

# ER1000 THRU ER1004

## SUPERFAST RECOVERY RECTIFIERS

**VOLTAGE: 50 to 400 Volts    CURRENT: 10.0 Amperes**

TO-220AB

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O utilizing 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
- Epitaxial chip construction

### MECHANICAL DATA

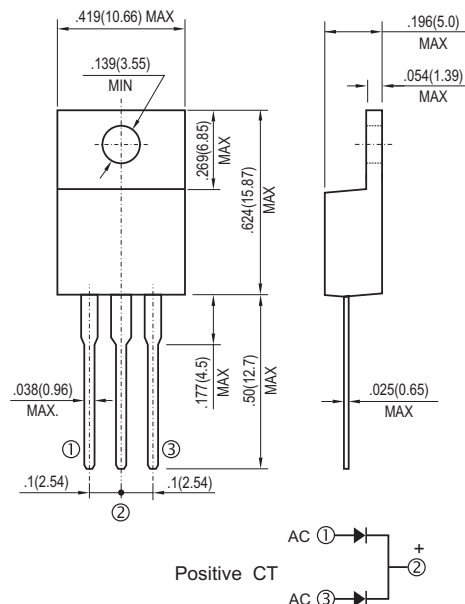
Case: TO-220AB molded plastic

Terminals: Lead, solderable per MIL-STD-202, Method 208

Polarity: As marked

Mounting Position: Any

Weight: 0.08 ounces, 2.24 grams



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, Resistive or inductive load.

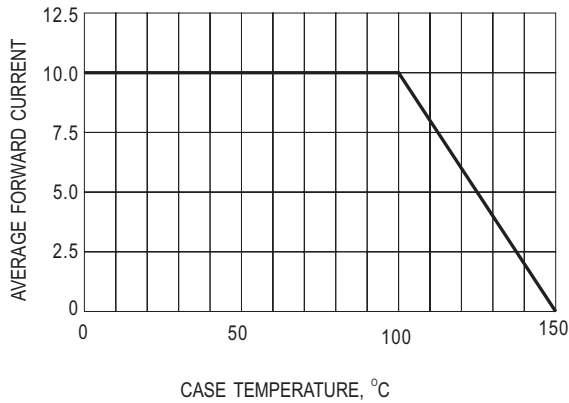
For capacitive load, derate current by 20%.

	ER1000	ER1001	ER1001A	ER1002	ER1003	ER1004	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	300	400	V
Maximum RMS Voltage	35	70	105	140	210	320	V
Maximum DC Blocking Voltage	50	100	150	200	300	400	V
Maximum Average Forward Rectified $T_C=100^\circ\text{C}$	10	10	10	10	10	10	A
Peak Forward Surge Current, IFM (surge):8.3ms single half sine-wave superimposed on rated load (JEDEC method)	75	75	75	75	75	75	A
Maximum Forward Voltage at 10.0A per element.	0.95	0.95	0.95	0.95	1.30	1.30	V
Maximum DC Reverse Current at Rated $T_A=25^\circ\text{C}$	10	10	10	10	10	10	$\mu\text{A}$
DC Blocking Voltage per element $T_A=125^\circ\text{C}$	500	500	500	500	500	500	$\mu\text{A}$
Typical Junction capacitance (Note 1)	62	62	62	62	62	62	pF
Maximum Reverse Recovery Time(Note 2)	35	35	35	35	50	50	ns
Typical Junction Resistance(Note 3) R $\theta\text{JC}$	3.0	3.0	3.0	3.0	3.0	3.0	$^\circ\text{C/W}$
Operating and Storage Temperature Range $T_J$	-55 to +150						$^\circ\text{C}$

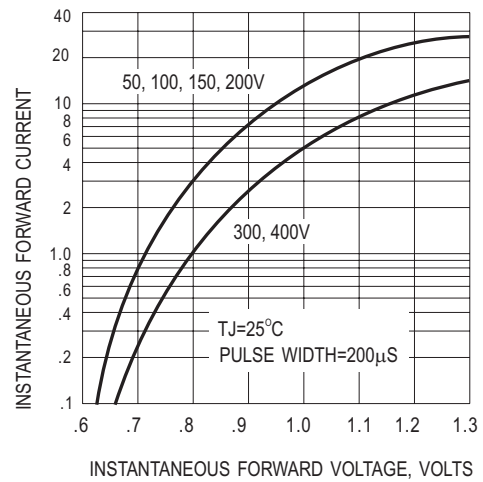
#### NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 VDC
2. Reverse Recovery Test Conditions:  $I_F=.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{rr}=0.25\text{A}$
3. Thermal resistance junction to CASE

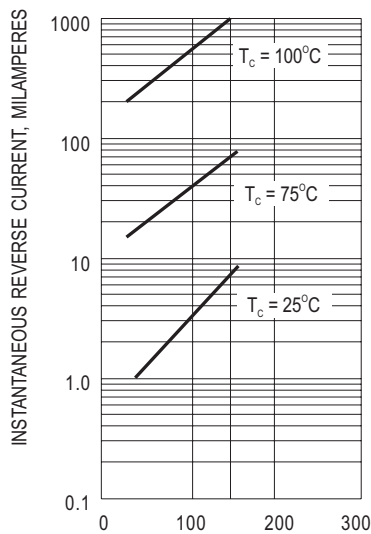
**RATING AND CHARACTERISTIC CURVES  
ER1000 THRU ER1004**



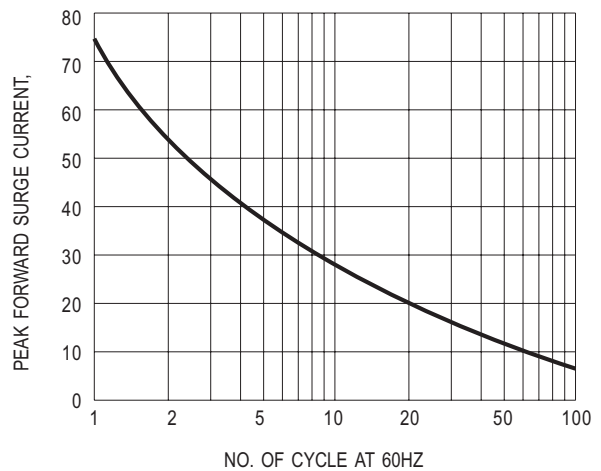
**Fig.1- FORWARD CURRENT DERATING CURVE**



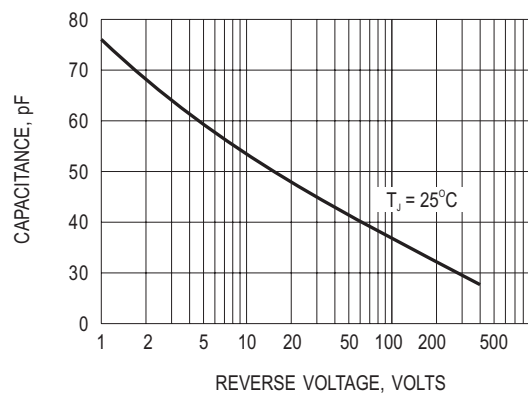
**Fig.2- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC**



**Fig.3- TYPICAL REVERSE CHARACTERISTIC**



**Fig.4- MAXIMUM NON-REPETITIVE SURGE CURRENT**



**Fig.5- TYPICAL JUNCTION CAPACITANCE**