

BY500-100, BY500-200, BY500-400, BY500-600, BY500-800

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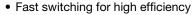
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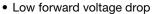
Soft Recovery Fast Switching Plastic Rectifier



PRIMARY CHARACTERISTICS						
I _{F(AV)}	5.0 A					
V_{RRM}	100 V, 200 V, 400 V, 600 V, 800 V					
I _{FSM}	200 A					
t _{rr}	200 ns					
I _R	10 μA					
V_{F}	1.35 V					
T _J max.	125 °C					
Package	DO-201AD					
Diode variation	Single die					

FEATURES





Low leakage current

High forward surge capability

• Solder dip 275 °C max. 10 s, per JESD 22-B106

 Material categorization: For definitions of compliance please see www.vishay.com/doc?99912



RoHS

TYPICAL APPLICATIONS

For use in medium frequency rectification of switching mode power supplies, inverters, converters, TV sanning, Ultrasonic-system, speed controlled DC motors, low RF interference and freewheeling diode circuit.

Note

• These devices are not AEC-Q101 qualified.

MECHANICAL DATA

Case: DO-201AD, molded epoxy body

Molding compound meets UL 94 V-0 flammability rating Base P/N-E3 - RoHS-compliant, commercial grade

Terminals: Matte tin plated leads, solderable per

J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test **Polarity:** Color band denotes cathode end

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	BY500-100	BY500-200	BY500-400	BY500-600	BY500-800	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	100	200	400	600	800	V
Maximum RMS voltage	V_{RMS}	70	140	280	420	560	V
Maximum DC blocking voltage	V_{DC}	100 200 400 600 800				800	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_L = 45 ^{\circ}\text{C}$	I _{F(AV)}	5.0					Α
Peak forward surge current 10 ms single half sine-wave superimposed on rated load at T _A = 25 °C	I _{FSM}	200				Α	
Maximum repetitive peak forward surge	I _{FRM}	10					Α
Operating junction temperature range	T_J	- 50 to + 125					°C
Storage temperature range	T_{STG}	- 50 to + 150					°C

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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)									
PARAMETER	TEST CONDITIONS		SYMBOL	BY500-100	BY500-200	BY500-400	BY500-600	BY500-800	UNIT
Maximum instantaneous forward voltage	5.0 A		V _F 1.35					V	
Maximum DC reverse current at rated DC		T _A = 25 °C	_	10					μΑ
blocking voltage	T _A = 100 °C	- I _R			1.0			mA	
Maximum reverse recovery time	I _F = 1.0 A, V _R = 30 V, dl/dt = 50 A/µs,		t _{rr}	200					ns
Maximum reverse recovery current	$I_{rr} = 10$		I _{RM(REC)}	2.0					Α
Typical junction capacitance	4.0 V, 1	MHz	CJ	28					pF

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	BOL BY500-100 BY500-200 BY500-400 BY500-600 BY500-800 UNIT					UNIT
Typical thermal resistance	R _{0JA} (1)	22 °C/				°C/W	

Note

⁽¹⁾ Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length with both leads to heat sink

ORDERING INFORMATION (Example)									
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE					
BY500-400-E3/54	1.1	54	1400	13" diameter paper tape and reel					
BY500-400-E3/73	1.1	73	1000	Ammo pack packaging					

RATINGS AND CHARACTERISTICS CURVES (T_A = 25 °C unless otherwise noted)

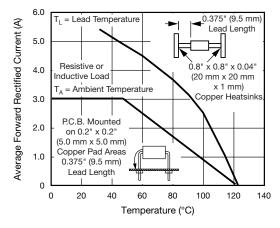


Fig. 1 - Forward Current Derating Curves

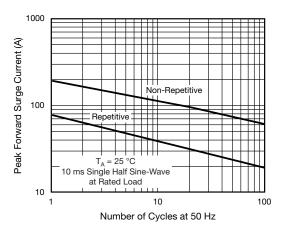


Fig. 2 - Maximum Peak Forward Surge Current

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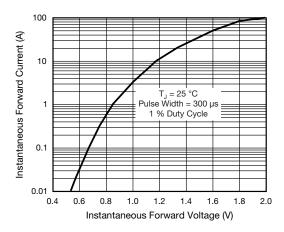


Fig. 3 - Typical Instantaneous Forward Characteristics

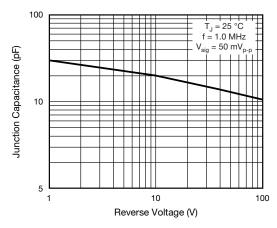


Fig. 5 - Typical Junction Capacitance

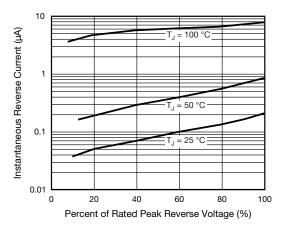
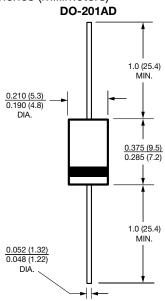


Fig. 4 - Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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