

### FAST RECOVERY RECTIFIERS

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

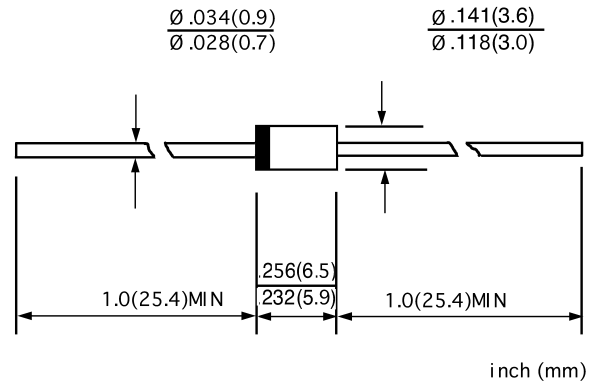
#### FEATURES

- ◇ 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

#### 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%.

|                                                                                                              |                    | BYD<br>33D      | BYD<br>33G | BYD<br>33J | BYD<br>33K | BYD<br>33M | UNITS |
|--------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|------------|------------|------------|-------|
| Maximum recurrent peak reverse voltage                                                                       | V <sub>RRM</sub>   | 200             | 400        | 600        | 800        | 1000       | V     |
| Maximum RMS voltage                                                                                          | V <sub>RMS</sub>   | 140             | 280        | 420        | 560        | 700        | V     |
| Maximum DC blocking voltage                                                                                  | V <sub>DC</sub>    | 200             | 200        | 600        | 800        | 1000       | V     |
| Maximum average forward rectified current<br>9.5mm lead length, @T <sub>A</sub> =75℃                         | I <sub>F(AV)</sub> | 1.3             |            |            |            |            | A     |
| Peak forward surge current<br>10ms single half-sine-wave<br>superimposed on rated load @T <sub>J</sub> =125℃ | I <sub>FSM</sub>   | 20.0            |            |            |            |            | A     |
| Maximum instantaneous forward voltage<br>@ 1.0A                                                              | V <sub>F</sub>     | 1.3             |            |            |            |            | V     |
| Maximum reverse current @T <sub>A</sub> =25℃<br>at rated DC blocking voltage @T <sub>A</sub> =100℃           | I <sub>R</sub>     | 1.0<br>100.0    |            |            |            |            | μ A   |
| Maximum reverse recovery time (Note1)                                                                        | t <sub>rr</sub>    | 250             |            |            | 300        |            | ns    |
| Typical junction capacitance (Note2)                                                                         | C <sub>J</sub>     | 20              |            |            |            |            | pF    |
| Typical thermal resistance (Note3)                                                                           | R <sub>θJA</sub>   | 120             |            |            |            |            | K/W   |
| Operating junction temperature range                                                                         | T <sub>J</sub>     | -55 ---- + 150  |            |            |            |            | ℃     |
| Storage temperature range                                                                                    | T <sub>STG</sub>   | - 55 ---- + 150 |            |            |            |            | ℃     |

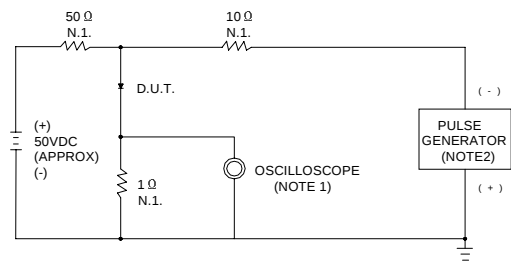
NOTE: 1. Measured with  $I_F=0.5A$ ,  $I_R=1A$ ,  $t_{rr}=0.25A$ .

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

3. Thermal resistance from junction to ambient.

www.galaxycn.com

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

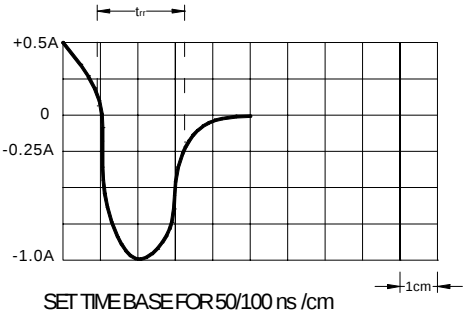


FIG.2 –FORWARD DERATING CURVE

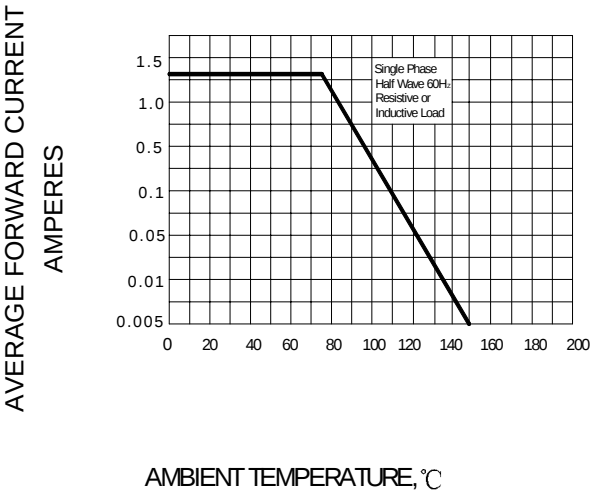


FIG.3 –PEAK FORWARD SURGE CURRENT

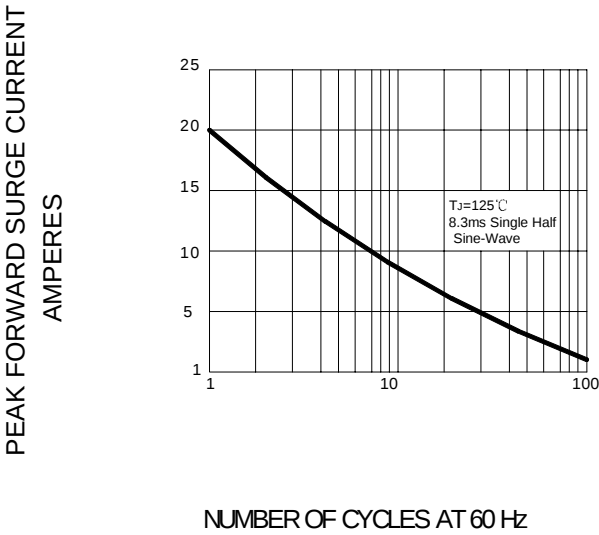


FIG.4-TYPICAL FORWARD CHARACTERISTIC

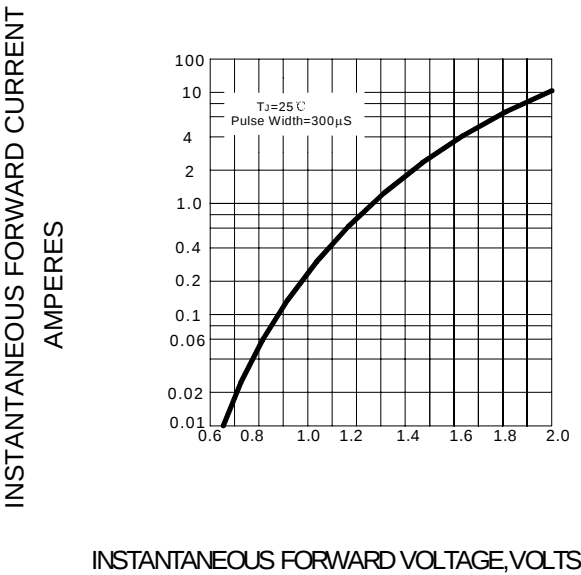


FIG.5-TYPICAL JUNCTION CAPACITANCE

