

General Purpose Rectifier



Features

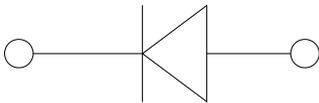
- High efficiency
- High current capability
- High reliability
- High surge current capability
- Low power loss
- Glass passivated chip junction
- Solder dip 275 °C max. 7 s, per JESD 22-B106

Typical Applications

For use in general purpose rectification of power supplies, inverters, converters, and freewheeling diodes for consumer, and telecommunication.

Mechanical Data

- **Package:** R-1
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, Halogen free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Color band denotes cathode end



■Maximum Ratings (T_a=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | 1A1 | 1A2 | 1A3 | 1A4 | 1A5 | 1A6 | 1A7 |
|---|--------------------|------------------|------------|-----|-----|-----|-----|-----|------|
| Device marking code | | | 1A1 | 1A2 | 1A3 | 1A4 | 1A5 | 1A6 | 1A7 |
| Maximum Repetitive Peak Reverse Voltage | V _{RRM} | V | 50 | 100 | 200 | 400 | 600 | 800 | 1000 |
| Maximum RMS Voltage | V _{RMS} | V | 35 | 70 | 140 | 280 | 420 | 560 | 700 |
| Maximum DC blocking Voltage | V _{DC} | V | 50 | 100 | 200 | 400 | 600 | 800 | 1000 |
| Average Forward Current @60Hz sine wave, Resistance load, T _a =75°C | I _{F(AV)} | A | 1.0 | | | | | | |
| Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, T _j =25°C | I _{FSM} | A | 30 | | | | | | |
| Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, T _j =25°C | | | 60 | | | | | | |
| Current squared time @1ms≤t≤8.3ms T _j =25°C, Rating of per diode | I ² t | A ² s | 3.735 | | | | | | |
| Typical junction capacitance @Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C | C _j | pF | 6 | | | | | | |
| Storage Temperature | T _{stg} | °C | -55 ~ +150 | | | | | | |
| Junction Temperature | T _j | °C | -55 ~ +150 | | | | | | |

■Electrical Characteristics (T_a=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | 1A1 | 1A2 | 1A3 | 1A4 | 1A5 | 1A6 | 1A7 |
|---|----------------|------|-----------------------|-----|-----|-----|-----|-----|-----|-----|
| Maximum instantaneous forward voltage drop per diode | V _F | V | I _{FM} =1.0A | 1.1 | | | | | | |
| Maximum DC reverse current at rated DC blocking voltage per diode | I _R | μA | T _j =25°C | 2.5 | | | | | | |
| | | | T _j =125°C | 50 | | | | | | |



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■ Thermal Characteristics (T_a=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | 1A1 | 1A2 | 1A3 | 1A4 | 1A5 | 1A6 | 1A7 |
|----------------------------|------------------|------|-----|-----|-----|-----|-----|-----|-----|
| Typical Thermal Resistance | R _{θJA} | °C/W | 95 | | | | | | |

■ Ordering Information (Example)

| PREFERRED P/N | PACKAGE CODE | UNIT WEIGHT(g) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|------------------|----------------------|-------------------------|----------------------------|---------------|
| 1A1~1A7 | D1 | Approximate 0.19 | Approximate 5000 | 5000 | 50000 | Tape |
| 1A1~1A7 | C1 | Approximate 0.19 | Approximate 1000 | 1000 | 50000 | Bulk |

■ Characteristics (Typical)

FIG.1: I_o-T_a Curve

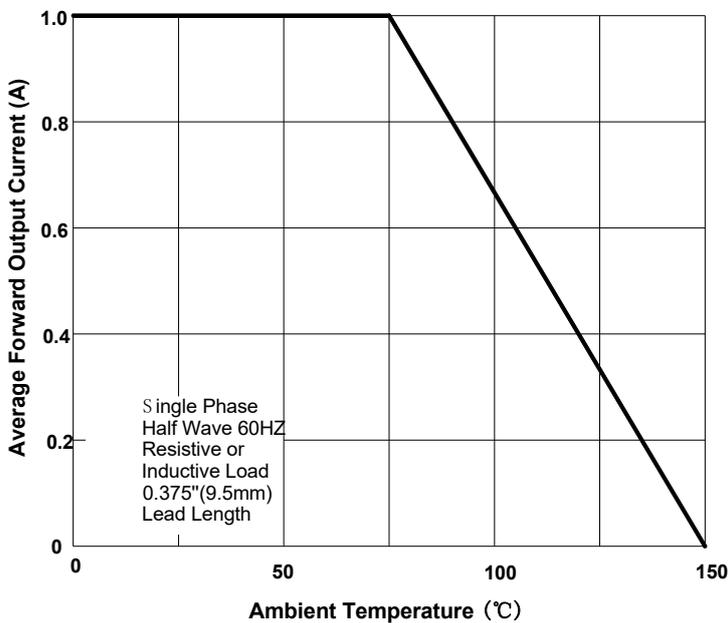


FIG.2: Surge Forward Current Capability

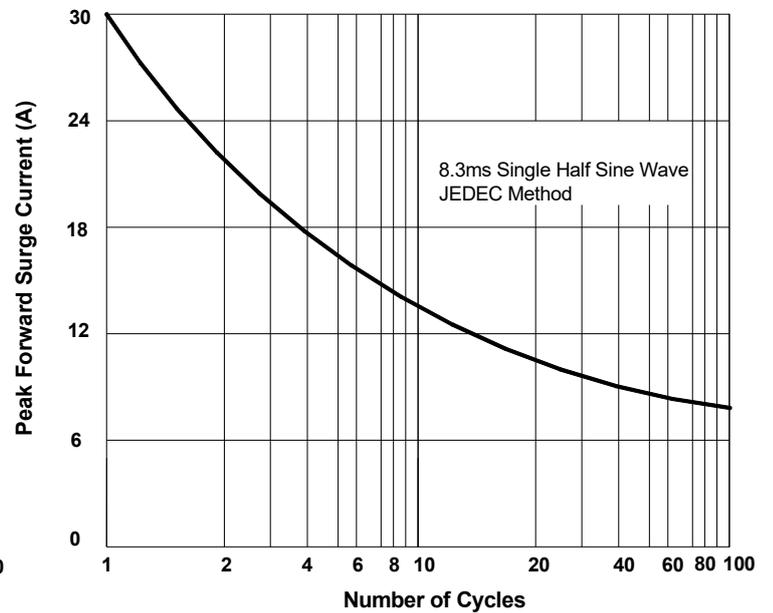


FIG.3: Forward Voltage

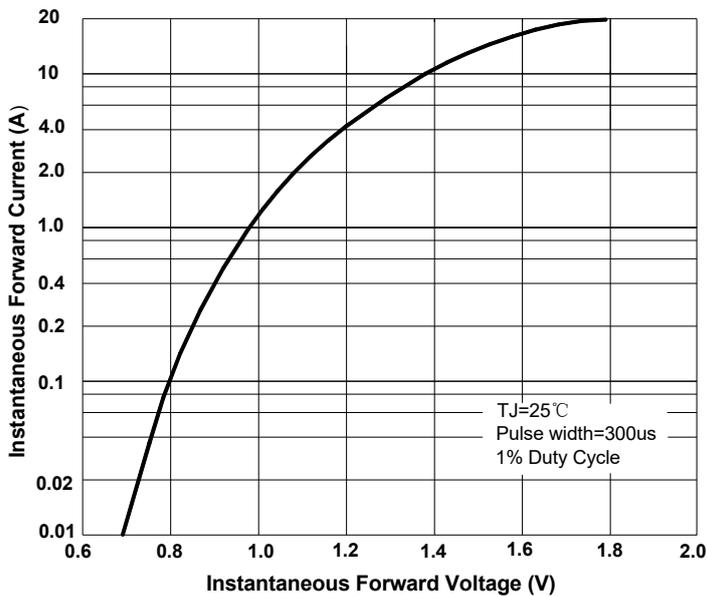
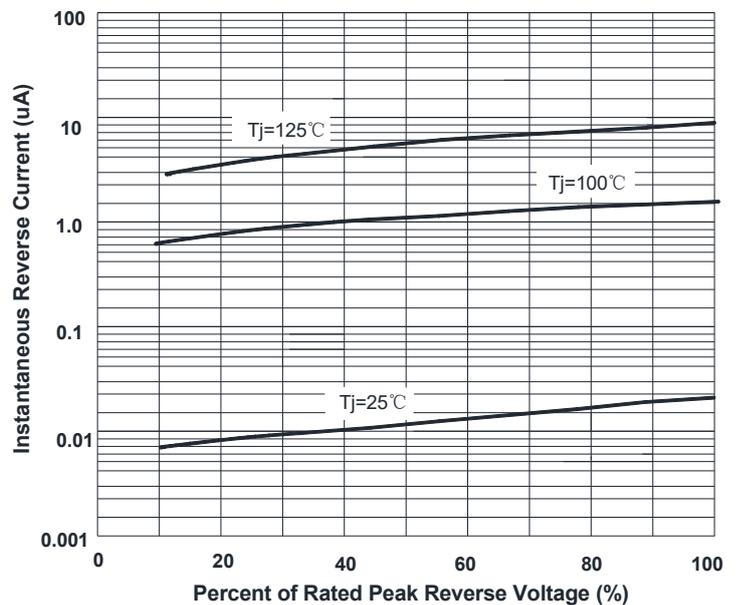


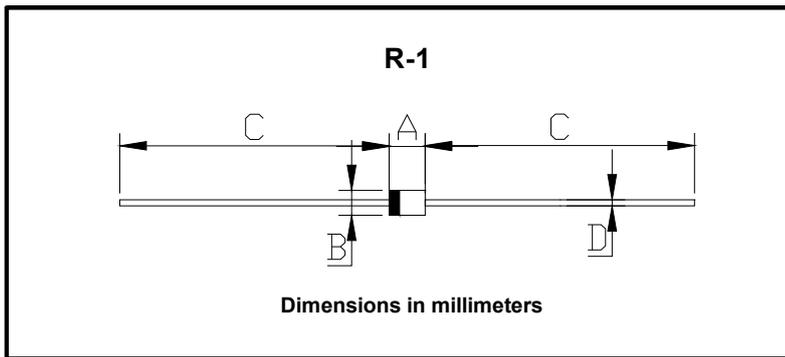
FIG.4: Typical Reverse Characteristics





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■ Outline Dimensions



| R-1 | | |
|-----|------|------|
| Dim | Min | Max |
| A | 3.00 | 3.30 |
| B | 2.00 | 2.70 |
| C | 25.4 | / |
| D | 0.53 | 0.64 |



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