

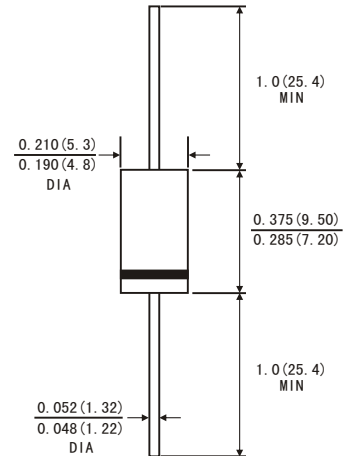
FEATURES

- 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

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 _{RRM} | 45 | Volts |
| Maximum RMS voltage | V _{RMS} | 32 | Volts |
| Maximum DC blocking voltage | V _{DC} | 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 T _j) | I _{FSM} | 150.0 | 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°C | 0.2 |
| | | T _a = 100°C | 50 |
| Typical junction capacitance(Note 3) | C _J | 400 | pF |
| Typical thermal resistance (Note 2) | R _{θJC} | 2.5 | °C/W |
| Operating junction temperature range at reduced reverse voltage V _R <= 80%V _{RRM} V _R <= 50%V _{RRM} in DC forward model | T _J | -65 to+150 -65 to+175 -65 to+200 | °C |
| Storage temperature range | T _{STG} | -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



FIG.1-FORWARD CURRENT DERATING CURVE

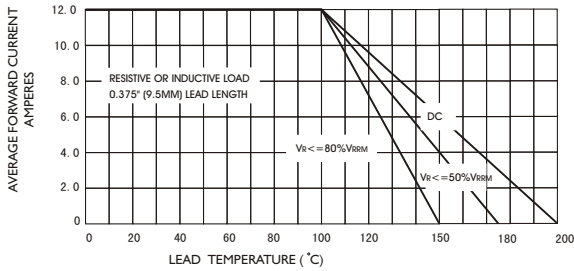


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

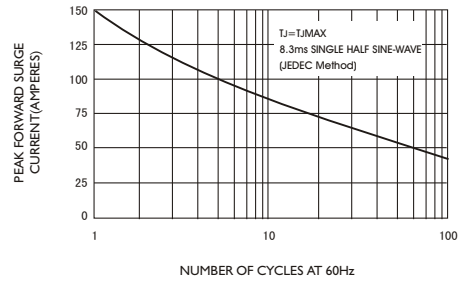


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

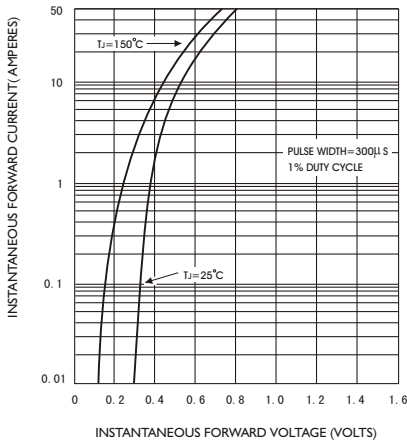


FIG.4-TYPICAL REVERSE CHARACTERISTICS

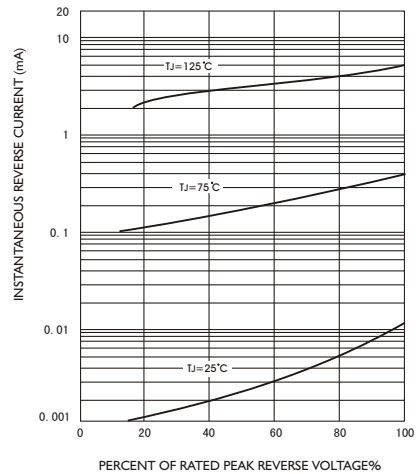


FIG.5-TYPICAL JUNCTION CAPACITANCE

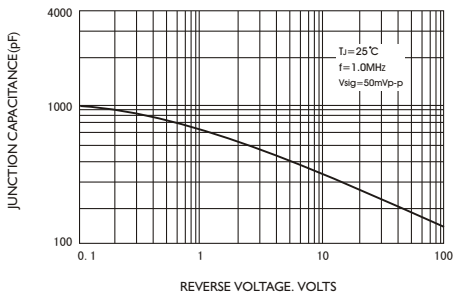


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

