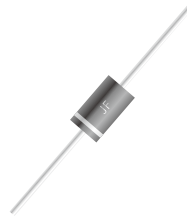
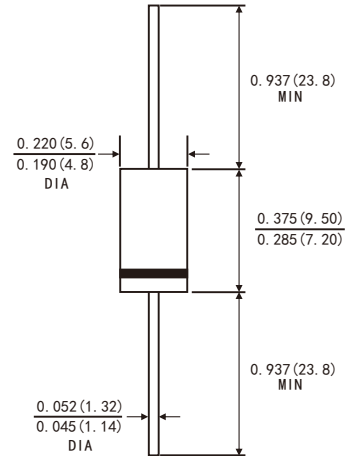


FEATURES

- 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 2011/65/EU



DO-201AD



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

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_{RRM}	45	Volts
Maximum RMS voltage	V_{RMS}	32	Volts
Maximum DC blocking voltage	V_{DC}	45	Volts
Maximum average forward rectified current (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 T_J)	I_{FSM}	275	Amps
Maximum instantaneous forward voltage at 12.0 A(Note 1)	V_F	0.55	Volts
Maximum instantaneous reverse current at rated DC blocking voltage(Note 1)	I_R	$T_A=25\text{ }^{\circ}\text{C}$	0.2
		$T_A=100\text{ }^{\circ}\text{C}$	50
Typical junction capacitance(Note 3)	C_J	400	pF
Typical thermal resistance (Note 2)	$R_{\theta JC}$	3.0	$^{\circ}\text{C/W}$
Operating junction temperature range at reduced reverse voltage $V_R \leq 80\% V_{RRM}$ $V_R \leq 50\% V_{RRM}$ in DC forward model	T_J	-65 to+150	$^{\circ}\text{C}$
		-65 to+175	
		-65 to+200	
Storage temperature range	T_{STG}	-65 to+200	$^{\circ}\text{C}$

- Notes: 1.Pulse test: 300 μs 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

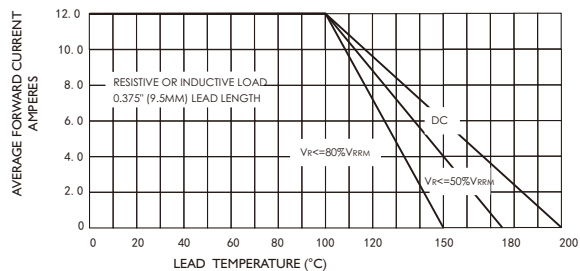


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

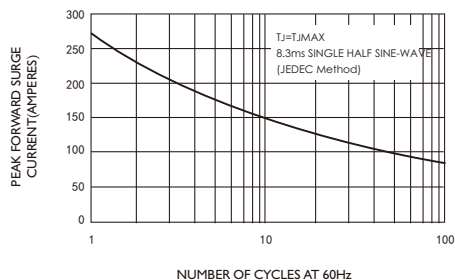


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

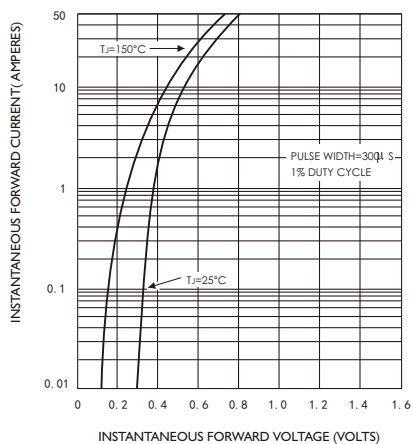


FIG.4-TYPICAL REVERSE CHARACTERISTICS

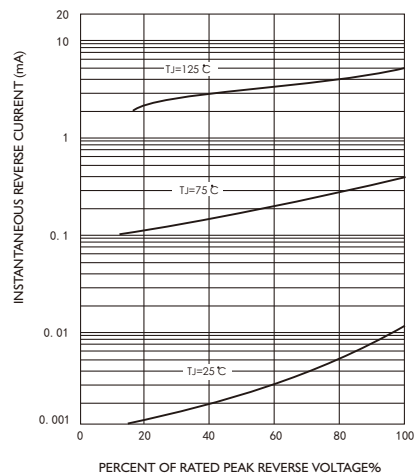


FIG.5-TYPICAL JUNCTION CAPACITANCE

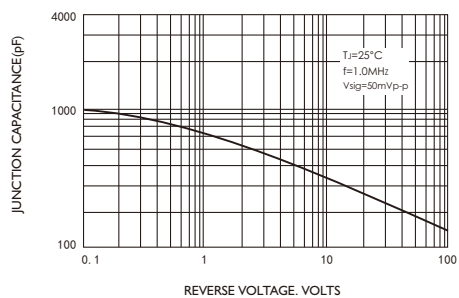


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

