

FAST RECOVERY RECTIFIERS

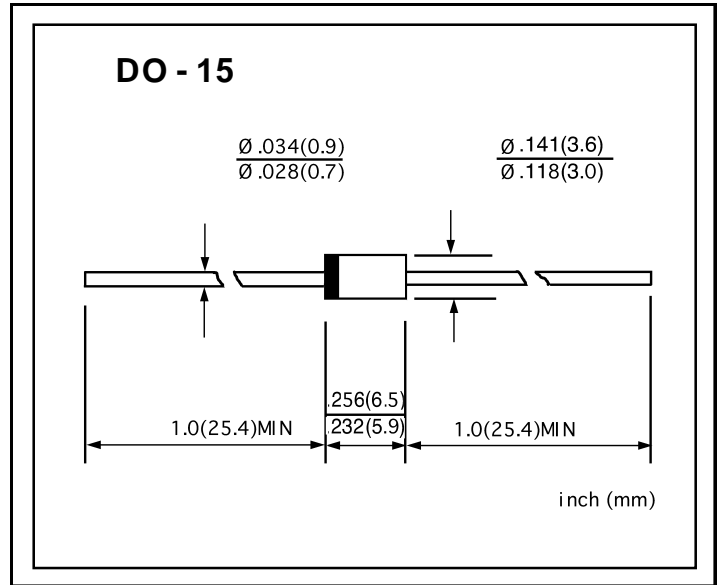
VOLTAGE RANGE: 200 --- 1000 V
CURRENT: 1.3 A

FEATURES

- ◇ Low cost
- ◇ Diffused junction
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with Freon, Isopropanol and similar solvents

MECHANICAL DATA

- ◇ Case: JEDEC DO--15, molded plastic
- ◇ Terminals: Axial lead, solderable per MIL-STD-202, Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.014 ounces, 0.39 grams
- ◇ Mounting position: Any



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 50Hz, resistive or inductive load. For capacitive load, derate by 20%.

		BYD 33D	BYD 33G	BYD 33J	BYD 33K	BYD 33M	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	200	200	600	800	1000	V
Maximum average forward rectified current 9.5mm lead length, @ $T_A=75^\circ\text{C}$	$I_{F(AV)}$	1.3					A
Peak forward surge current 10ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$	I_{FSM}	20.0					A
Maximum instantaneous forward voltage @ 1.0A	V_F	1.3					V
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$	I_R	1.0 100.0					μA
Maximum reverse recovery time (Note1)	t_{rr}	250			300		ns
Typical junction capacitance (Note2)	C_J	20					pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	120					K/W
Operating junction temperature range	T_J	-55 ---- + 150					$^\circ\text{C}$
Storage temperature range	T_{STG}	- 55 ---- + 150					$^\circ\text{C}$

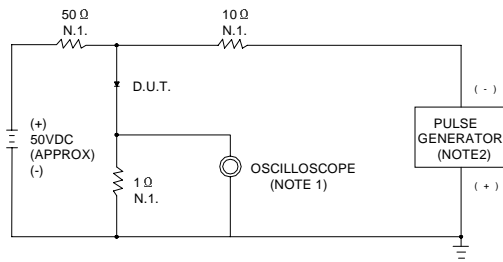
NOTE: 1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $I_{rr}=0.25\text{A}$.

2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3. Thermal resistance from junction to ambient.

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FIG.1 – REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES: 1. RISE TIME=7ns MAX. INPUT IMPEDANCE=1MΩ. 22pF
2. RISE TIME=10ns MAX. SOURCE IMPEDANCE=50Ω

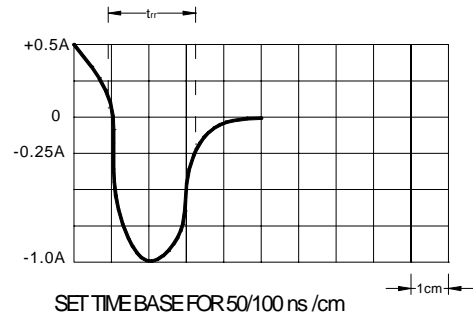


FIG.2 – FORWARD DERATING CURVE

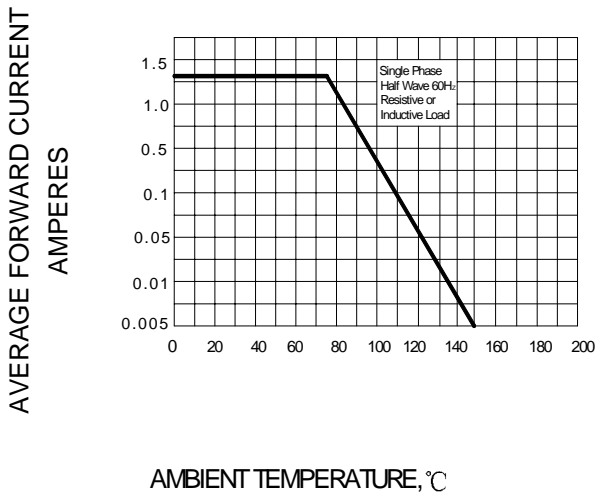


FIG.3 – PEAK FORWARD SURGE CURRENT

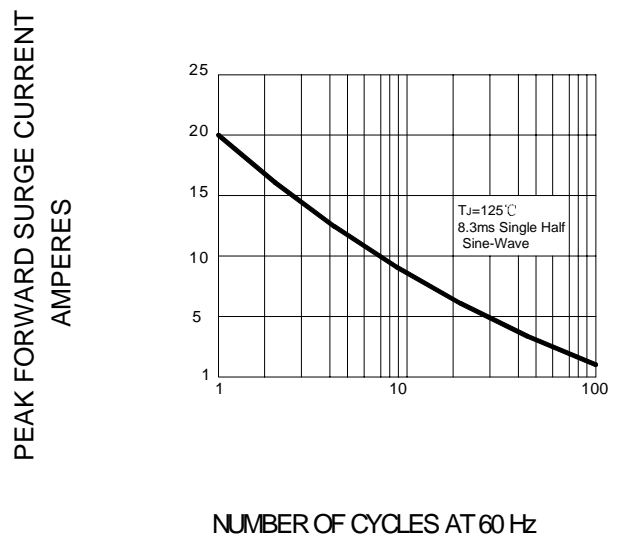


FIG.4 – TYPICAL FORWARD CHARACTERISTIC

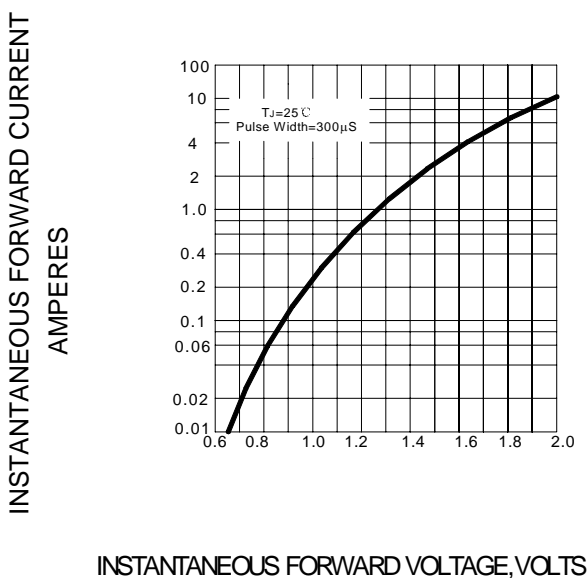


FIG.5 – TYPICAL JUNCTION CAPACITANCE

