# FRI01 THRU FR107

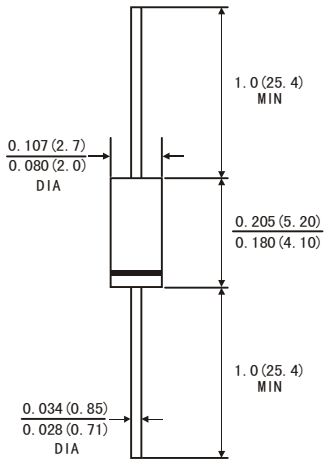
## FAST RECOVERY RECTIFIER

Reverse Voltage: 50 to 1000 Volts
Forward Current: 1.0Ampere

## FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Fast switching speed
- Construction utilizes void-free molded plastic technique
- Low forward voltage drop,high efficiency
- High current capability
- High reliability

## DO-41




Dimensions in inches and (millimeters)

## MECHANICAL DATA

- *Case*: JEDEC DO-41 molded plastic body
- *Terminals*: Plated axial leads, solderable per MIL-STD-750,method 2026
- *Polarity*: Color band denotes cathode end
- *Mounting Position*: Any
- *Weight*: 0.012ounce, 0.33 gram

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Rating at 25°C ambient temperature unless otherwise specified.Single phase ,half wave ,60Hz,resistive or inductive load. For capacitive load,derate current by 20%.)

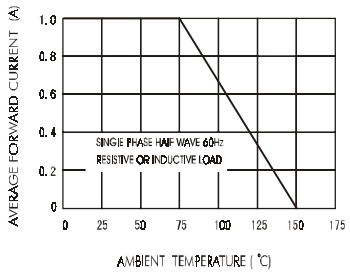
| | *Symbols* | *FR 101* | *FR 102* | *FR 103* | *FR 104* | *FR 105* | *FR 106* | *FR 107* | *Units* |
|---|---|---|---|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum RMS Voltage | $V_{RMS}$ | 35 | 70 | 140 | 280 | 420 | 560 | 700 | Volts |
| Maximum DC Blocking Voltage | $V_{DC}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum Average Forward Rectified Current 0.375"(9.5mm)lead length at $T_A$=75°C | $I_{(AV)}$ | 1.0 | | | | | | | Amp |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method) at $T_A$=25°C | $I_{FSM}$ | 30.0 | | | | | | | Amps |
| Maximum Instantaneous Forward Voltage at 1.0 A | $V_F$ | 1.3 | | | | | | | Volts |
| Maximum DC Reverse Current at rated DC blocking voltage | $I_R$ | 5.0 | | | | | | | μA |
| Maximum full load reverse current full cycle average. 0.375"(9.5mm)lead length at $T_L$=55°C | | 100 | | | | | | | |
| Maximum reverse recovery time(Note1) | $T_{rr}$ | 150 | | | | 250 | 500 | | ns |
| Typical junction capacitance(Note2) | $C_J$ | 15.0 | | | | | | | pF |
| Operating junction and storage temperature range | $T_J$ $T_{STG}$ | -65 to+150 | | | | | | | °C |

*Note*: 1.Test conditions: $I_F$=0.5A,$I_R$=1.0A,$I_{RR}$=0.25A.

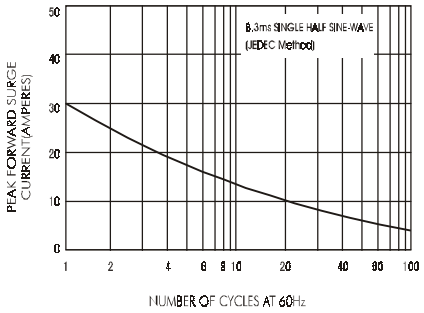
2.Measured at 1MHz and applied reverse voltage of 4.0 Volts.

# RATINGS AND CHARACTERISTIC CURVES FR101 THRU FR107

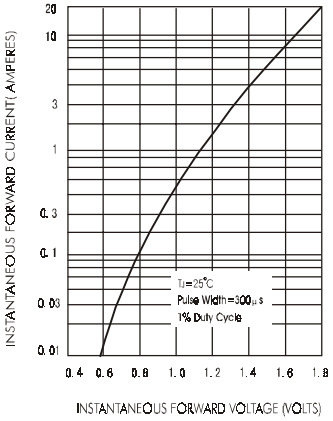
## FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE



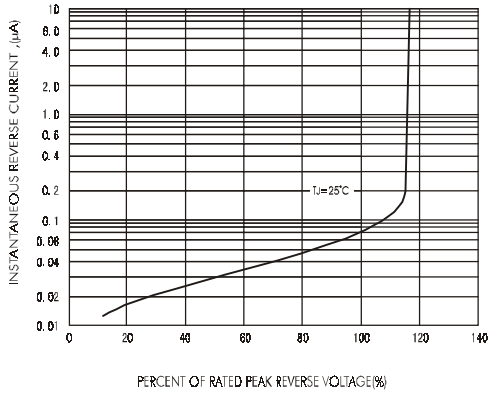

## FIG.2-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



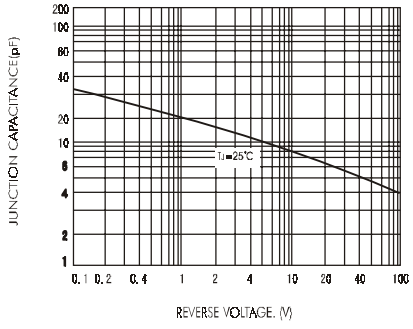

## FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



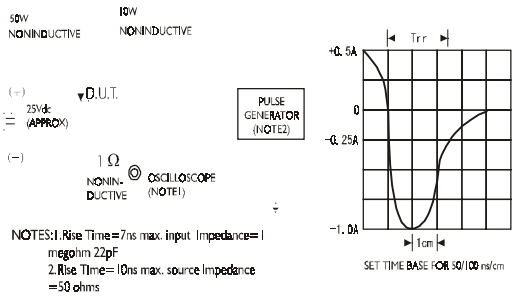

## FIG.4-TYPICAL REVERSE CHARACTERISTICS




## FIG.5-TYPICAL JUNCTION CAPACITANCE




## FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC




NOTES: 1. Rise Time=7ns max. input Impedance=1 megohm 22pF
2. Rise Time=10ns max. source Impedance =50 ohms