

## SMALL SIGNAL SWITCHING DIODE

REVERSE VOLTAGE : 75 V  
CURRENT: 0.15 A

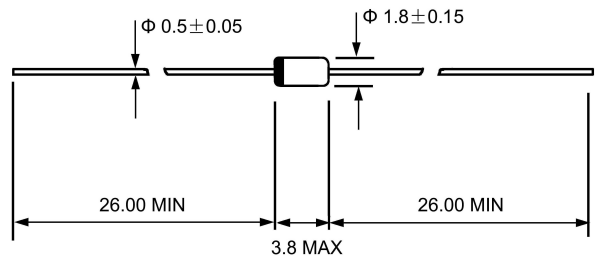
### FEATURES

- ◇ Silicon epitaxial planar diode
- ◇ High speed switching diode
- ◇ 500 mW power dissipation
- ◇ These diodes are also available in glass case  
DO-34. Mini-MELF

### MECHANICAL DATA

- ◇ Case: DO-35, glass case
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.004 ounces, 0.13 grams

### DO-35(GLASS)



Dimensions in millimeters

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

#### MAXIMUM RATINGS

|  |           | 1N4148            | UNITS |
|--|-----------|-------------------|-------|
| Reverse voltage  | $V_R$     | 75.0              | V     |
| Peak reverse voltage   | $V_{RM}$  | 100.0             | V     |
| Average forward rectified current<br>half wave rectification with resist.load<br>@ $T_A=25^\circ\text{C}$ and $f \geq 50\text{Hz}$ | $I_{AV}$  | 150.0             | mA    |
| Forward surge current @ $t < 1\text{s}$ and $T_J=25^\circ\text{C}$   | $I_{FSM}$ | 500.0             | mA    |
| Power dissipation @ $T_A=25^\circ\text{C}$   | $P_{tot}$ | 500 <sup>1)</sup> | mW    |
| Junction temperature   | $T_J$     | 175               | °C    |
| Storage temperature range  | $T_{STG}$ | -55 --- +175      | °C    |

1)Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.

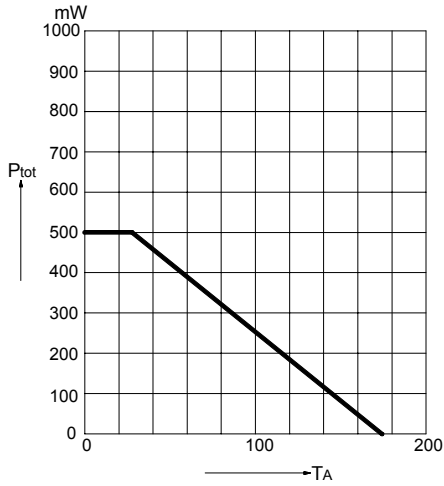
#### ELECTRICAL CHARACTERISTICS

|   |                 | MIN  | TYP | MAX               | UNITS |
|---|-----------------|------|-----|-------------------|-------|
| Forward voltage at $I_F=10\text{mA}$  | $V_F$           | -    | -   | 1.0               | V     |
| Leakage current<br>@ $V_R=20\text{V}$<br>@ $V_R=75\text{V}$<br>@ $V_R=20\text{V}$ $T_J=150^\circ\text{C}$               | $I_R$           | -    | -   | 25.0              | nA    |
|   | $I_R$           | -    | -   | 5.0               | μA    |
|   | $I_R$           | -    | -   | 50.0              | μA    |
| Capacitance @ $V_F=V_R=0\text{V}$   | $C_J$           | -    | -   | 4                 | pF    |
| Voltage rise when switching on<br>tested with 50mA pulses<br>$t_p=0.1\mu\text{s}$ . Rise time < 30ns. $f_p=5$ to 100KHz | $V_{fr}$        | -    | -   | 2.5               | V     |
| Reverse recovery time<br>from $I_F=10\text{mA}$ to $I_R=1\text{mA}$<br>$V_R=6\text{V}$ . $R_L=100\Omega$ .              | $t_{rr}$        | -    | -   | 4                 | ns    |
| Thermal resistance junction to ambient  | $R_{\theta JA}$ |      |     | 350 <sup>1)</sup> | K/W   |
| Rectification efficiency at 100MHz, $V_{RF}=2\text{V}$  | $\eta_V$        | 0.45 | -   | -                 | -     |

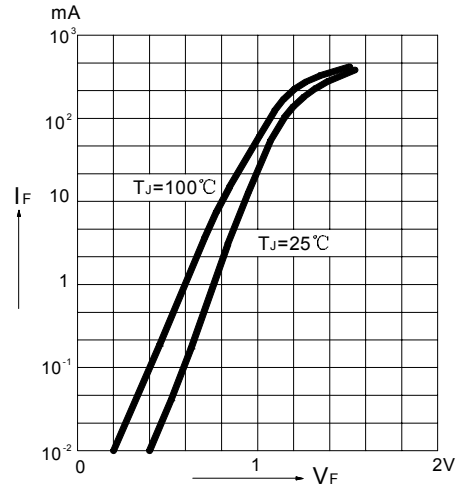
1)Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.

www.galaxycn.com

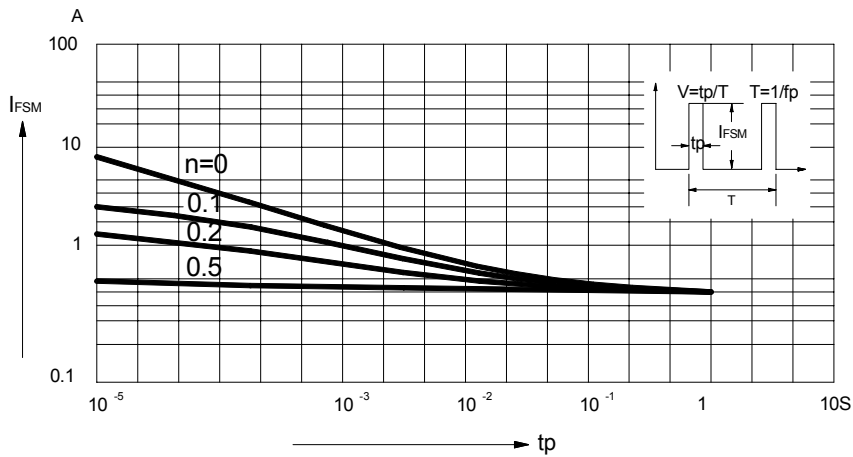
**FIG.1 -- ADMISSIBLE POWER DISSIPATION  
VERSUS AMBIENT TEMPERATURE**



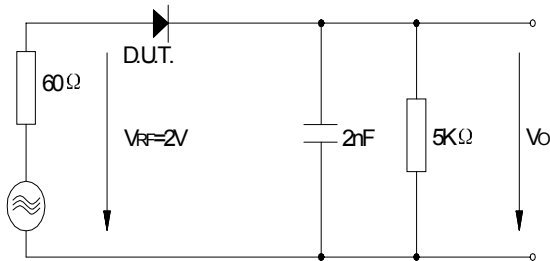
**FIG.2 -- FORWARD CHARACTERISTICS**



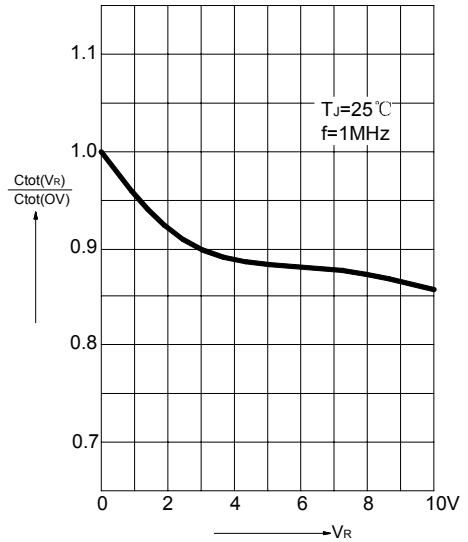
**FIG.3 -- ADMISSIBLE REPETITIVE PEAK FORWARD CURRENT VERSUS PULSE DURATION**



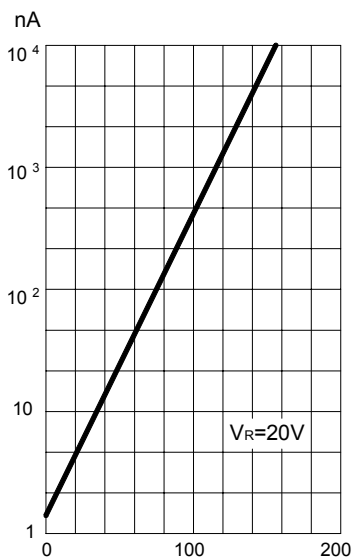
**FIG.4 – RECTIFICATION EFFICIENCY MEASUREMENT CIRCUIT**



**FIG.5 – RELATIVE CAPACITANCE VERSUS VOLTAGE**



**FIG.6 – LEAKAGE CURRENT VERSUS JUNCTION TEMPERATURE**



**FIG.7 – DYNAMIC FORWARD RESISTANCE VERSUS FORWARD CURRENT**

