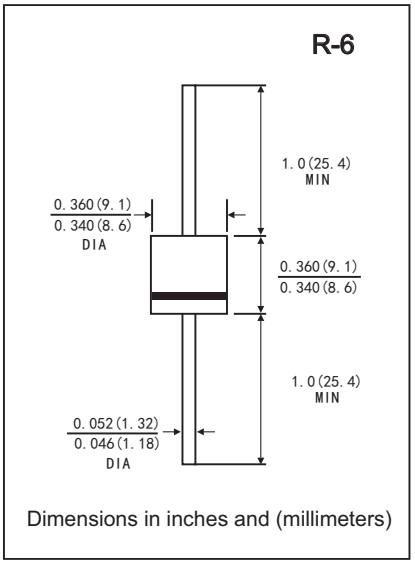
12SQ045

Voltage Range - 45 V
Forward Current - 12 Ampere

SCHOTTKY BARRIER RECTIFIER

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,Low forward voltage drop
- High surge capability
- For use in low voltage ,high frequency inverters,free wheeling ,and polarity protection applications
- High temperature soldering guaranteed:260 C/10 seconds, at terminals
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



Dimensions in inches and (millimeters)

MECHANICAL DATA

- Case: R-6 molded plastic body
- Terminals: Plated axial lead, solderable per MIL-STD-750,method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.07ounce, 2.1 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25 °C ambient temperature unless otherwise specified ,Single phase ,half wave ,resistive or inductive load. For capacitive load,derate by 20%.

Parameter		Symbols	12SQ045	Units
Maximum repetitive peak reverse voltage		VRRM	45	Volts
Maximum RMS voltage		VRMS	32	Volts
Maximum DC blocking voltage		VDC	45	Volts
Maximum average forward rectified current 0.375"(9.5mm) lead length(see fig.1)		I(AV)	12.0	Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)		IFSM	150	Amps
Maximum instantaneous forward voltage at 12.0 A(Note 1)		VF	0.55	Volts
Maximum instantaneous reverse current at rated DC blocking voltage(Note 1)	T_A=25℃	IR	0.5	mA
	T_A=100℃		50	
Typical junction capacitance(Note 3)		CJ	400	PF
Typical thermal resistance (Note 2)		R θJL	3 . 0	℃/W
Operating junction temperature range		TJ	-65 to +200	℃
Storage temperature range		TSTG	-65 to +200	℃

Notes: 1.Pulse test: 300μ s pulse width,1% duty cycle

2.Thermal resistance from junction to case

3.Measured at 1MHz and reverse voltage of 4.0 Volts.

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RATINGS AND CHARACTERISTIC CURVES 12SQ045

FIG.1-FORWARD CURRENT DERATING CURVE

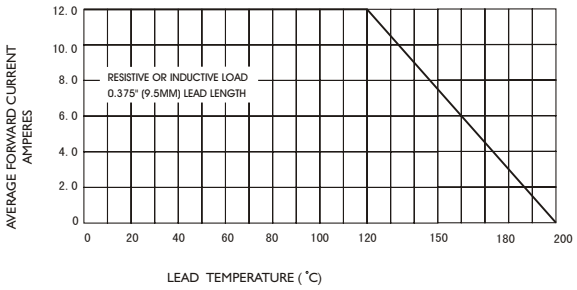


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

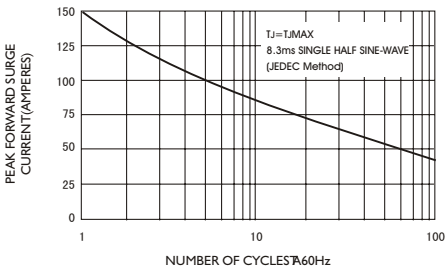


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

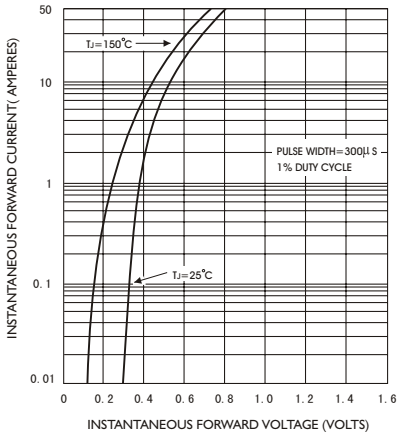


FIG.4-TYPICAL REVERSE CHARACTERISTICS

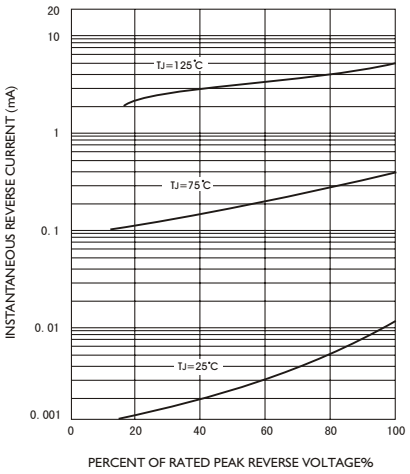


FIG.5-TYPICAL JUNCTION CAPACITANCE

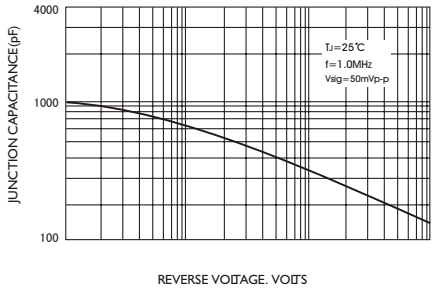
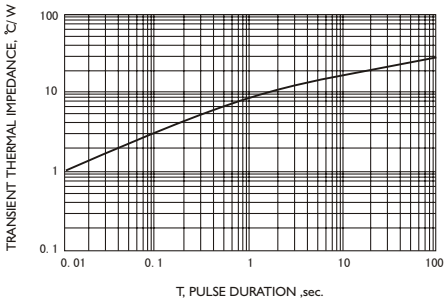


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE



Disclaimer

All product, product specifications and data are subject to change without notice to improve reliability, function or design or otherwise.

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