

FAST RECOVERY RECTIFIERS

VOLTAGE RANGE: 200 --- 1000 V
CURRENT: 1.5-1.6 A

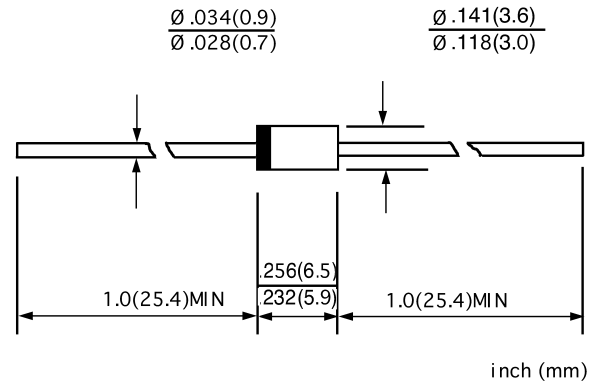
FEATURES

- ◇ Low cost
- ◇ Diffused junction
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with Freon, 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, 50Hz, resistive or inductive load. For capacitive load, derate by 20%.

		BYV 36A	BYV 36B	BYV 36C	BYV 36D	BYV 36E	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℃	I _{F(AV)}	1.6					A
Peak forward surge current 10ms single half-sine-wave superimposed on rated load @T _J =125℃	I _{FSM}	30.0					A
Maximum instantaneous forward voltage @ 1.0A	V _F	1.35			1.45		V
Maximum reverse current @T _A =25℃ at rated DC blocking voltage @T _A =100℃	I _R	5.0 100.0					μ A
Maximum reverse recovery time (Note1)	t _{rr}	100			150		ns
Typical junction capacitance (Note2)	C _J	18					pF
Typical thermal resistance (Note3)	R _{θJA}	45					℃/W
Operating junction temperature range	T _J	-55 ---- + 150					℃
Storage temperature range	T _{STG}	-55 ---- + 150					℃

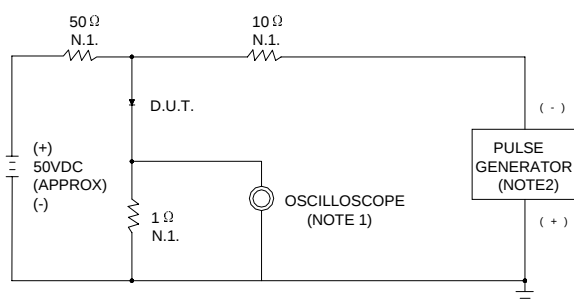
NOTE: 1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $t_{rr}=0.25\text{A}$.

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

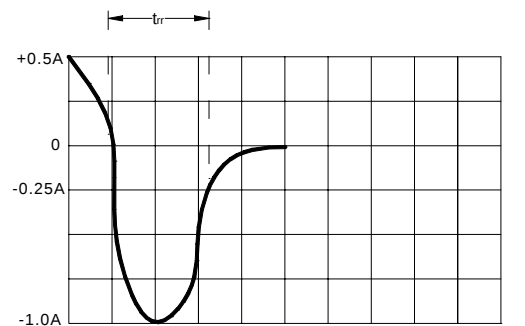
3. Thermal resistance from junction to ambient.

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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

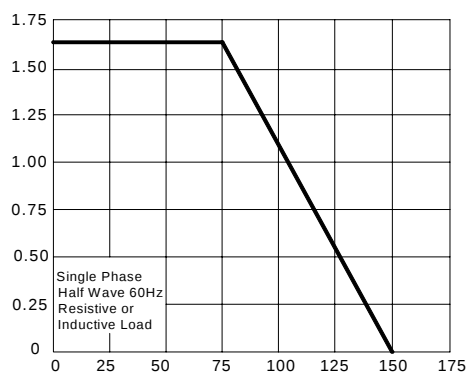


SET TIME BASE FOR 50/100 ns /cm

1cm

FIG.2 –FORWARD DERATING CURVE

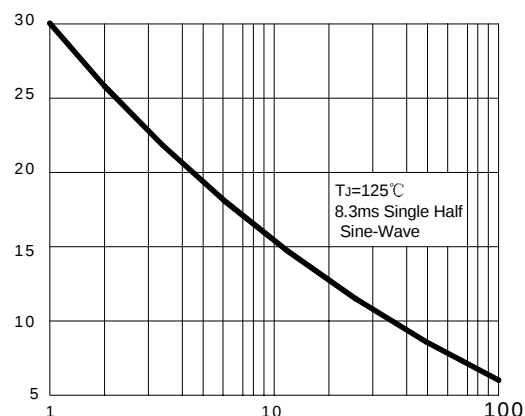
AVERAGE FORWARD CURRENT
AMPERES



AMBIENT TEMPERATURE, °C

FIG.3 –PEAK FORWARD SURGE CURRENT

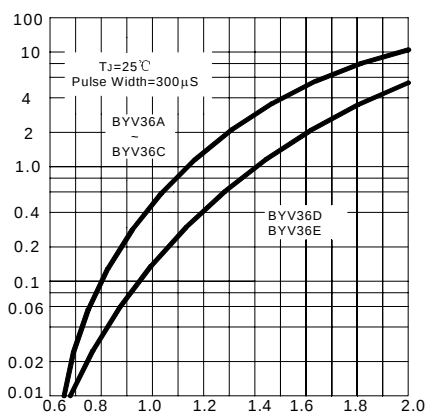
PEAK FORWARD SURGE CURRENT
AMPERES



NUMBER OF CYCLES AT 60 Hz

FIG.4-TYPICAL FORWARD CHARACTERISTIC

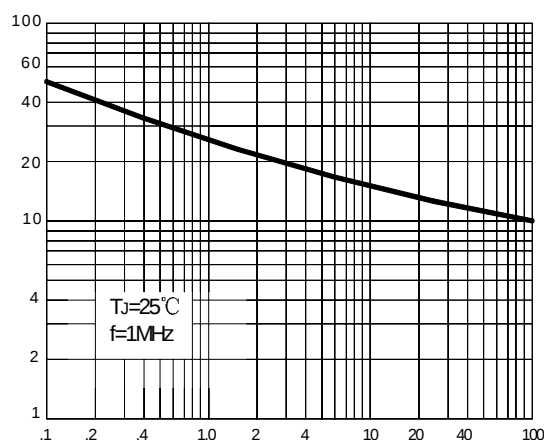
INSTANTANEOUS FORWARD CURRENT
AMPERES



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

FIG.4-TYPICAL JUNCTION CAPACITANCE

JUNCTION CAPACITANCE,pF



REVERSE VOLTAGE, VOLTS