



# ER1000CT~ER1006CT

## SUPERFAST RECOVERY RECTIFIERS

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

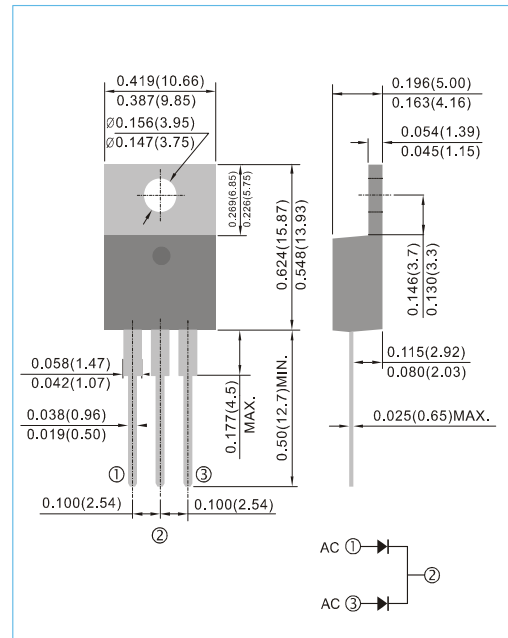
### FEATURES

- 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-220AB 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-220AB** 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          | ER1000CT    | ER1001CT | ER1001ACT | ER1002CT | ER1003CT                    | ER1004CT      | ER1006CT | 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 $T_c = 100^\circ\text{C}$  | $I_{F(AV)}$     | 10          |          |           |          |                             |               |          | A     |
| Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load                            | $I_{FSM}$       | 150         |          |           |          |                             |               |          | A     |
| Maximum Forward Voltage at 5A, per element  | $V_F$           | 0.95        |          |           | 1.3      |                             | 1.7           | V        |       |
| Maximum DC Reverse Current at Rated DC Blocking Voltage $T_j = 25^\circ\text{C}$<br>$T_j = 100^\circ\text{C}$ | $I_R$           | 1           |          |           |          | 500                         | $\mu\text{A}$ |          |       |
| Maximum Reverse Recovery Time (Note 2)  | $t_{rr}$        | 35          |          |           |          | ns                          |               |          |       |
| Typical Junction Capacitance (Note 1)   | $C_j$           | 62          |          |           |          | pF                          |               |          |       |
| Typical Thermal Resistance  | $R_{\theta JC}$ | 3           |          |           |          | $^\circ\text{C} / \text{W}$ |               |          |       |
| Operating Junction and Storage Temperature Range  | $T_j, T_{STG}$  | -55 to +150 |          |           |          | $^\circ\text{C}$            |               |          |       |

#### NOTES :

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



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## RATING AND CHARACTERISTIC CURVES

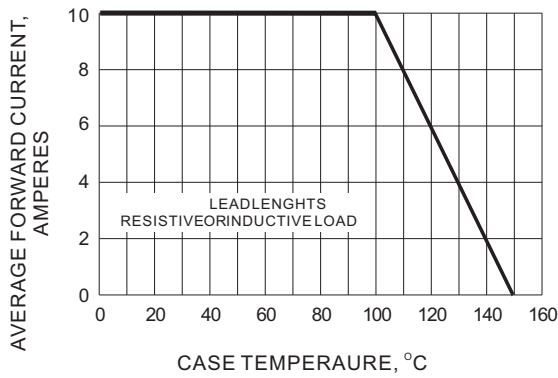


Fig.1- FORWARD CURRENT DERATING CURVE

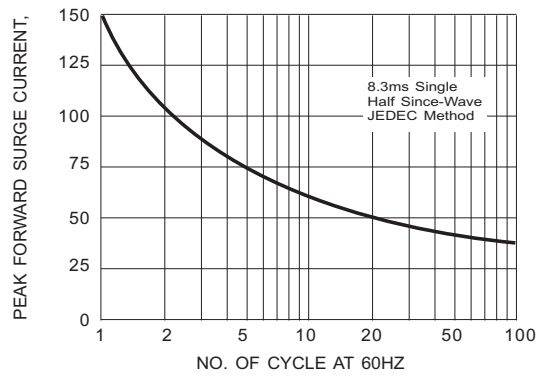


Fig.2- MAXIMUM NON - REPETITIVE SURGE CURRENT

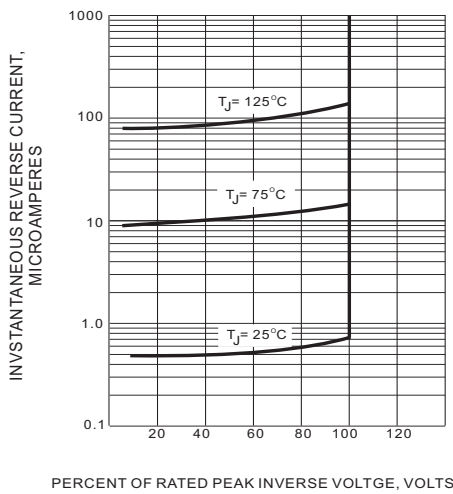


Fig.3- TYPICAL REVERSE CHARACTERISTIC

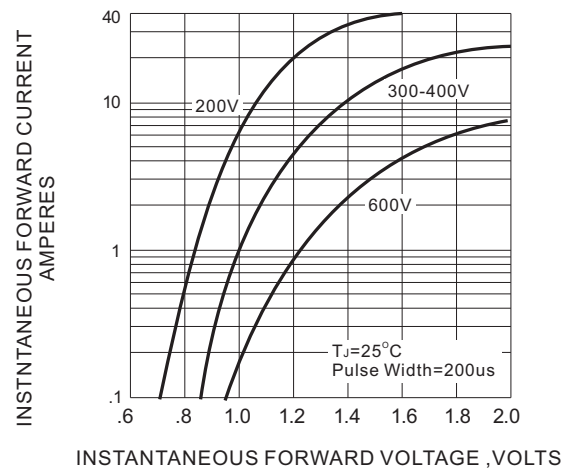


Fig.4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC



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Part No\_packing code\_Version

ER1000CT\_T0\_00001

For example :

**RB500V-40\_R2\_00001**



| Packing Code <b>XX</b>               |                      |                                  |                      | Version Code <b>XXXXX</b> |                      |                                       |
|--------------------------------------|----------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
| Packing type                         | 1 <sup>st</sup> Code | Packing size code                | 2 <sup>nd</sup> Code | HF or RoHS                | 1 <sup>st</sup> Code | 2 <sup>nd</sup> ~5 <sup>th</sup> 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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