# ER1000~ER1006

## SUPERFAST RECOVERY RECTIFIERS

**VOLTAGE** 50 to 600 Volt **CURRENT** 10 Ampere

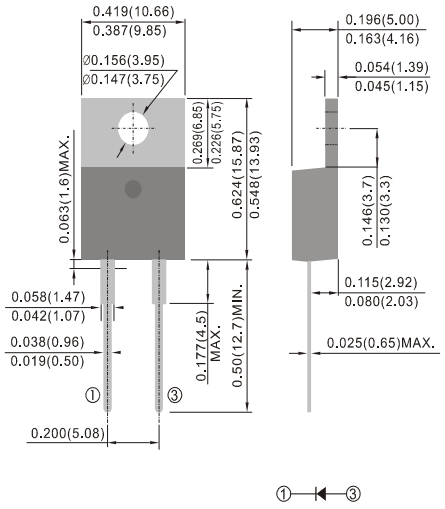
### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O. Flame Retardant Epoxy Molding Compound.
- Low power loss, high efficiency.
- Low forward voltage, high current capability
- High surge capacity.
- Super fast recovery times, high voltage.
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

### MECHANICAL DATA

- Case: TO-220AC Molded plastic
- Terminals: Lead solderable per MIL-STD-750, Method 2026
- Polarity: As marked.
- Standard packaging: Any
- Weight: 0.067 ounces, 1.89 grams.

**TO-220AC** Unit : inch(mm)




### MAXIMUM RATING AND ELECTRICAL CHARACTERISTICS

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

| PARAMETER | SYMBOL | ER1000 | ER1001 | ER1001A | ER1002 | ER1003 | ER1004 | ER1006 | UNITS |
|---|---|---|---|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 35 | 70 | 105 | 140 | 210 | 280 | 420 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| Maximum Average Forward Current at $T_C$ =100°C | $I_{F(AV)}$ | 10 | | | | | | | A |
| Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load | $I_{FSM}$ | 150 | | | | | | | A |
| Maximum Forward Voltage at 10A, per element | $V_F$ | 0.95 | | | | 1.3 | | 1.7 | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage $T_J$=25°C / $T_J$=100°C | $I_R$ | 1 / 500 | | | | | | | μA |
| Maximum Reverse Recovery Time (Note 2) | $t_{rr}$ | 35 | | | | 50 | | | ns |
| Typical Junction Capacitance (Note 1) | $C_J$ | 62 | | | | | | | pF |
| Typical Thermal Resistance | $R_{\theta JC}$ | 3 | | | | | | | °C / W |
| Operating Junction and Storage Temperature Range | $T_J$,$T_{STG}$ | -55 to +150 | | | | | | | °C |

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4 VDC.
2. Reverse Recovery Test Conditions: $I_F$=0.5A, $I_R$=1A, Irr=0.25A.
3. Both Bonding and Chip structure are available.

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## RATING AND CHARACTERISTIC CURVES

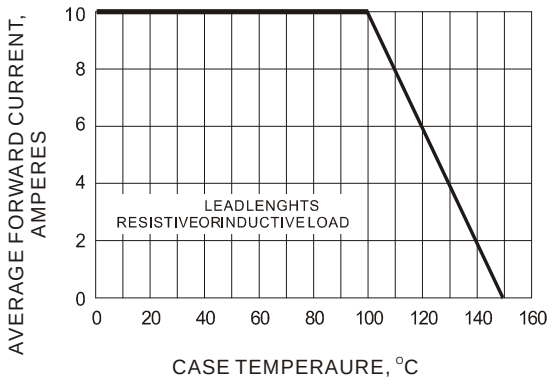



Fig.1- FORWARD CURRENT DERATING CURVE

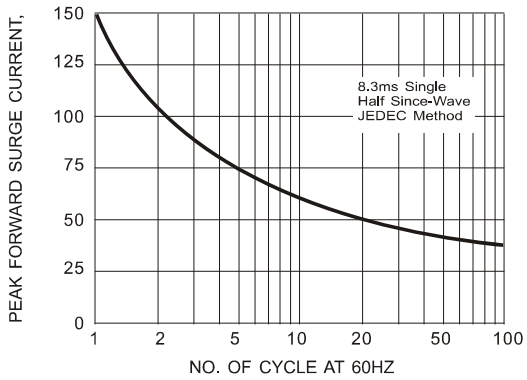



Fig.2- MAXIMUM NON - REPETITIVE SURGE CURRENT

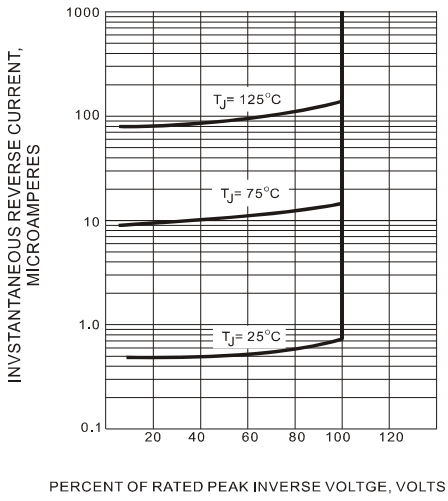



Fig.3- TYPICAL REVERSE CHARACTERISTIC

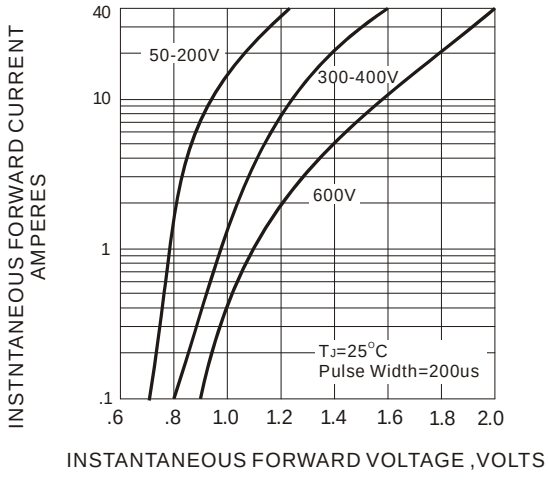



Fig.4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC

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## Part No_packing code_Version

ER1000_T0_00001

## For example :

**RB500V-40_R2_00001**




| Packing Code XX | | | | Version Code XXXXX | | |
|---|---|---|---|---|---|---|
| Packing type | 1st Code | Packing size code | 2nd Code | HF or RoHS | 1st Code | 2nd~5th Code |
| Tape and Ammunition Box (T/B) | A | N/A | 0 | HF | 0 | serial number |
| Tape and Reel (T/R) | R | 7" | 1 | RoHS | 1 | serial number |
| Bulk Packing (B/P) | B | 13" | 2 | | | |
| Tube Packing (T/P) | T | 26mm | X | | | |
| Tape and Reel (Right Oriented) (TRR) | S | 52mm | Y | | | |
| Tape and Reel (Left Oriented) (TRL) | L | PANASERT T/B CATHODE UP (PBCU) | U | | | |
| FORMING | F | PANASERT T/B CATHODE DOWN (PBCD) | D | | | |

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