

# BY500-100 THRU BY500-800

## SOFT RECOVERY FAST-SWITCHING PLASTIC RECTIFIERS

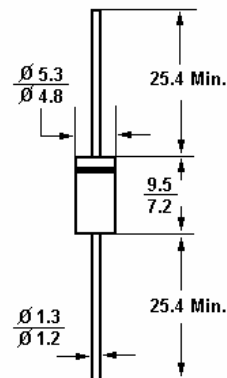
Reverse Voltage – 50 to 1000 Volts

Forward Current – 5.0 Ampere

DO-201AD

### Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Fast switching for high efficiency
- Construction utilizes void-free molded plastic technique
- High surge current capability
- Especially designed for applications such as switch mode power supplies, inverters, converters, TV scanning, Ultrasonic-systems, speed controlled DC motors, low RF interference and free wheeling diode circuits



Dimensions in mm

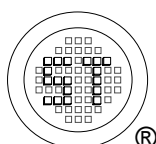
### Mechanical Data

- **Case:** Molded plastic, DO-201AD.
- **Terminals:** Plated axial leads, solderable per MIL-STD-202, method 208
- **Polarity:** Color band denotes cathode end.
- **Mounting Position:** Any.

**Absolute Maximum Ratings and Characteristics @ 25°C unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.**

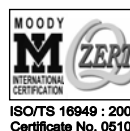
	Symbols	BY 500-50	BY 500-100	BY 500-200	BY 500-400	BY 500-600	BY 500-800	BY 500-1000	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Average forward rectified current at $T_L = 45^\circ\text{C}$	$I_{(AV)}$	5.0							Amps
Peak forward surge current 8.3mS single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	200							Amps
Maximum instantaneous forward voltage At 5.0A DC, $T_A = 25^\circ\text{C}$	$V_F$	1.35							Volts
Maximum DC reverse current $T_A = 25^\circ\text{C}$ at rated DC blocking voltage $T_A = 100^\circ\text{C}$	$I_R$	10 1000							$\mu\text{A}$
Maximum reverse recovery time (Note 1)	$T_{rr}$	200							nS
Typical junction capacitance (Note 2)	$C_J$	28							pF
Typical thermal resistance (Note 3)	$R_{\theta JA}$	22							$^\circ\text{C/W}$
Operating and storage temperature range	$T_J, T_S$	-50 to +125							$^\circ\text{C}$

- 1) Reverse recovery test conditions:  $I_F = 0.5\text{A}$ ,  $I_R = 1\text{A}$ ,  $I_{rr} = 0.25\text{A}$
- 2) Measured at 1MHz and applied reverse voltage of 4volts
- 3) Thermal resistance from junction to ambient and from junction to lead at 0.375"(9.5mm) lead length P.C.B, Mounted with 0.8x0.8"(20x20mm) copper pads.



**SEMTECH ELECTRONICS LTD.**

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ISO/TS 16949 : 2002  
Certificate No. 05103

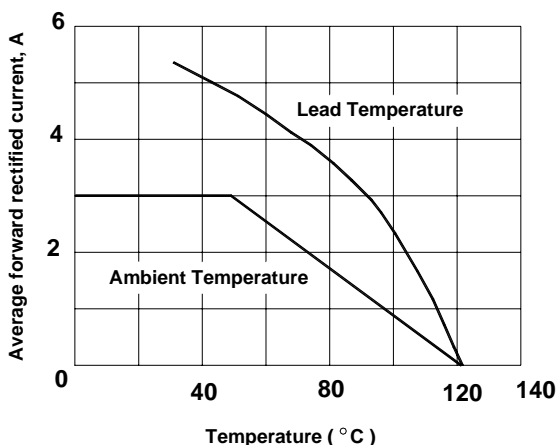
ISO 14001:2004  
Certificate No. 7116

ISO 9001:2000  
Certificate No. 0506098

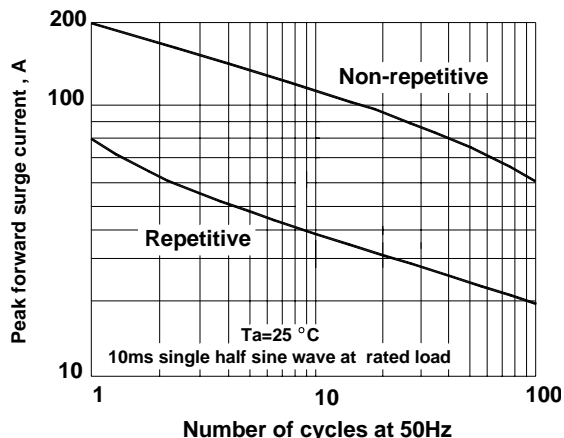
Dated : 17/04/2003

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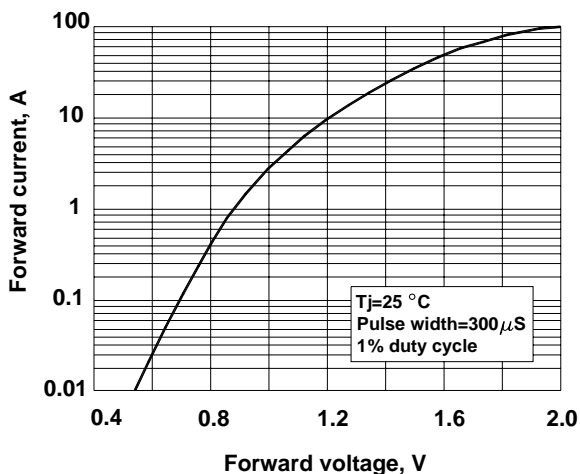
**Forward current derating curve**



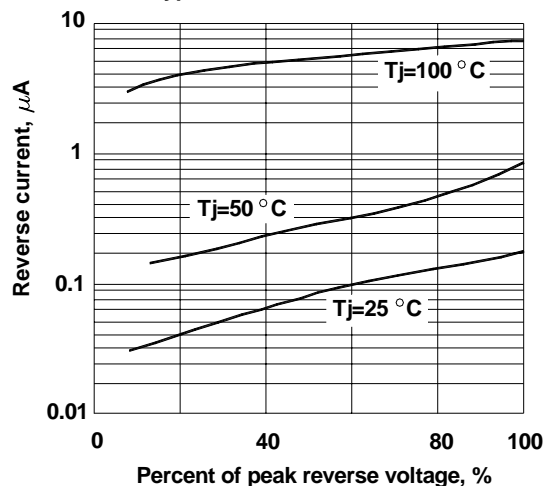
**Maximum peak forward surge current**



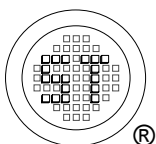
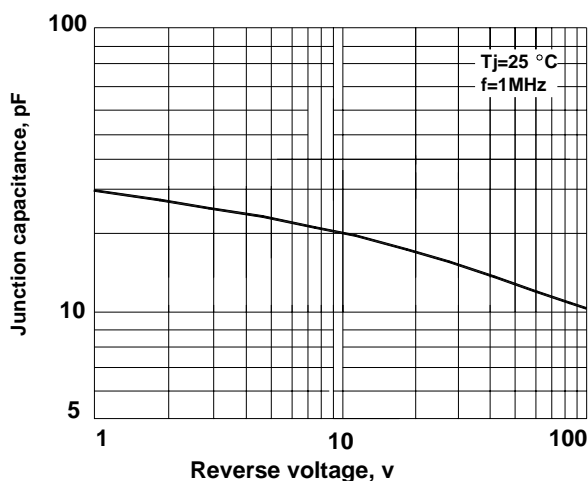
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical junction capacitance**



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