

### HIGH EFFICIENCY RECTIFIERS

VOLTAGE RANGE: 50 -- 1000 V  
CURRENT: 3.0 A

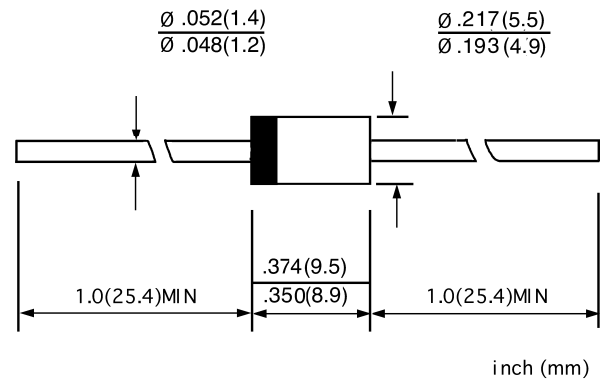
#### FEATURES

- ◇ Fast recovery times
- ◇ UI 90V0 flame retardant epoxy molding compound
- ◇ Diffused junction
- ◇ Low cost
- ◇ High surge current capability
- ◇ Bevel round chip, avalanche operation

#### MECHANICAL DATA

- ◇ Case: JEDEC DO-27, molded plastic
- ◇ Terminals: Axial lead, solderable per MIL-STD-202, Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.041 ounces, 1.15 grams
- ◇ Mounting position: Any

#### DO - 27



#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

		BYT 56A	BYT 56B	BYT 56D	BYT 56G	BYT 56J	BYT 56K	BYT 56M	UNITS
Maximum recurrent 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
Maximum average forward rectified current 9.5mm lead length, @ $T_A=75^\circ C$	$I_{F(AV)}$	3.0							A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ C$	$I_{FSM}$	150.0							A
Maximum instantaneous forward voltage @ 3.0A	$V_F$	1.4							V
Maximum reverse current @ $T_A=25^\circ C$ at rated DC blocking voltage @ $T_A=100^\circ C$	$I_R$	10.0 150.0							$\mu A$
Maximum reverse recovery time (Note1)	$t_{rr}$	100							ns
Typical junction capacitance (Note2)	$C_J$	75				50			pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	30							$^\circ C/W$
Operating junction temperature range	$T_J$	- 55 ---- + 150							$^\circ C$
Storage temperature range	$T_{STG}$	- 55 ---- + 150							$^\circ C$

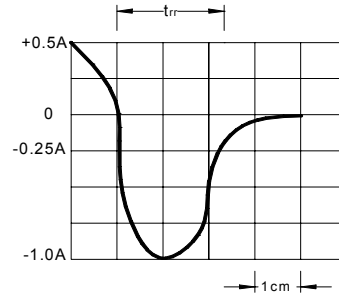
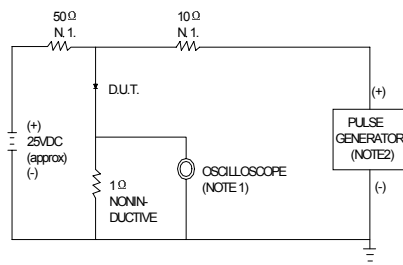
NOTE: 1. Measured with  $I_F=0.5A$ ,  $I_R=1A$ ,  $I_{rr}=0.25A$ .

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

3. Thermal resistance from junction to ambient.

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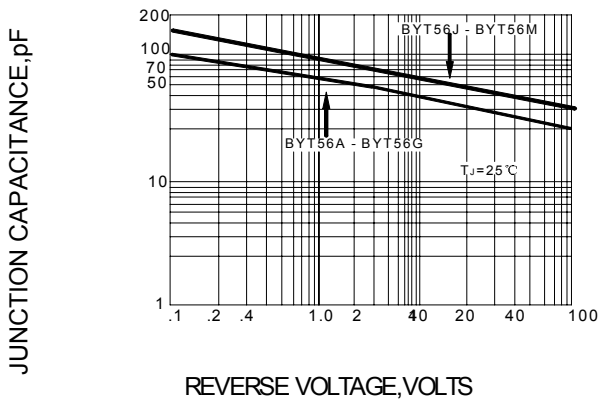
**FIG.1 – TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC**



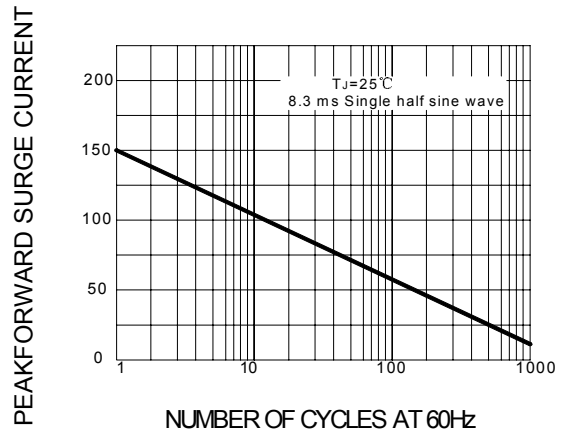
NOTES: 1. RISE TIME=7ns MAX. INPUT IMPEDANCE=1MΩ.22pF  
2. RISE TIME=10ns MAX. SOURCE IMPEDANCE=50Ω.

SET TIME BASE FOR 20/30 ns/cm

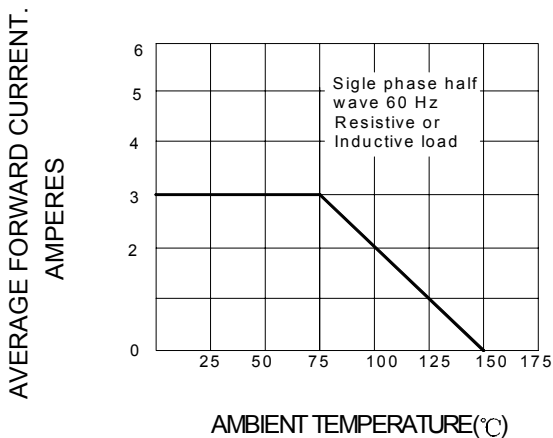
**FIG.2 – TYPICAL JUNCTION CAPTANCE**



**FIG.3 – PEAK FORWARD SURGE CURRENT**



**FIG.4 – TYPICAL FORWARD CURRENT DERATING CURVE**



**FIG.5 – TYPICAL FORWARD CHARACTERISTIC**

