

ER1A THRU ER1J



康比電子
HORNBY ELECTRONIC

SURFACE MOUNT SUPERFAST RECOVERY RECTIFIER

REVERSE VOLTAGE: 50 to 600 VOLTS

FORWARD CURRENT: 1.0 AMPERE

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Low profile package
- Easy pick and place
- Built-in strain relief
- Superfast recovery times for high efficiency
- High temperature soldering : 250°C /10 seconds at terminals

MECHANICAL DATA

Case: Molded plastic, DO-214AA(SMB)

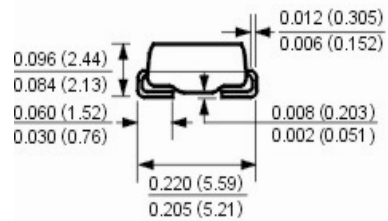
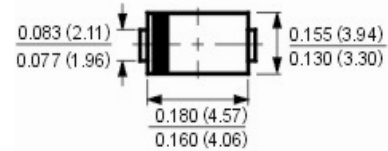
Terminals: Solder plated, solderable per MIL-STD-750, method 2026 guaranteed

Polarity: Color band denotes cathode end

Packaging: 12mm tape per EIA STD RS-481

Weight: 0.003 ounce, 0.093 gram

DO-214AA(SMB)



Dimensions in inches and (millimeters)

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%.

| | Symbols | ER1A | ER1B | ER1C | ER1D | ER1E | ER1G | ER1J | Units |
|--|-----------------|-------------|------|------|------|------|------|------|--------------------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | Volts |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 105 | 140 | 210 | 280 | 420 | Volts |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | Volts |
| Maximum Average Forward Rectified Current at $T_L=100^\circ\text{C}$ | $I_{(AV)}$ | 1.0 | | | | | | | Amp |
| Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method) | I_{FSM} | 30 | | | | | | | Amp |
| Maximum Forward Voltage at 1.0A | V_F | 0.95 | | | | 1.25 | | 1.70 | Volts |
| Maximum Reverse Current at $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A=100^\circ\text{C}$ | I_R | 5.0 | | | | 100 | | | μAmp |
| Typical Junction Capacitance (Note 1) | C_J | 10 | | | | | | | pF |
| Typical Thermal Resistance (Note 2) | $R_{\theta JL}$ | 35 | | | | | | | $^\circ\text{C/W}$ |
| Maximum Reverse Recovery Time (Note 3) | T_{RR} | 35 | | | | | | 50 | nS |
| Operating Junction Temperature Range | T_J | -55 to +150 | | | | | | | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | -55 to +150 | | | | | | | $^\circ\text{C}$ |

NOTES:

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

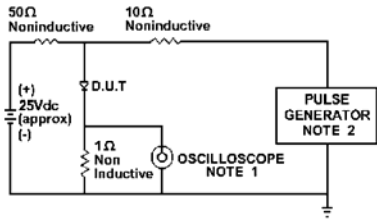
2- Thermal resistance from junction to lead mounted on P.C.B. with 0.3 x 0.3" (8.0 x 8.0mm) copper pad areas

3- Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1\text{A}$, $I_{RR}=0.25\text{A}$.

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RATINGS AND CHARACTERISTIC CURVES



NOTE: 1. Rise Time = 7ns max.
Input Impedance = 1 megohm. 22pF
2. Rise Time = 10ns max.
Source Impedance = 50 Ohms

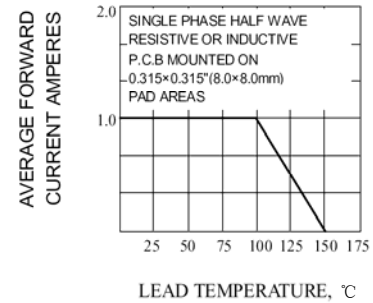
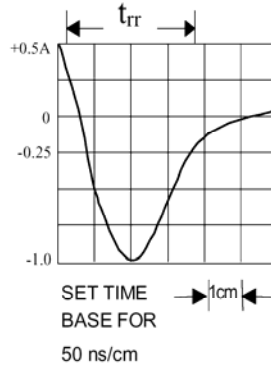


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

Fig. 2-MAXIMUM AVERAGE FORWARD CURRENT RATING

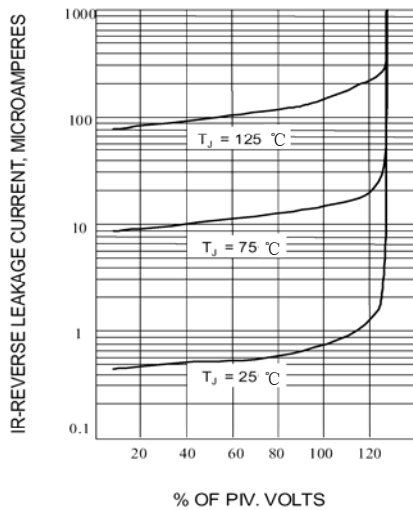


Fig. 3-TYPICAL REVERSE CHARACTERISTICS

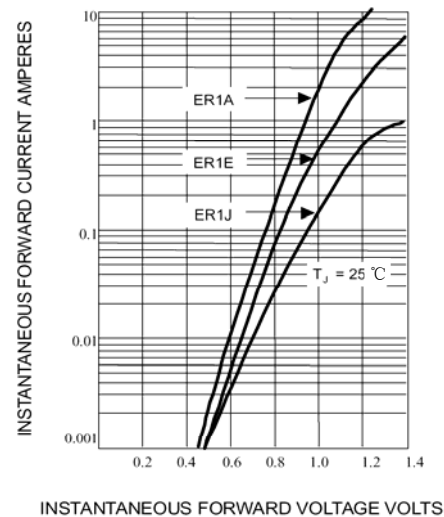


Fig. 4-TYPICAL FORWARD CHARACTERISTICS

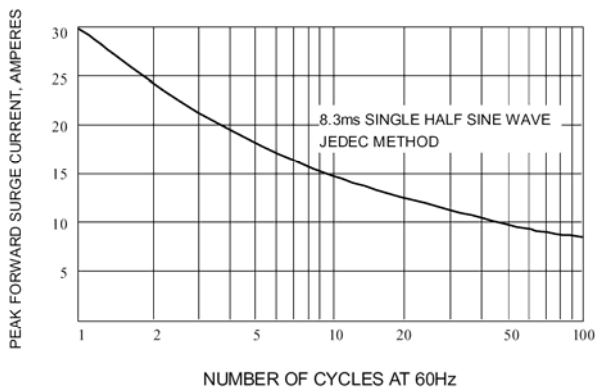


Fig. 5-MAXIMUM NON-REPETITIVE SURGE CURRENT

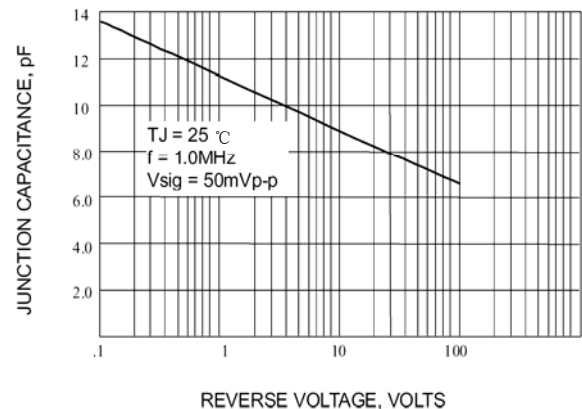


Fig. 6-TYPICAL JUNCTION CAPACITANCE