SOFT RECOVERY FAST-SWITCHING PLASTIC RECTIFIERS

Reverse Voltage – 50 to 1000 V Forward Current – 5 A

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

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

Ratings at 25 °C unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20 %.

Parameter	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	V
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V _{DC}	50	100	200	400	600	800	1000	V
Average Forward Rectified Current at T _L = 45 $^{\circ}$ C	I _{F(AV)}	5							А
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method)	I _{FSM}	200							А
Maximum in Stantaneous Forward Voltage at 5 A	VF	1.35						V	
Maximum DC Reverse Current $T_A = 25 \ ^{\circ}C$ at Rated DC Blocking Voltage $T_A = 100 \ ^{\circ}C$	I _R	10 1000							μA
Maximum Reverse Recovery Time 1)	T _{rr}	200						ns	
Typical Junction Capacitance ²⁾	CJ	28						pF	
Typical Thermal Resistance 3)	$R_{\theta JA}$	22						°C/W	
Operating and Storage Temperature Range	T _j , T _{stg}	- 50 to + 125							°C

 $^{1)}$ Reverse recovery test conditions: I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A

 $^{\rm 2)}$ Measured at 1 MH_z and applied reverse voltage of 4 V

³⁾ Thermal resistance from junction to ambient and from junction to lead at 0.375"(9.5 mm) lead length P.C.B, Mounted with 0.8 x 0.8"(20 x 20 mm) copper pads.



<u>Ø 5.3</u> 25.4 Min.

Ø 4.8

Ø 1.3

Ø 1.2

DO-201AD

7.2

25.4 Min.





Forward current derating curve



Typical Forward Characteristics



10 T j=100 °C 1 1 1 T j=50 °C T j=25 °C 0.01 0 40 80 100 Percent of peak reverse voltage, %

Typical Reverse Characteristics





