

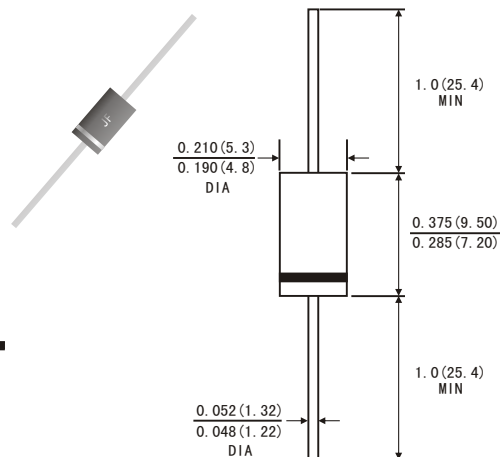
## FEATURES

- 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

## MECHANICAL DATA

- *Case:* JEDEC DO-201AD molded plastic body
- *Terminals:* Plated axial leads, solderable per MIL-STD-750,method 2026
- *Polarity:* color band denotes cathode end
- *Mounting Position:* Any
- *Weight:* 0.041ounce, 1.15 grams

## DO-201AD



Dimensions in inches and (millimeters)

## 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	12SQ045	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 <sub>(AV)</sub>	12.0	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>	150.0	Amps
Maximum instantaneous forward voltage at 12.0 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	0.2
		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>θJC</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 case

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

# RATINGS AND CHARACTERISTIC CURVES 12SQ045

FIG.1-FORWARD CURRENT DERATING CURVE

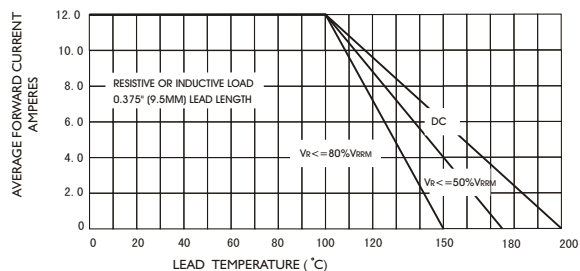


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

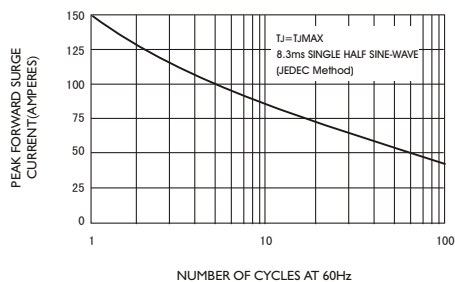


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

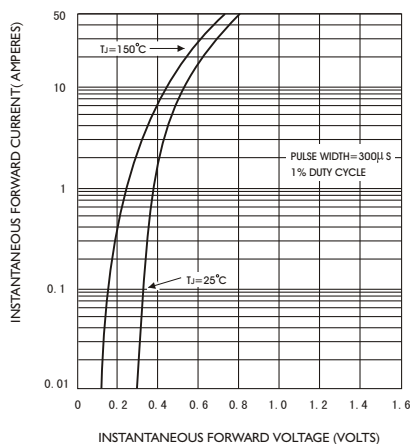


FIG.4-TYPICAL REVERSE CHARACTERISTICS

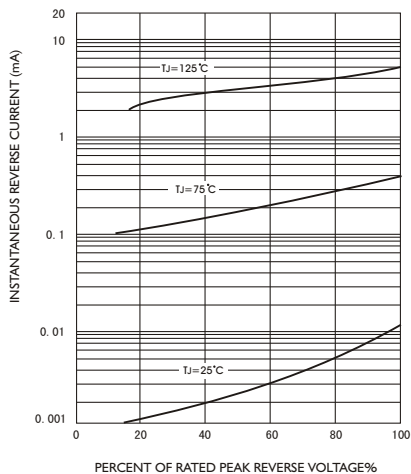


FIG.5-TYPICAL JUNCTION CAPACITANCE

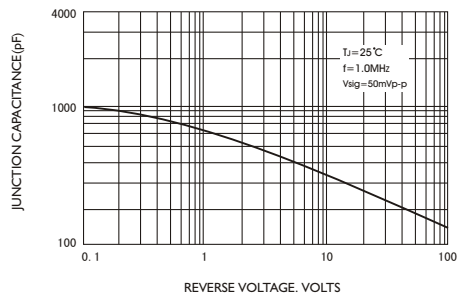


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

