SYNSEMI SEMICONDUCTOR

BY296 thru BY299

2.0 Amps. Fast Recovery Rectifiers
Voltage Range 100 to 800 Volts Forward Current 2.0 Amperes

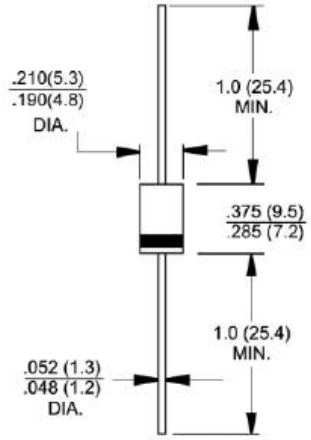
Features

- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability

DO-201AD

Mechanical Data

- Case: Molded plastic DO-201AD
- Epoxy: UL 94V-O rate flame retardant
- Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: Color band denotes cathode end
- High temperature soldering guaranteed: 250°C/10 seconds .375" (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- Weight: 0.042 ounce, 1.195 grams



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

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

Parameter	Symbols	BY296	BY297	BY298	BY299	Units
Maximum repetitive peak reverse voltage	V_{RRM}	100	200	400	800	Volts
Maximum RMS voltage	V_{RMS}	70	140	280	560	Volts
Maximum DC blocking voltage	V_{DC}	100	200	400	800	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length @T_A=55°C	$I_{(AV)}$	2.0				Amps
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	70.0				Amps
Maximum instantaneous forward voltage @ 2.0A	V_F	1.2				Volts
Maximum DC reverse current @T_A=25°C at rated DC blocking voltage @T_A=100°C	I_R	5.0 100				uA
Maximum reverse recovery time (Note 1)	t_{rr}	250				nS
Typical junction capacitance (Note 2)	C_J	35				pF
Operating temperature range	T_J	-65 to +125				°C
Storage temperature range	T_{STG}	-65 to +150				°C

Notes: 1. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A
2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.

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RATINGS AND CHARACTERISTIC CURVES

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

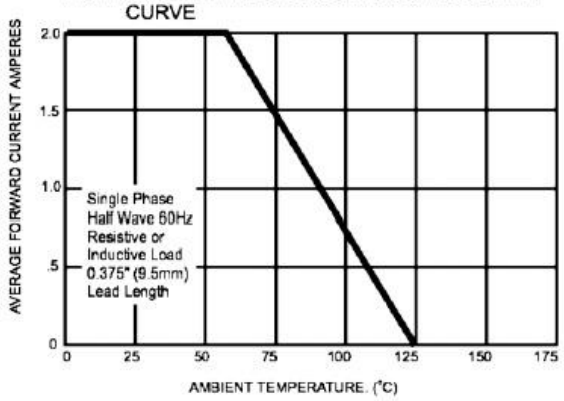

FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

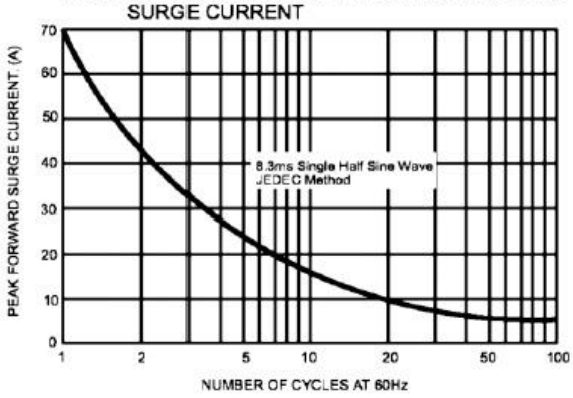

FIG.3- TYPICAL FORWARD CHARACTERISTICS

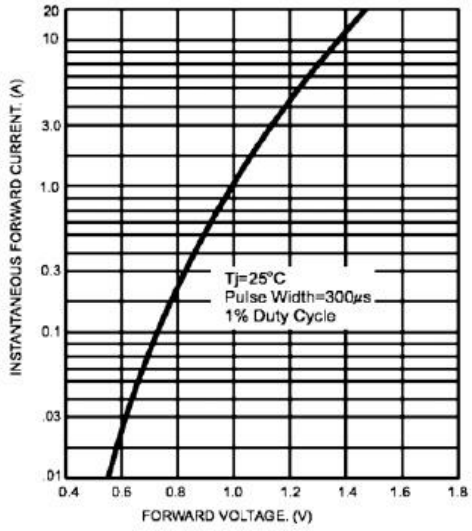

FIG.4- TYPICAL JUNCTION CAPACITANCE

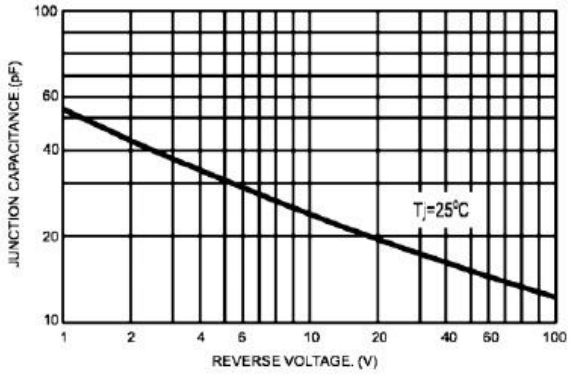

FIG.5- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM