

BY296 THRU BY299

FAST RECOVERY RECTIFIERS

Reverse Voltage – 100 to 800 V

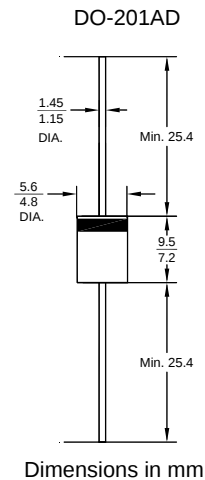
Forward Current – 2 A

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

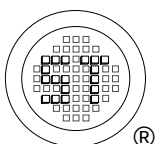
Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

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				μA
Maximum Reverse Recovery Time ¹⁾	t_{rr}	500				ns
Typical Junction Capacitance ²⁾	C_J	32				pF
Typical Thermal Resistance ³⁾	$R_{\theta JA}$	22				$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_J, T_S	- 55 to + 150				$^\circ\text{C}$

¹⁾ Measured with $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $t_{rr} = 0.25\text{ A}$.

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

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



SEMTECH ELECTRONICS LTD.

(Subsidiary of Sino-Tech International Holdings Limited, a company
listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949:2002
Certificate No. 05103



ISO 14001:2004
Certificate No. 7116



ISO 9001:2000
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FIG.1 – FORWARD CURRENT DERATING CURVE

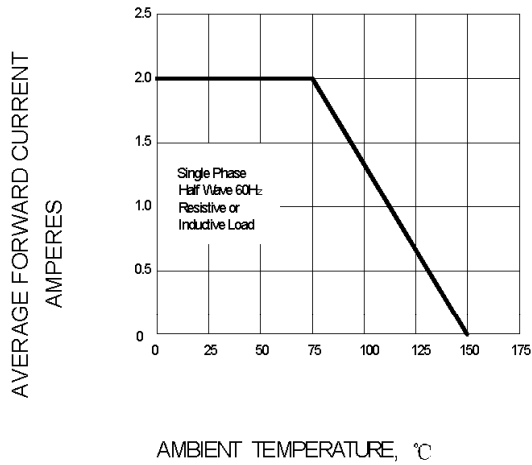


FIG.2 – MAXIMUM NON-REPETITIVE SURGE CURRENT

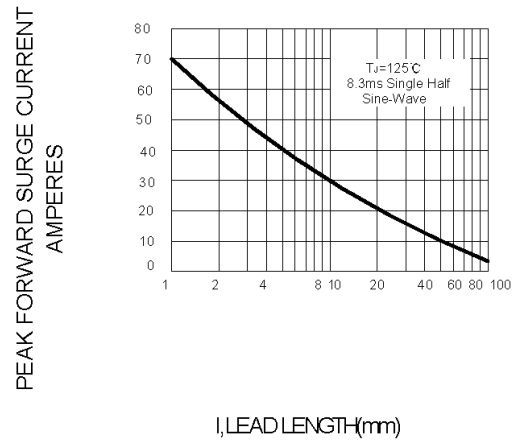


FIG.3 – TYPICAL JUNCTION CAPACITANCE

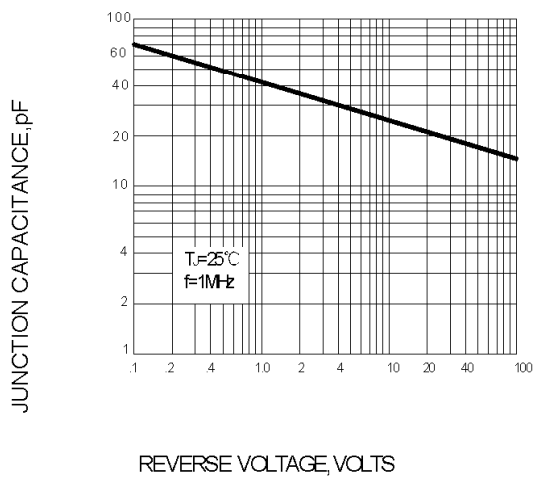
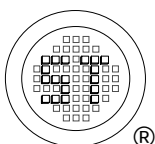
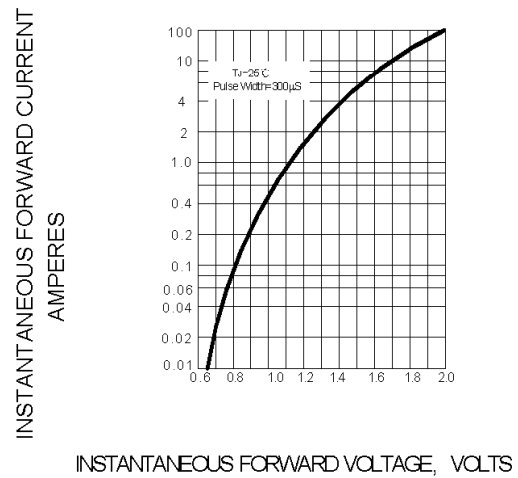
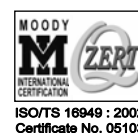


FIG.4 – TYPICAL FORWARD CHARACTERISTICS



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