

FAST RECOVERY RECTIFIER

VOLTAGE RANGE: 800 --- 1000 V
CURRENT: 2.0 A

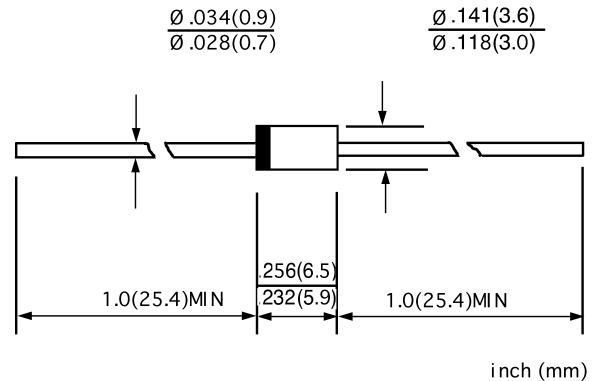
FEATURES

- ◇ Low cost
- ◇ Diffused junction
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with Freon,Alcohol,Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0

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,60 Hz,resistive or inductive load. For capacitive load,derate by 20%.

| | | BYV 37 | BYV 38 | UNITS |
|---|-----------------|---------------|-----------|------------|
| Maximum recurrent peak reverse voltage | V_{RRM} | 800 | 1000 | V |
| Maximum RMS voltage | V_{RMS} | 560 | 700 | V |
| Maximum DC blocking voltage | V_{DC} | 800 | 1000 | V |
| Maximum average forward rectified current 9.5mm lead length, @ $T_A=75^\circ C$ | $I_{F(AV)}$ | 2.0 | | A |
| Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ C$ | I_{FSM} | 50.0 | | A |
| Maximum instantaneous forward voltage @ 1.0 A | V_F | 1.1 | | V |
| Maximum reverse current @ $T_A=25^\circ C$ at rated DC blocking voltage @ $T_A=100^\circ C$ | I_R | 5.0 | 100 | μA |
| Maximum reverse recovery time (Note1) | t_{rr} | 300 | | ns |
| Typical junction capacitance (Note2) | C_J | 15 | | pF |
| Typical thermal resistance (Note3) | $R_{\theta JA}$ | 45 | | K/W |
| Operating junction temperature range | T_J | - 55---- +150 | | $^\circ C$ |
| Storage temperature range | T_{STG} | - 55---- +150 | | $^\circ C$ |

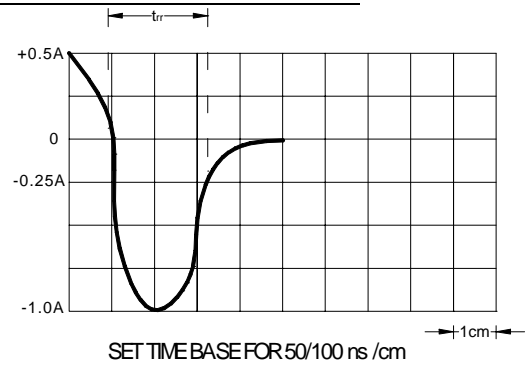
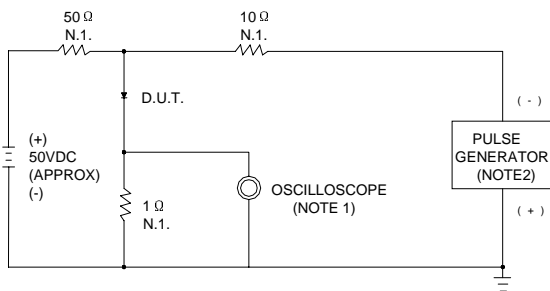
NOTE:1. Measured with $I_F=0.5A$, $I_R=1A$, $I_{rr}=0.25A$.

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

3. Thermal resistance from junction to ambient, $l=10mm$, $T_L=constant$.

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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 – TYPICAL FORWARD CHARACTERISTIC

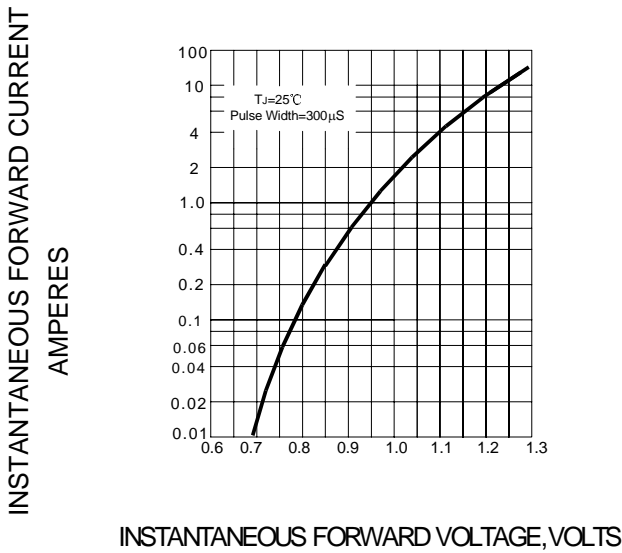


FIG.3 – FORWARD DERATING CURRENT

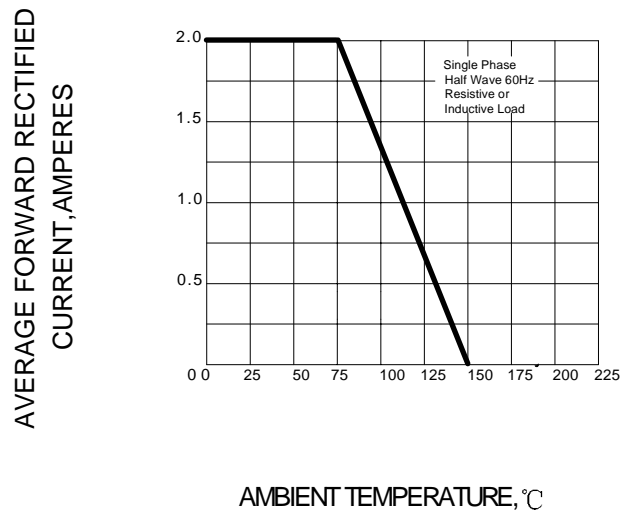


FIG.4 – PEAK FORWARD SURGE CURRENT

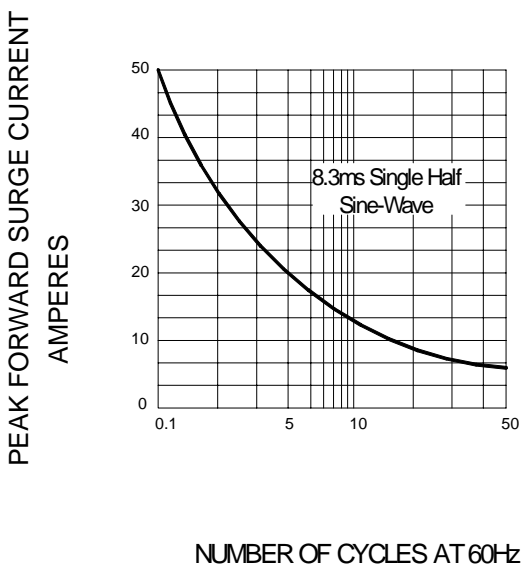


FIG.7 – TYPICAL JUNCTION CAPACITANCE

