



SCHOTTKY BARRIER RECTIFIER
VOLTAGE 90 Volts CURRENT 12.5 Amperes

FEATURES

- * High reliability
- * Low switching loss
- * Low forward voltage drop
- * High current capability
- * High switching capability

MECHANICAL DATA

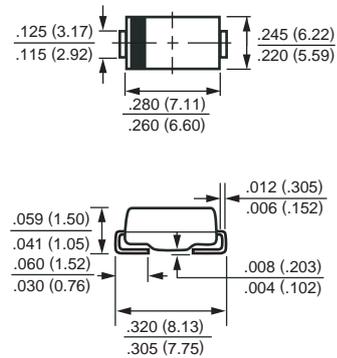
- * Epoxy: Device has UL flammability classification 94V-0
- * Case: Molded plastic
- * Lead: MIL-STD-202E method 208C guaranteed
- * Mounting: position: Any
- * Weight: 0.24 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.
resistive or inductive load.



SMCL



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

RATINGS	SYMBOL	SPKC1390	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	90	Volts
Maximum RMS Voltage	V_{RMS}	63	Volts
Maximum DC Blocking Voltage	V_{DC}	90	Volts
Maximum Average Forward Rectified Current at Derating Lead Temperature	I_O	12.5	Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	150	Amps
Typical Thermal Resistance (Note 1)	$R_{\theta JC}$	2.0	°C/W
	$R_{\theta JA}$	60	
Typical Junction Capacitance (Note 2)	C_J	700	pF
Operating Temperature Range	T_J	175($T_J \leq 200^\circ\text{C}$ in By pass Mode)	°C
Storage Temperature Range	T_{STG}	-55 to + 175	°C

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

CHARACTERISTICS	SYMBOL	SPKC1390	UNITS	
Maximum Instantaneous Forward Voltage at 12.5A DC	V_F	.65	Volts	
Maximum Average Reverse Current at Rated DC Blocking Voltage	I_R	@ $T_A = 25^\circ\text{C}$	0.1	mA
		@ $T_A = 100^\circ\text{C}$	2	mA

- NOTES :
1. Thermal Resistance : Heat-sink case mounted or if PCB mounted.
 2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
 3. "Fully ROHS compliant", "100% Sn plating (Pb-free)".
 4. Suffix "R" for Reverse Polarity.
 5. Available in Halogen-free epoxy by adding suffix -HF after the part nbr.

RATING AND CHARACTERISTICS CURVES (SPKC1390)

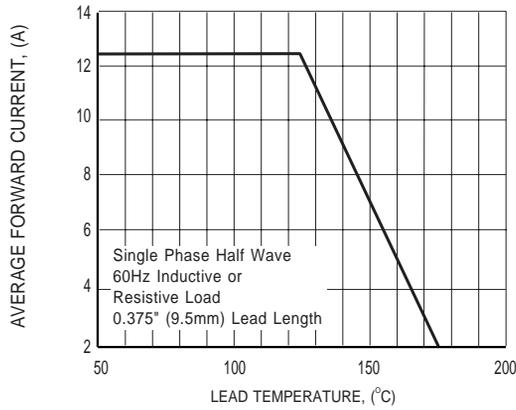


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

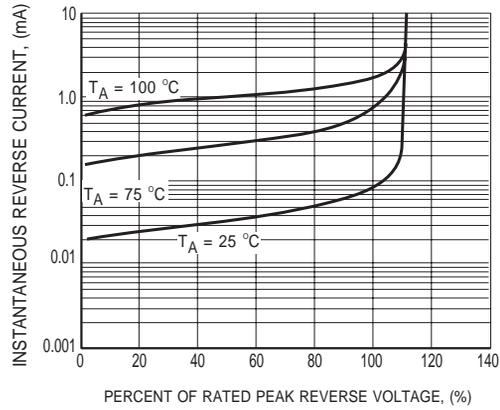


FIG.2 TYPICAL REVERSE CHARACTERISTICS

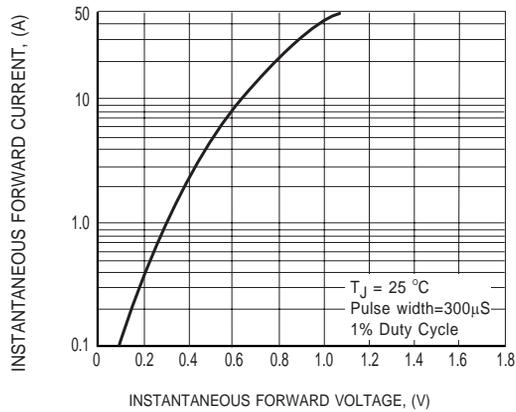


FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

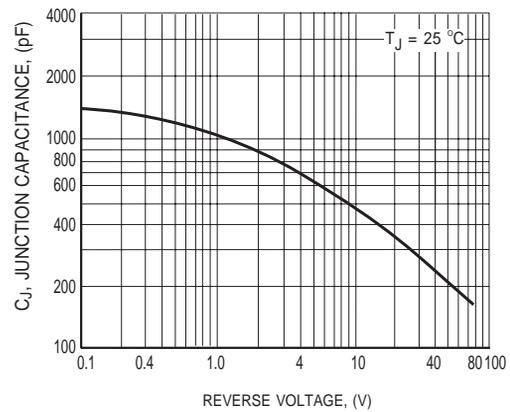


FIG.4 TYPICAL JUNCTION CAPACITANCE

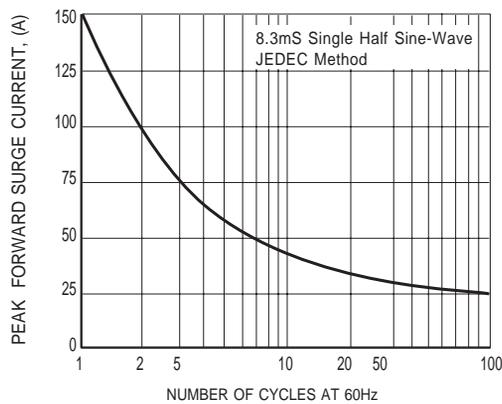


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

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