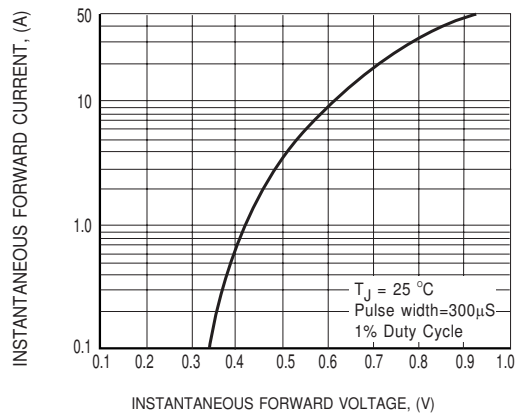
## RATING AND CHARACTERISTICS CURVES ( SPKC645F )



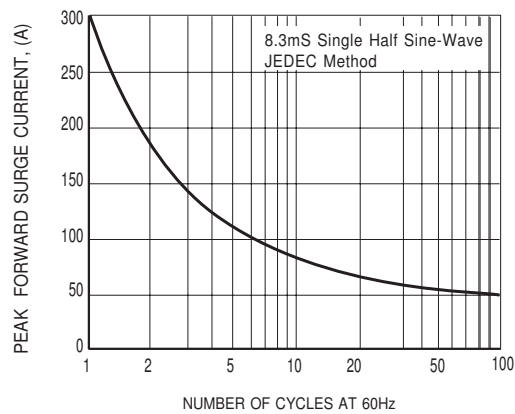
**FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE**



**FIG.2 TYPICAL REVERSE CHARACTERISTICS**

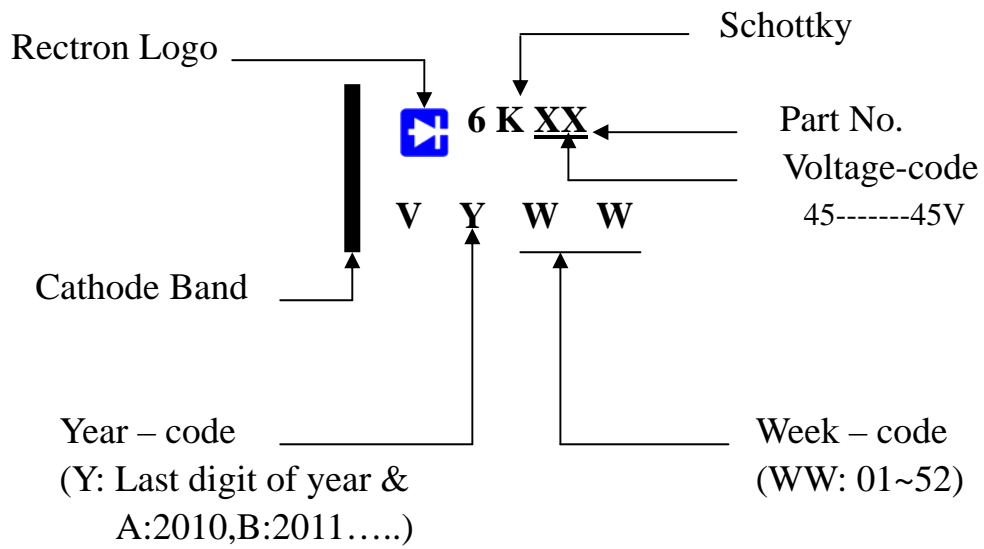


**FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG.4 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**

## Marking Description



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