

# BY296 THRU BY299

## FAST RECOVERY RECTIFIERS

Reverse Voltage – 100 to 800 V

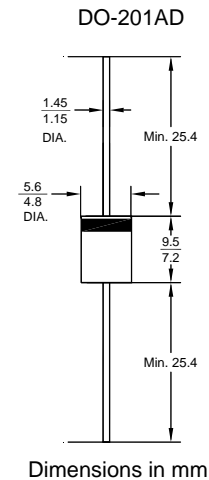
Forward Current – 2 A

### Features

- Low forward voltage drop
- Low cost
- Low leakage
- High current capability

### Mechanical Data

- **Case:** DO-201AD, Molded plastic
- **Terminals:** Axial leads, solderable per MIL-STD -202, method 208 guaranteed
- **Polarity:** Color band denotes cathode



### Absolute Maximum Ratings and Characteristics

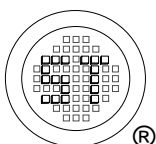
Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbols	BY296	BY297	BY298	BY299	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	100	200	400	800	V
Maximum RMS Voltage	$V_{RMS}$	70	140	280	560	V
Maximum DC Blocking Voltage	$V_{DC}$	100	200	400	800	V
Maximum Average Forward Rectified Current 0.375" (9.5 mm) lead length at $T_A = 75^\circ\text{C}$	$I_{F(AV)}$	2				A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load at $T_J = 125^\circ\text{C}$	$I_{FSM}$	70				A
Maximum Forward Voltage at 2 A	$V_F$	1.3				V
Maximum Reverse Current at $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage at $T_A = 100^\circ\text{C}$	$I_R$	10 100				$\mu\text{A}$
Maximum Reverse Recovery Time <sup>1)</sup>	$t_{rr}$	500				ns
Typical Junction Capacitance <sup>2)</sup>	$C_J$	32				pF
Typical Thermal Resistance <sup>3)</sup>	$R_{\theta JA}$	22				$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_S$	- 55 to + 150				$^\circ\text{C}$

<sup>1)</sup> Measured with  $I_F = 0.5\text{ A}$ ,  $I_R = 1\text{ A}$ ,  $I_{rr} = 0.25\text{ A}$ .

<sup>2)</sup> Measured at 1 MHz and applied reverse voltage of 4V D.C.

<sup>3)</sup> Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length.



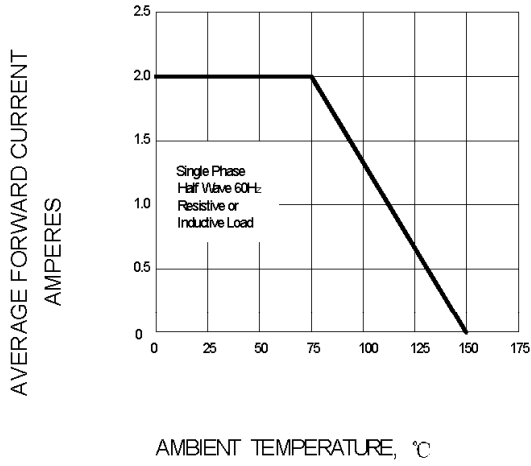
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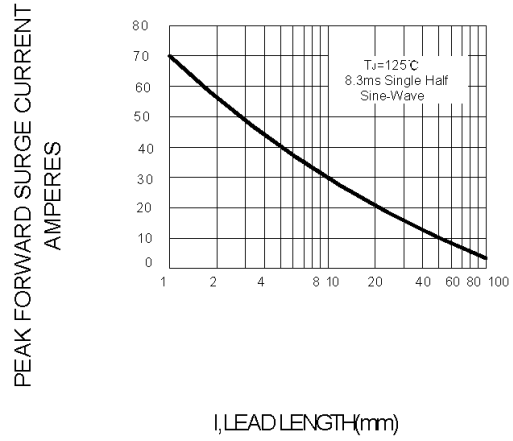


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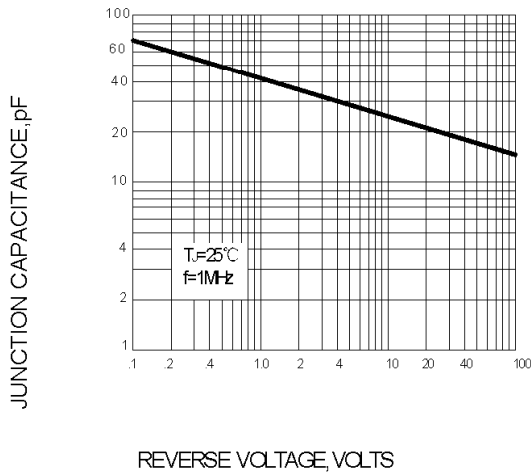
**FIG.1 – FORWARD CURRENT DERATING CURVE**



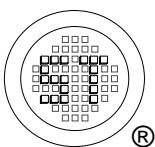
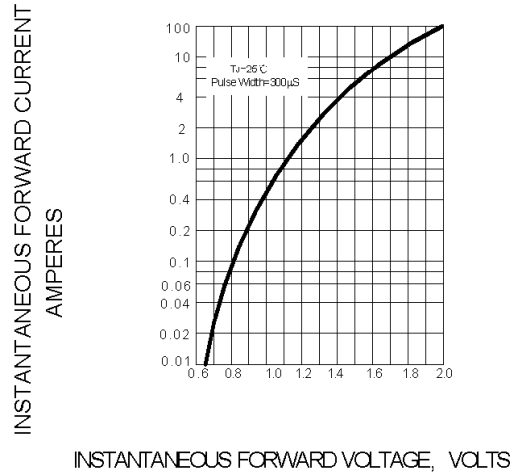
**FIG.2 – MAXIMUM NON-REPETITIVE SURGE CURRENT**



**FIG.3 – TYPICAL JUNCTION CAPACITANCE**



**FIG.4 – TYPICAL FORWARD CHARACTERISTICS**



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