



# ER500~ER506

## GLASS PASSIVATED JUNCTION SUPERFAST RECOVERY RECTIFIERS

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

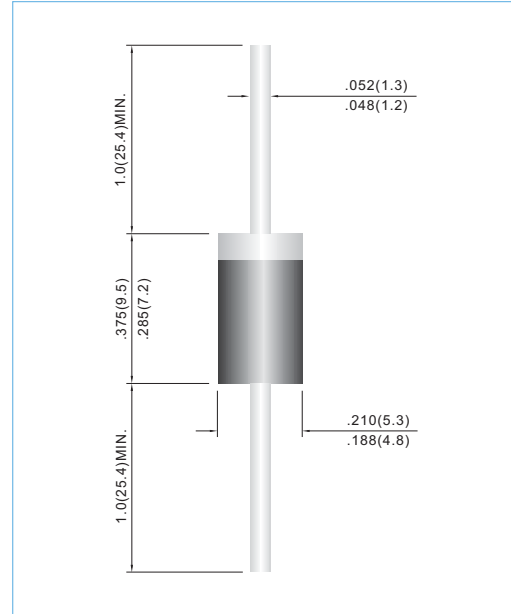
**DO-201AD** Unit: inch(mm)

### 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.
- Lead free in compliance with EU RoHS 2011/65/EU directive

### 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:  $I_F=5A, I_R=1A, I_{rr}=25A$

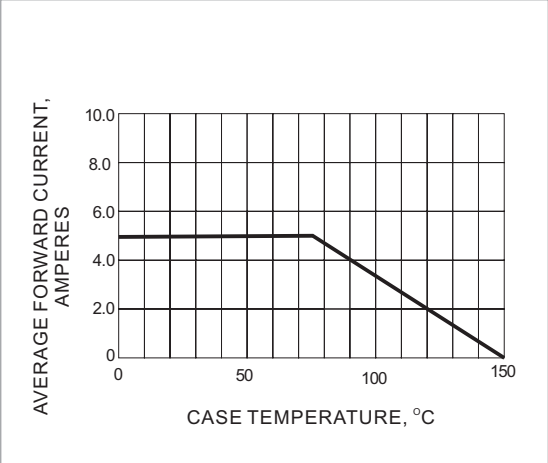
2. Measured at 1 MHz and applied reverse voltage of 4.0 VDC

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

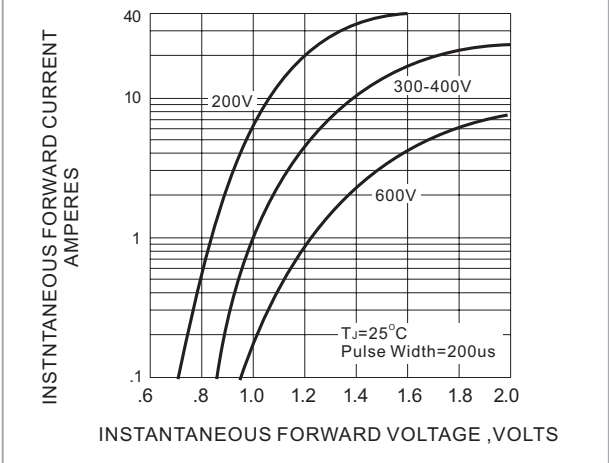


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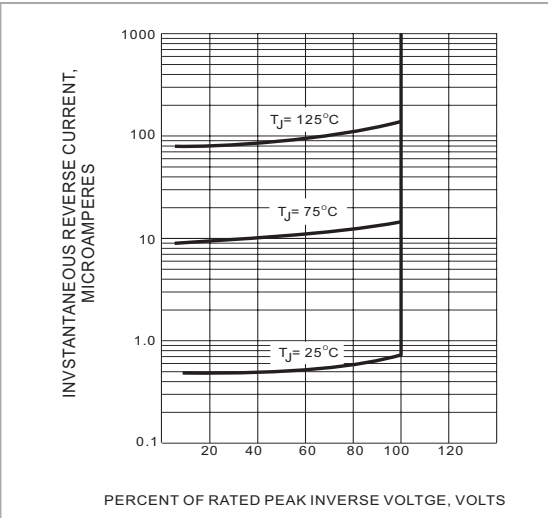
## RATING AND CHARACTERISTIC CURVES



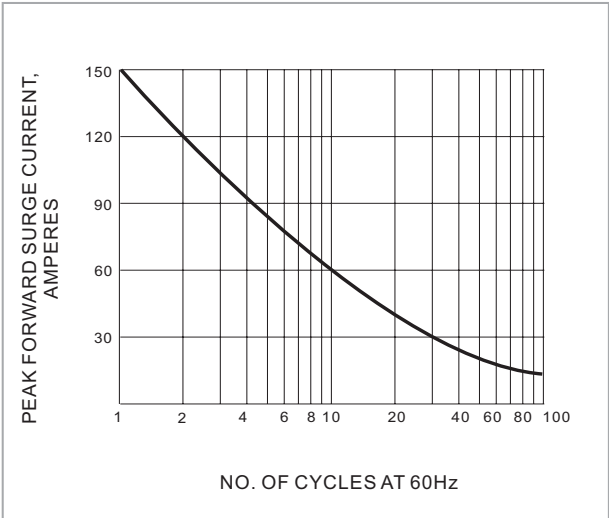
**Fig.1-FORWARD CURRENT DERATING CURVE**



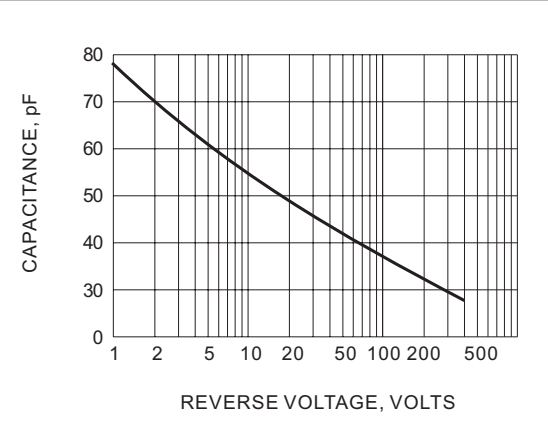
**Fig.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC**



**Fig.3-TYPICAL REVERSE CHARACTERISTICS**



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



**Fig.5-TYPICAL JUNCTION CAPACITANCE**



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### Part No\_packing code\_Version

ER500\_AY\_00001  
ER500\_AY\_10001  
ER500\_B0\_00001  
ER500\_B0\_10001  
ER500\_R2\_00001  
ER500\_R2\_10001

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)	<b>A</b>	N/A	<b>0</b>	<b>HF</b>	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	<b>RoHS</b>	<b>1</b>	serial number
Bulk Packing (B/P)	<b>B</b>	13"	<b>2</b>			
Tube Packing (T/P)	<b>T</b>	26mm	<b>X</b>			
Tape and Reel (Right Oriented) (TRR)	<b>S</b>	52mm	<b>Y</b>			
Tape and Reel (Left Oriented) (TRL)	<b>L</b>	PANASERT T/B CATHODE UP (PBCU)	<b>U</b>			
FORMING	<b>F</b>	PANASERT T/B CATHODE DOWN (PBCD)	<b>D</b>			



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