



# ER500~ER506

## GLASS PASSIVATED JUNCTION SUPERFAST RECOVERY RECTIFIERS

**VOLTAGE** 50 to 600 Volts **CURRENT** 5.0 Amperes

**DO-201AD**

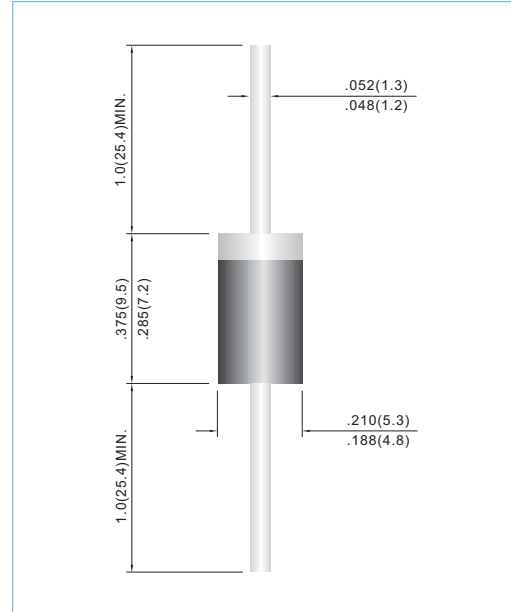
Unit: inch(mm)

### FEATURES

- Superfast recovery times-epitaxial construction.
- Low forward voltage, high current capability.
- Exceeds environmental standards of MIL-S-19500/228.
- Hermetically sealed.
- Low leakage.
- High surge capability.
- Plastic package has Underwriters Laboratories Flammability Classification 94V-O utilizing Flame Retardant Epoxy Molding Compound.
- In compliance with EU RoHS 2002/95/EC directives

### MECHANICAL DATA

- Case: Molded plastic, DO-201AD
- Terminals: Axial leads, solderable to MIL-STD-750, Method 2026
- Polarity: Color Band denotes cathode end
- Mounting Position: Any
- Weight: 0.0395 ounce, 1.122 gram



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Resistive or inductive load, 60Hz.

PARAMETER	SYMBOL	ER500	ER501	ER501A	ER502	ER503	ER504	ER506	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 .375" (9.5mm) lead length at $T_A=55^\circ\text{C}$	$I_{F(AV)}$	5.0							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 5.0A	$V_F$	0.95			1.25		1.70		V
Maximum DC Reverse Current $T_J=25^\circ\text{C}$ at Rated DC Blocking Voltage $T_J=125^\circ\text{C}$	$I_R$	1.0				300			$\mu\text{A}$
Maximum Reverse Recovery Time(Note 1)	$t_{rr}$	35				ns			
Typical Junction capacitance (Note 2)	$C_J$	65				pF			
Typical Junction Resistance(Note 3)	$R_{\theta JA}$	20				$^\circ\text{C} / \text{W}$			
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150							$^\circ\text{C}$

NOTES:1. Reverse Recovery Test Conditions:  $I_F=5A, I_R=1A, I_{rr}=25A$

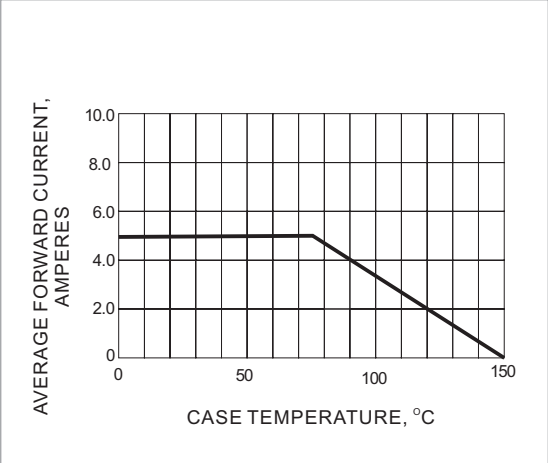
2. Measured at 1 MHz and applied reverse voltage of 4.0 VDC

3. Thermal resistance from junction to ambient and from junction to lead length 0.375"(9.5mm) P.C.B. mounted

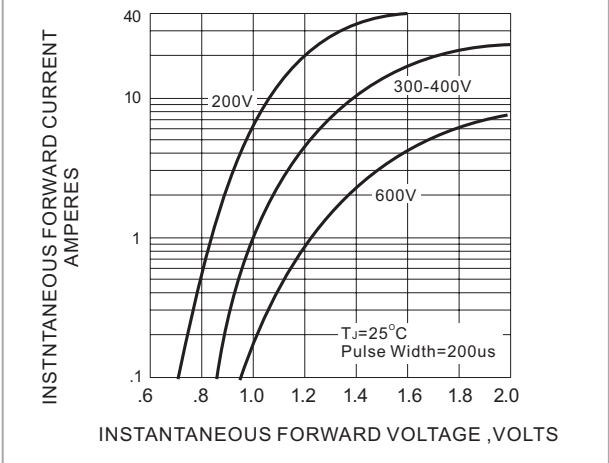


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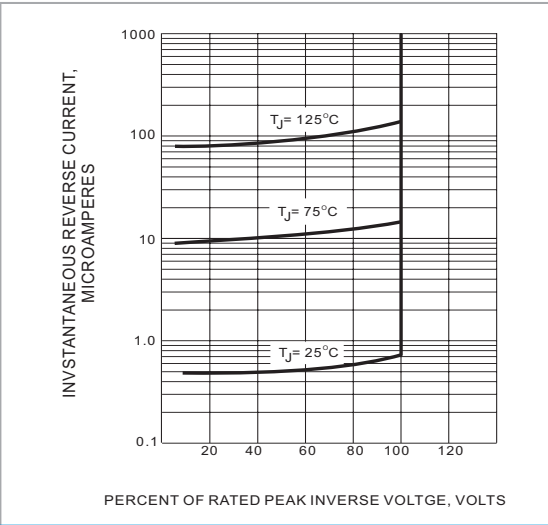
## RATING AND CHARACTERISTIC CURVES



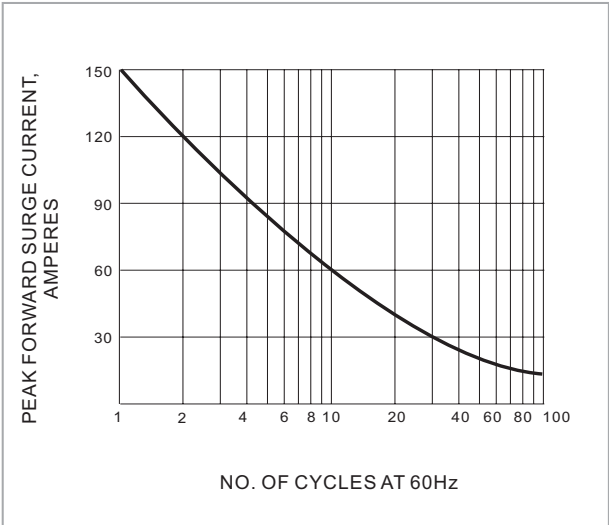
**Fig.1-FORWARD CURRENT DERATING CURVE**



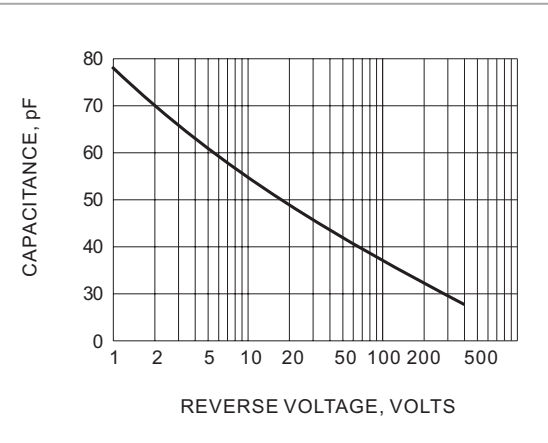
**Fig.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC**



**Fig.3-TYPICAL REVERSE CHARACTERISTICS**



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



**Fig.5-TYPICAL JUNCTION CAPACITANCE**