

SUPER FAST RECTIFIERS

VOLTAGE RANGE: 50 --- 600 V
CURRENT: 2.0, 1.9, 1.6 A

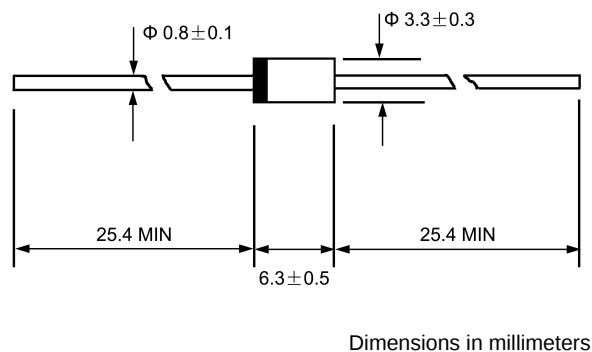
FEATURES

- ◇ Low cost
- ◇ Diffused junction
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with alcohol, 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

DO - 15



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

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

		BYV27 -50	BYV27 -100	BYV27 -150	BYV27 -200	BYV27 -300	BYV27 -400	BYV27 -600	UNITS
Maximum recurrent peak reverse voltage	V _{RRM}	50	100	150	200	300	400	600	V
Maximum RMS voltage	V _{RMS}	35	70	105	140	210	280	420	V
Maximum DC blocking voltage	V _{DC}	50	100	150	200	300	400	600	V
Maximum average forward rectified current 9.5mm lead length, @T _A =75°C	I _{F(AV)}	2.0				1.9		1.6	A
Peak forward surge current 10ms single half-sine-wave superimposed on rated load @T _J =125°C	I _{FSM}	50.0						40.0	A
Maximum instantaneous forward voltage @ I _F =I _{F(AV)}	V _F	0.98				1.05		1.25	V
Maximum reverse current @T _A =25°C at rated DC blocking voltage @T _A =100°C	I _R	5.0 100.0							μ A
Maximum reverse recovery time (Note1)	t _{rr}	25				50			ns
Typical junction capacitance (Note2)	C _J	62							pF
Typical thermal resistance (Note3)	R _{θJA}	100							°C/W
Operating junction temperature range	T _J	- 55 ----- + 150							°C
Storage temperature range	T _{STG}	- 55 ----- + 150							°C

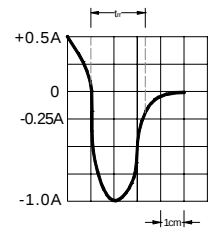
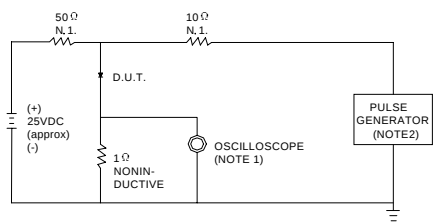
NOTE: 1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $t_{rr}=0.25\text{A}$.

2. Measured at 1.0MHz and applied reverse voltage of 4.1V 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 = 50 Ω.

SET TIME BASE FOR 10 ns/cm

FIG.2 – TYPICAL FORWARD CHARACTERISTIC

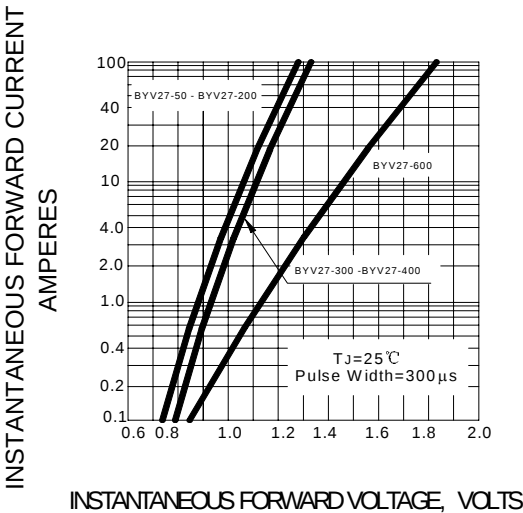


FIG.3 – FORWARD DERATING CURVE

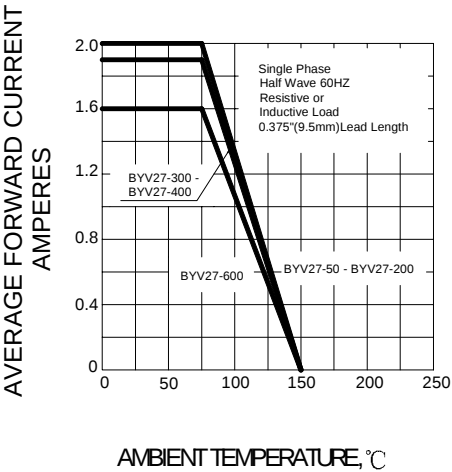


FIG.4 – TYPICAL JUNCTION CAPACITANCE

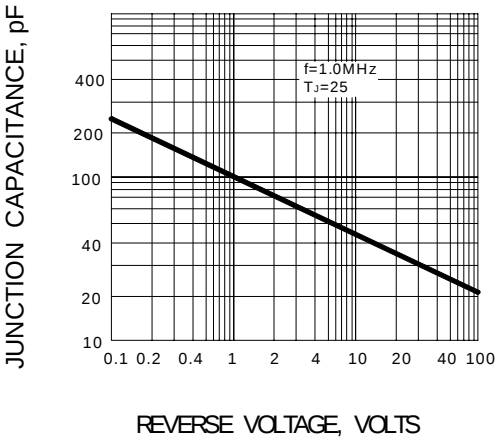


FIG.5– PEAK FORWARD SURGE CURRENT

