

# Power Diode - Fast Recovery



## Features:

- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability

## Mechanical specifications:

Cases	: Moulded plastic
Lead	: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed.
Polarity	: Colour band denotes cathode end.
High temperature soldering guaranteed	: 260°C/10 seconds/0.375", (9.5mm) lead lengths at 5lbs., (2.3kg) tension.

## 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%.

Type Number	Symbol	FR107	Unit
Maximum recurrent peak reverse voltage	$V_{RRM}$	1,000	V
Maximum RMS voltage	$V_{RMS}$	700	
Maximum DC blocking voltage	$V_{DC}$	1,000	
Maximum average forward rectified current 0.375" (9.5mm) lead length at TA = 55°C	$I_{(AV)}$	1	A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30	
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.2	V
Maximum DC reverse current at TA = 25°C at rated DC blocking voltage at TA = 100°C	$I_R$	5 100	uA
Maximum reverse recovery time (Note 1)	$T_{rr}$	500	ns
Typical junction capacitance (Note 2)	$C_j$	10	pF
Typical thermal resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JC}$	65 8	°C/W
Operating temperature range	$T_J$	-65 to +150	°C
Storage temperature range	$T_{STG}$		

### Notes:

1. Reverse recovery test conditions:  $I_F = 0.5A$ ,  $I_R = 1A$ ,  $I_{RR} = 0.25A$
2. Measured at 1MHz and applied reverse voltage of 4V DC
3. Mount on Cu-Pad Size 5mm × 5mm on PCB

## Ratings and Characteristic Curves

Figure 1 Maximum Forward Current Derating Curve

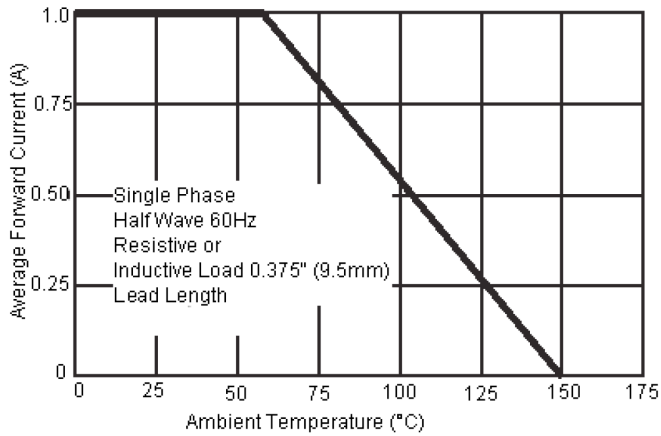


Figure 2 Maximum Non-Repetitive Forward Surge Current

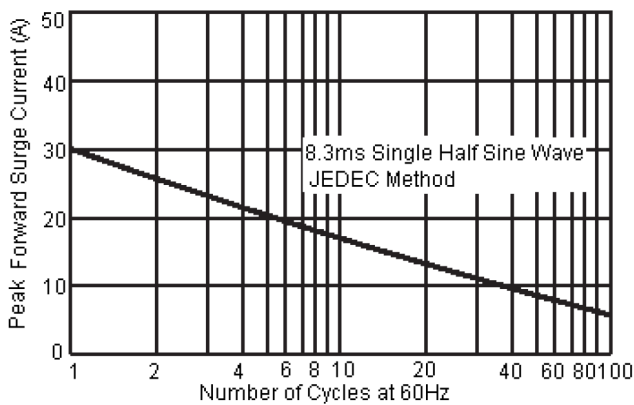


Figure 3 Typical Forward Characteristics

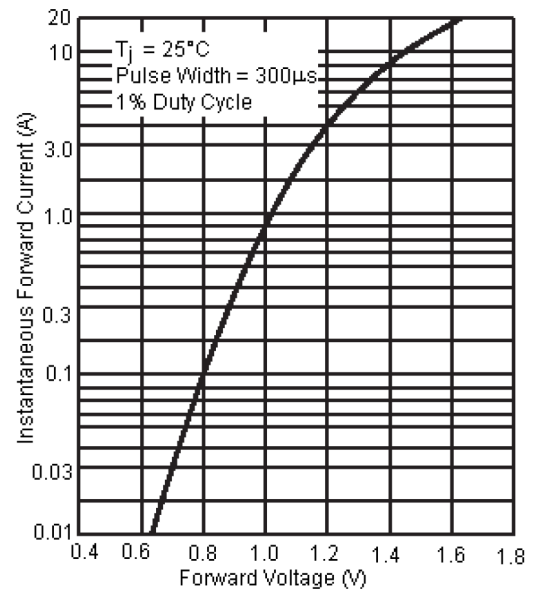
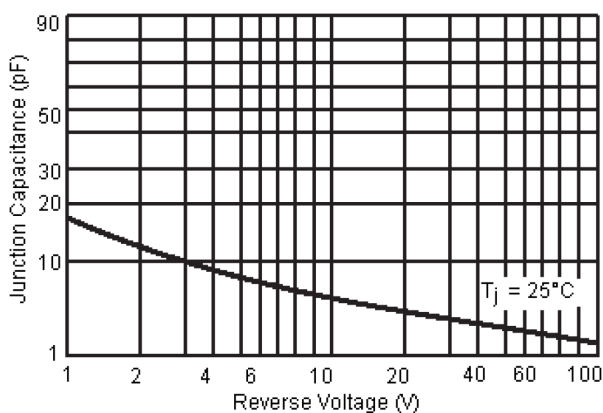
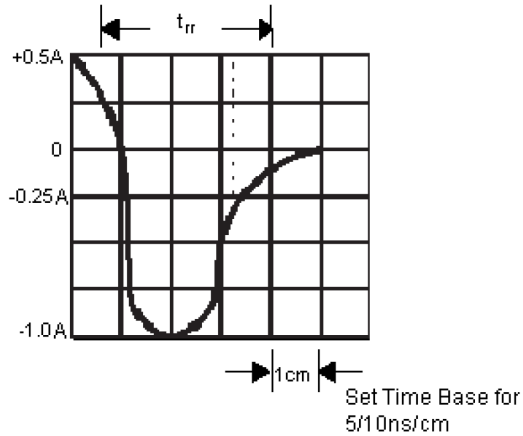
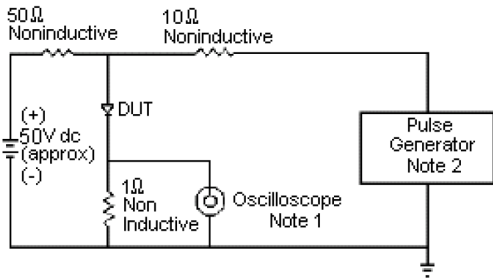


Figure 4 Typical Junction Capacitance



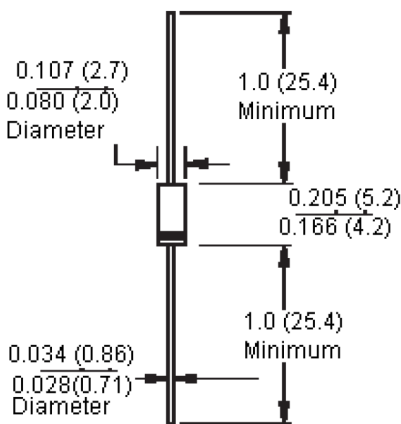
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**Figure 5 Reverse Recovery Time Characteristic and Test Circuit Diagram**



- Note: 1. Rise Time = 7nS Max.  
Input Impedance = 1MΩ, 22pF
2. Rise Time = 10nS Max.  
Source Impedance = 50Ω

## DO-41



Dimensions : Inches (Millimetres)

## Part Number Table

Description	Length	Diameter	Part Number
Power Diodes - Fast Recovery	5.2mm	2.7mm	FR107

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