



# ER1000~ER1006

## SUPERFAST RECOVERY RECTIFIERS

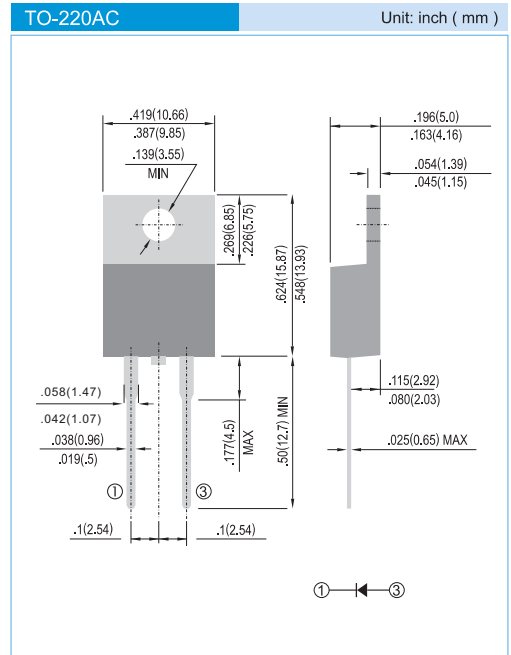
**VOLTAGE** 50 to 600 Volts **CURRENT** 10 Amperes

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O. Flame Retardant Epoxy Molding Compound.
- Exceeds environmental standards of MIL-S-19500/228
- Low power loss, high efficiency.
- Low forward voltage, high current capability
- High surge capacity.
- Super fast recovery times, high voltage.
- In compliance with EU RoHS 2002/95/EC directives

### MECHANICAL DATA

- Case: TO-220AC Molded plastic
- Terminals: Lead solderable per MIL-STD-750, Method 2026
- Polarity: As marked.
- Standard packaging: Any
- Weight: 0.0655 ounces, 1.859 grams.



### 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 $T_c = 100^\circ\text{C}$	$I_{F(AV)}$	10.0							A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	150							A
Maximum Forward Voltage at 10A, per element	$V_F$	0.95			1.30		1.7	V	
Maximum DC Reverse Current at $T_j = 25^\circ\text{C}$ Rated DC Blocking Voltage $T_j = 100^\circ\text{C}$	$I_R$	1.0			500			$\mu\text{A}$	
Maximum Reverse Recovery Time (Note 2)	$t_{rr}$	35			50			ns	
Typical Junction capacitance (Note 1)	$C_J$	62							pF
Typical Thermal Resistance	$R_{\theta JC}$	3.0							$^\circ\text{C} / \text{W}$
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 4.0 VDC.
2. Reverse Recovery Test Conditions:  $I_F = .5\text{A}$ ,  $I_R = 1\text{A}$ ,  $I_{rr} = .25\text{A}$ .
3. Both Bonding and Chip structure are available.



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## RATING AND CHARACTERISTIC CURVES

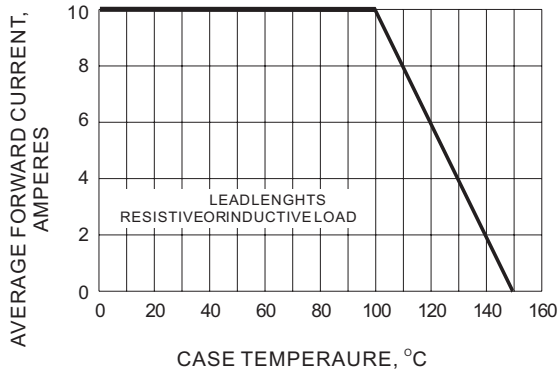


Fig.1- FORWARD CURRENT DERATING CURVE

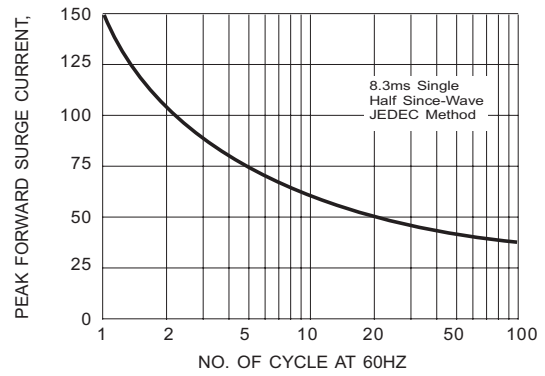


Fig.2- MAXIMUM NON - REPETITIVE SURGE CURRENT

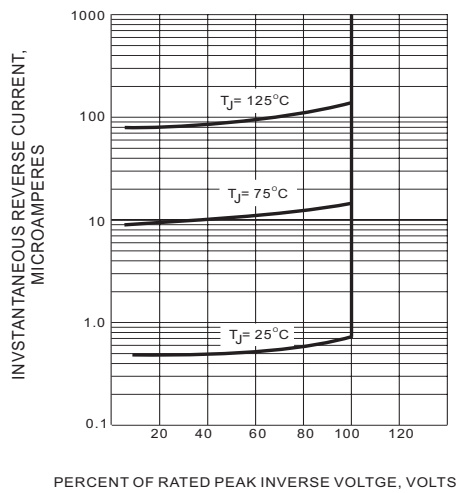


Fig.3- TYPICAL REVERSE CHARACTERISTIC

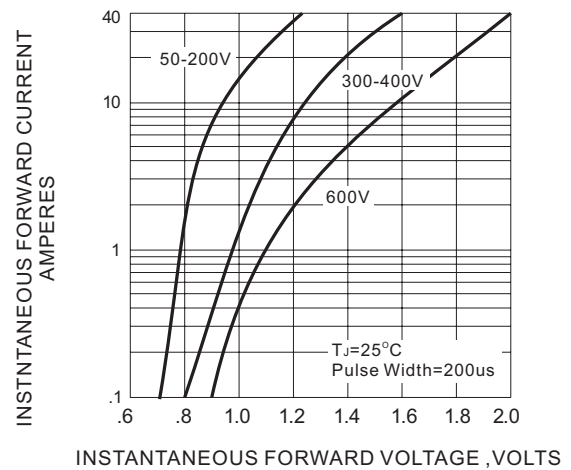


Fig.4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC