

Kingtronics®

1A1 THRU 1A7

General Purpose Plastic Rectifier

REVERSE VOLTAGE 50 to 1000 Volts **FORWARD CURRENT** 1.0 Ampere

FEATURES

- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High temperature soldering guaranteed
- 260°C/10 seconds, 0.375" (9.5mm) lead length at 5 lbs(2.3kg) tension

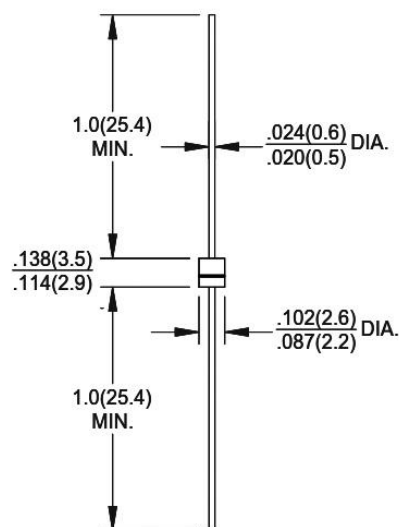
MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V-0 rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified, Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load derate current by 20%

R-1



Dimensions in inches and (millimeters)

| | SYMBOL | 1A1 | 1A2 | 1A3 | 1A4 | 1A5 | 1A6 | 1A7 | UNIT |
|---|---------------------------|-------------|-----|-----|-----|-----|-----|------|-------|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | VOLTS |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | VOLTS |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | VOLTS |
| Maximum Average Forward Rectified Current (FIG.1) 0.375" (9.5mm) lead length at $T_A=25^\circ\text{C}$ | $I_{(AV)}$ | 1.0 | | | | | | | Amps |
| Peak Forward Surge Current, 8.3 ms Single half sine-wave superimposed on rated load (JEDEC method) | I_{FSM} | 30 | | | | | | | Amps |
| Maximum Instantaneous Forward Voltage @ 1.0A | V_F | 1.1 | | | | | | | Volts |
| Maximum DC Reverse Current at Rated DC Blocking voltage | $T_A = 25^\circ\text{C}$ | 5.0 | | | | | | | uA |
| | $T_A = 100^\circ\text{C}$ | 100 | | | | | | | |
| Typical Junction Capacitance (NOTE 1) | C_J | 25 | | | | | | | pF |
| Typical Thermal Resistance (NOTE 2) | $R_{\theta JA}$ | 60 | | | | | | | °C/W |
| Operating and Storage Temperature Range | T_J, T_{STG} | -55 to +150 | | | | | | | °C |

1- Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.

2- Thermal Resistance from Junction to Ambient at .375" (9.5mm) lead length, P.C. board mounted.

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RATINGS AND CHARACTERISTIC CURVES

FIG. 1-TYPICAL FORWARD CURRENT DERATING CURVE

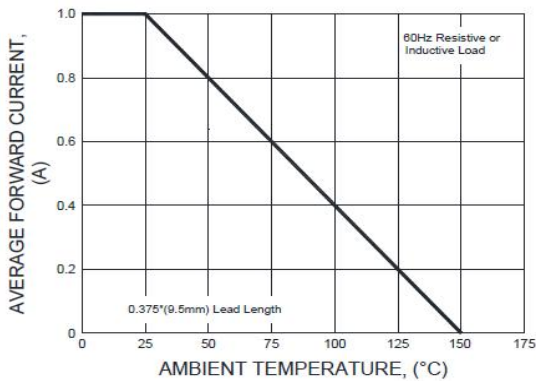


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

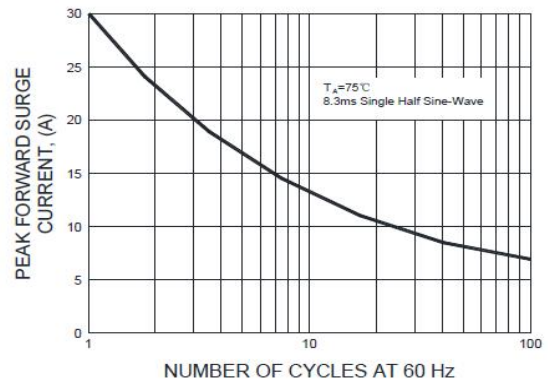


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

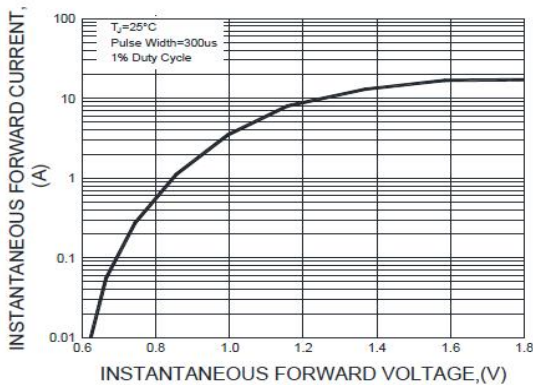


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

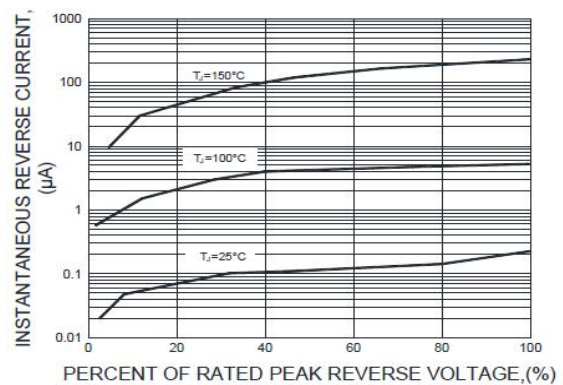
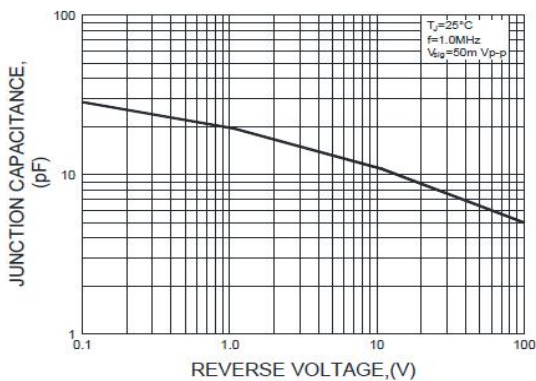


FIG. 5-TYPICAL JUNCTION CAPACITANCE



Note: Specifications are subject to change without notice.