

# Diode Fast



RoHS  
Compliant



## Features:

- High efficiency, Low  $V_F$
- High current capability
- High reliability
- High surge current capability
- Low power loss

## Specifications:

### Mechanical Data:

Cases	: Moulded plastic
Lead	: Pure tin plated, lead free, 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
Weight	: 0.4g

## 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	FR203	FR205	FR207	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	200	600	1,000	V
Maximum RMS Voltage	$V_{RMS}$	140	420	700	
Maximum DC Blocking Voltage	$V_{DC}$	200	600	1,000	
Maximum Average Forward Rectified Current 0.375" (9.5mm) Lead Length at $T_A = 55^\circ\text{C}$	$I_{(AV)}$	2			A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )	$I_{FSM}$	60			
Maximum Instantaneous Forward Voltage at 1A	$V_F$	1.2			V
Maximum DC Reverse Current at $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage at $T_A = 125^\circ\text{C}$	$I_R$	5 150	10 400		$\mu\text{A}$ $\mu\text{A}$



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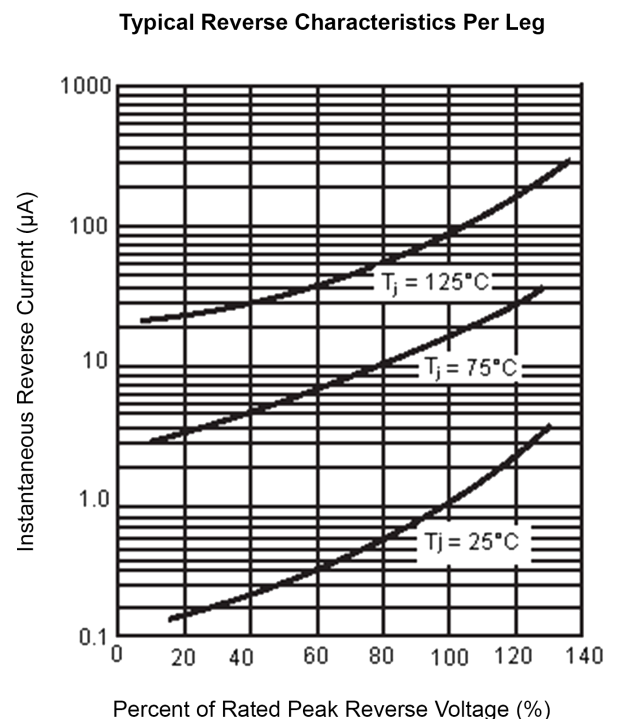
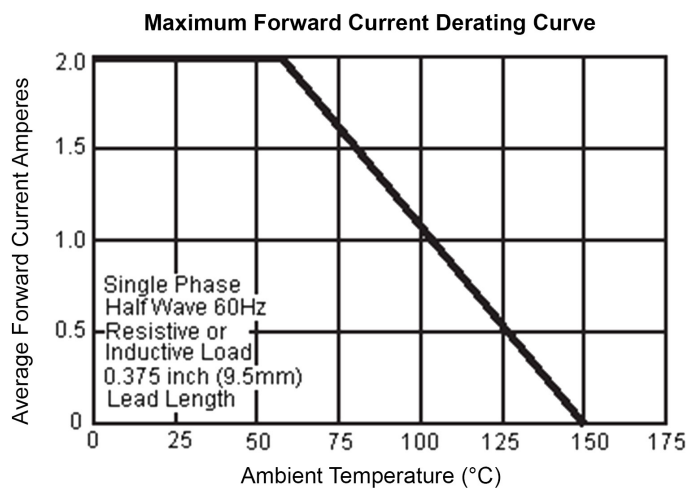
Type Number	Symbol	FR203	FR205	FR207	Units
Maximum Reverse Recovery Time (Note 1)	$T_{rr}$	150	250	500	nS
Typical Junction Capacitance (Note 2)	$C_j$	30			pF
Typical Thermal Resistance	$R_{\theta JA}$ $R_{\theta JL}$ $R_{\theta JC}$	60 18 5			$^{\circ}\text{C/W}$
Operating Temperature Range	$T_J$	-65 to +150			$^{\circ}\text{C}$
Storage Temperature Range	$T_{STG}$				

**Note: 1.** Reverse Recovery Test Conditions:  $I_F = 0.5\text{A}$ ,  $I_R = 1\text{A}$ ,  $I_{RR} = 0.25\text{A}$ .

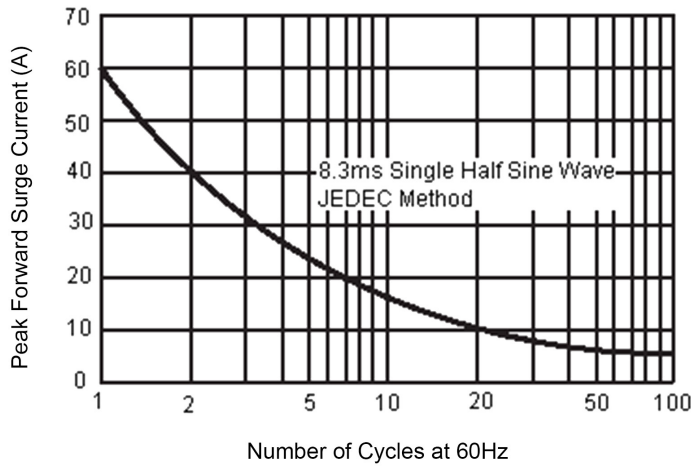
**Note: 2.** Measured at 1MHz and Applied Reverse Voltage of 4V DC.

**Note: 3.** Mount on Cu-Pad Size 10mm x 10mm on PCB.

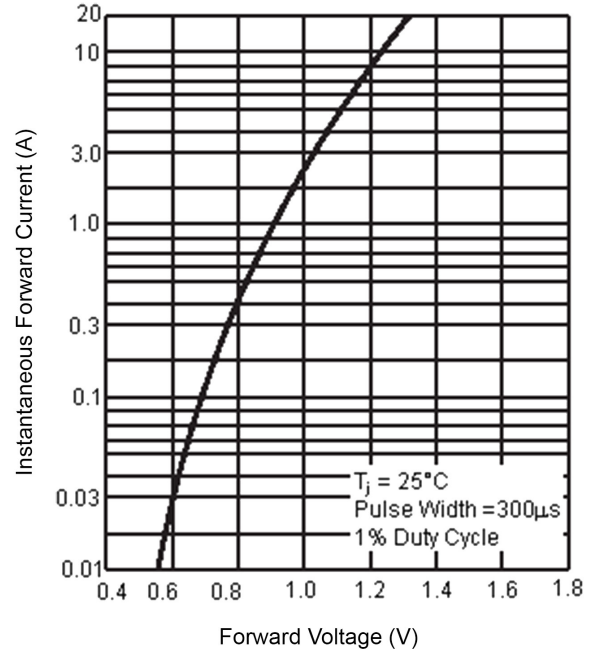
## Ratings and Characteristic Curves (FR203, FR205 and FR207)



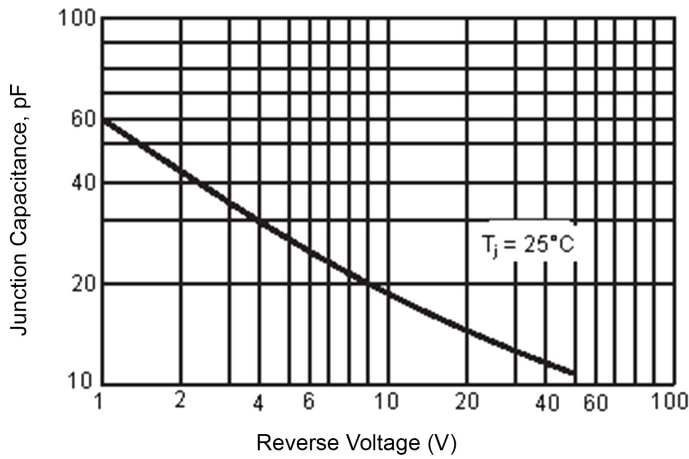
Maximum Non-Repetitive Forward Surge Current



Typical Forward Characteristics



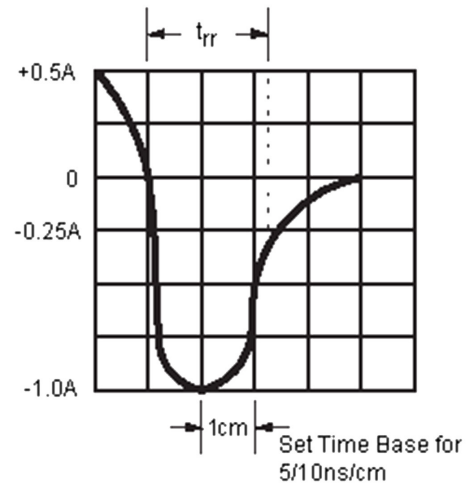
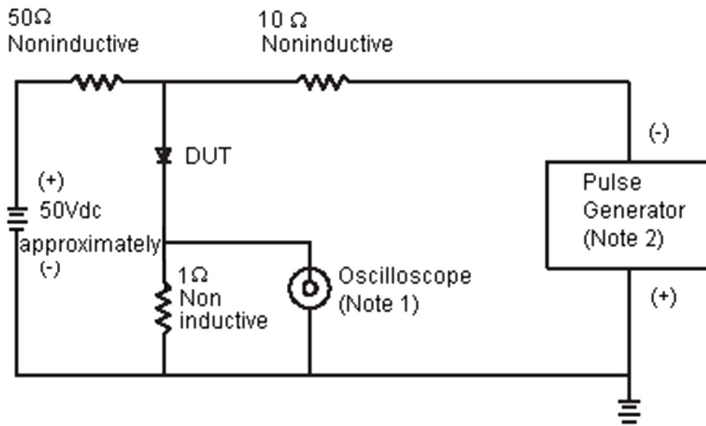
Typical Junction Capacitance



# Diode Fast



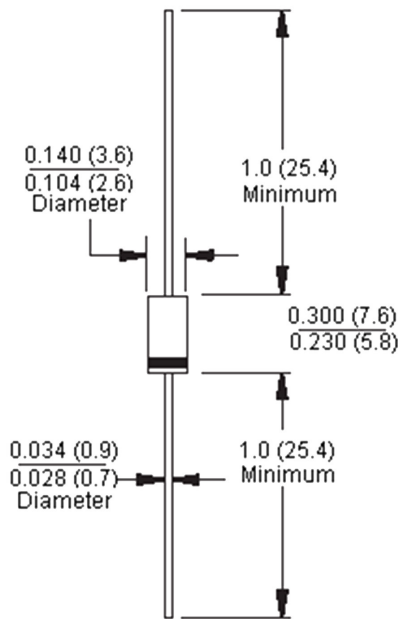
Reverse Recovery Time Characteristic and Test Circuit Diagram



**Note: 1.** Rise Time = 7ns Maximum. Input Impedance = 1MΩ 22pf

**Note: 2.** Rise Time = 10ns Maximum Source Impedance = 50Ω

## DO-15



Dimensions : Inches (Millimetres)

## Part Number Table

Description	Part Number
Diode, Fast, 2A, 200V	FR203
Diode, Fast, 2A, 600V	FR205
Diode, Fast, 2A, 1,000V	FR207

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