



SEMICONDUCTOR

# 20SQ045

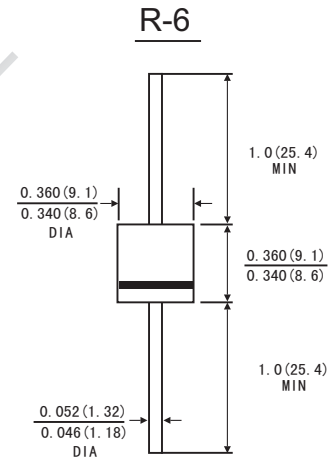
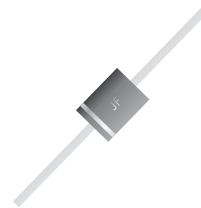
## SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 45 Volts

Forward Current - 20Amperes

### 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
- Dual rectifier construction
- High temperature soldering guaranteed:260° C/10 seconds, 0.25"(6.35mm)from case
- 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%.)

	Symbols	20SQ045	Units
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	45	Volts
Maximum RMS voltage	V <sub>RMS</sub>	32	Volts
Maximum DC blocking voltage	V <sub>DC</sub>	45	Volts
Maximum average forward rectified current 0.375"(9.5mm) lead length(see fig.1)	I(AV)	20.0	Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated T <sub>J</sub> )	I <sub>FSM</sub>	400	Amps
Maximum instantaneous forward voltage at 20.0 A(Note 1)	V <sub>F</sub>	0.55	Volts
Maximum instantaneous reverse current at rated DC blocking voltage(Note 1)	I <sub>R</sub>	T <sub>a</sub> =25°C	0.5
		T <sub>a</sub> =100°C	50
Typical junction capacitance(Note 3)	C <sub>J</sub>	400	pF
Typical thermal resistance (Note 2)	R <sub>θJL</sub>	2.5	°C/W
Operating junction temperature range at reduced reverse voltage V <sub>R</sub> ≤80%V <sub>RRM</sub> V <sub>R</sub> ≤50%V <sub>RRM</sub> in DC forward model	T <sub>J</sub>	-65 to+150 -65 to+175 -65 to+200	°C
Storage temperature range	T <sub>STG</sub>	-65 to+200	°C

- Notes:** 1.Pulse test: 300μ s pulse width,1% duty cycle  
2.Thermal resistance from junction to lead

# RATINGS AND CHARACTERISTIC CURVES 20SQ045

FIG.1-FORWARD CURRENT DERATING CURVE

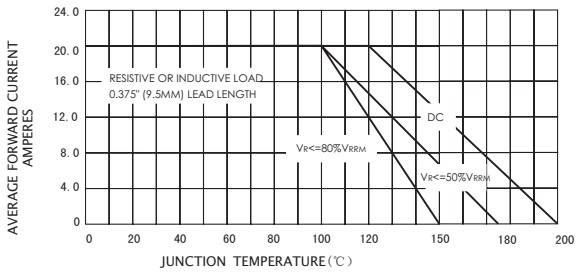


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

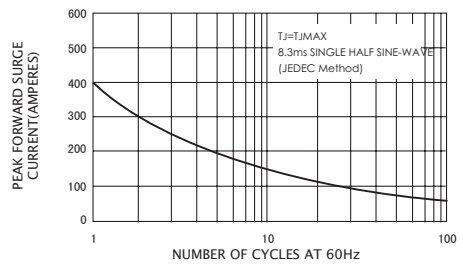


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

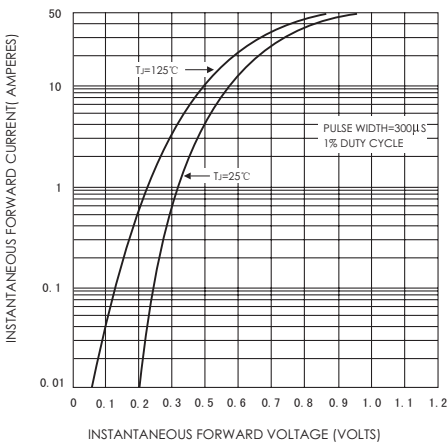


FIG.4-TYPICAL REVERSE CHARACTERISTICS

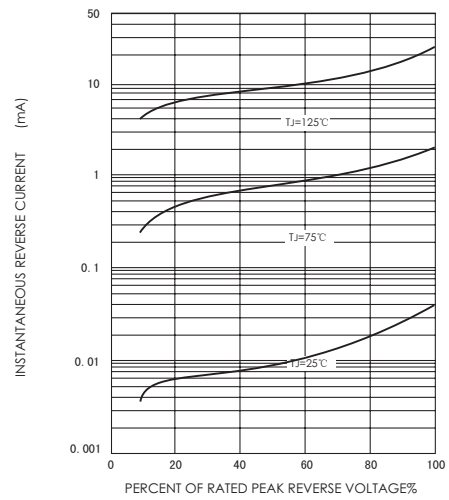


FIG.5-TYPICAL JUNCTION CAPACITANCE

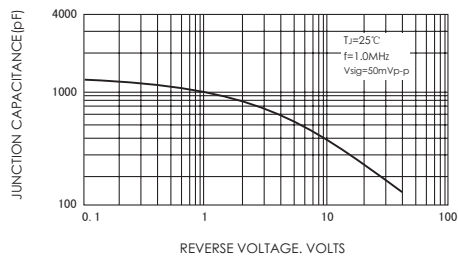


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

