

Diode Fast



RoHS
Compliant



Features:

- High efficiency, low VF
- 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	: 0.34g

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	FR102	FR103	FR105	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	100	200	600	V
Maximum RMS Voltage	V_{RMS}	70	140	420	
Maximum DC Blocking Voltage	V_{DC}	100	200	600	
Maximum Average Forward Rectified Current 0.375" (9.5mm) Lead Length at $T_A = 55^\circ\text{C}$	$I_{(AV)}$	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 1A	V_F	1.2			V

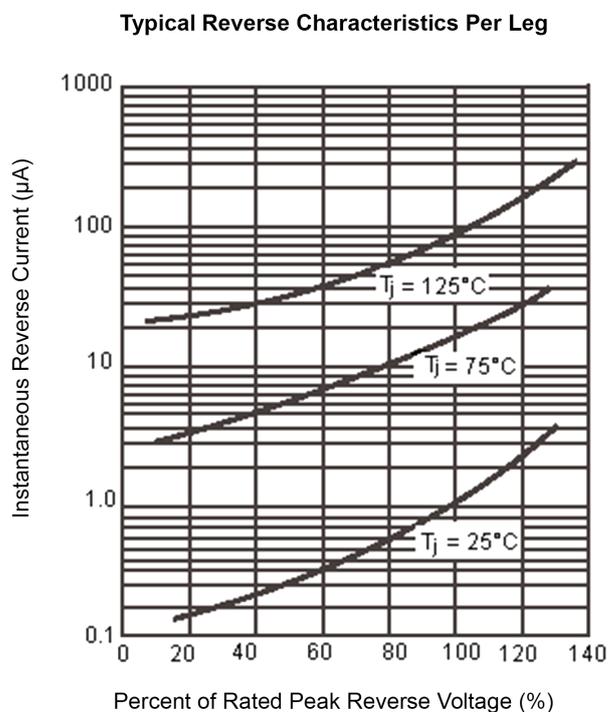
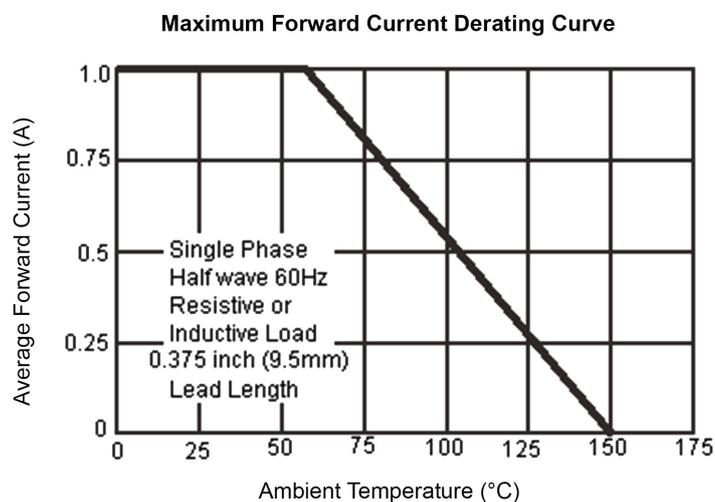
Type Number	Symbol	FR102	FR103	FR105	Units
Maximum DC Reverse Current at $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage at $T_A = 125^\circ\text{C}$	I_R	5 150			μA μA
Maximum Reverse Recovery Time (Note 1)	T_{rr}	150		250	nS
Typical Junction Capacitance (Note 2)	C_j	10			pF
Typical Thermal Resistance	$R_{\theta JA}$ $R_{\theta JC}$	65 8			$^\circ\text{C/W}$
Operating Temperature Range	T_J	-65 to +150			$^\circ\text{C}$
Storage Temperature Range	T_{STG}				

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

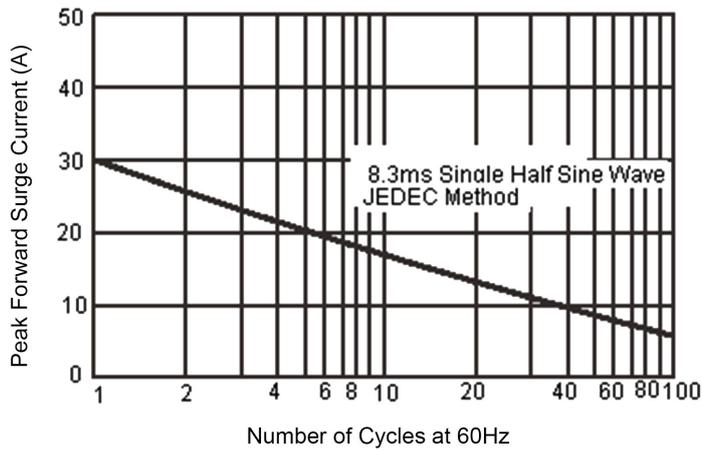
Note: 2. Measured at 1MHz and Applied Reverse Voltage of 4V DC.

Note: 3. Mount on Cu-Pad Size 5mm x 5mm on PCB.

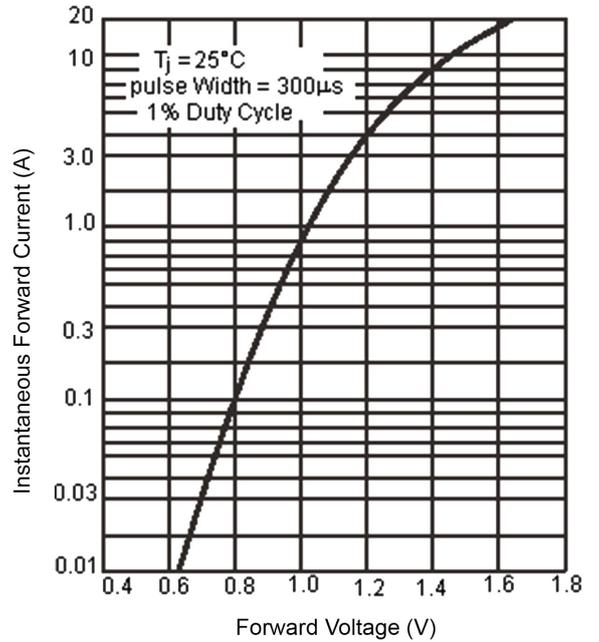
Ratings and Characteristic Curves (FR102, 103, 105)



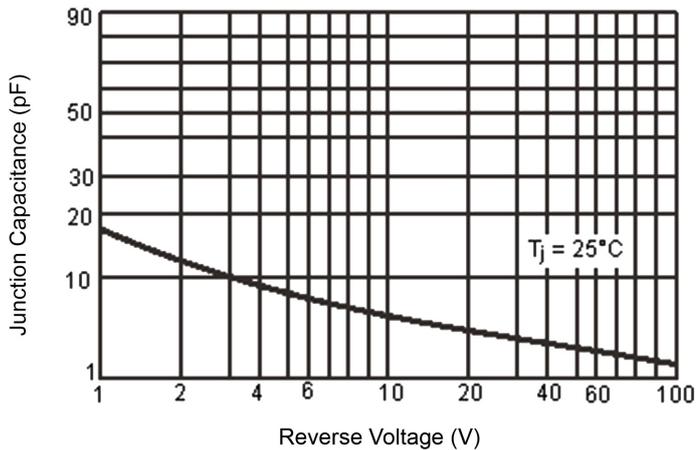
Maximum Non-Repetitive Forward Surge Current



Typical Forward Characteristics



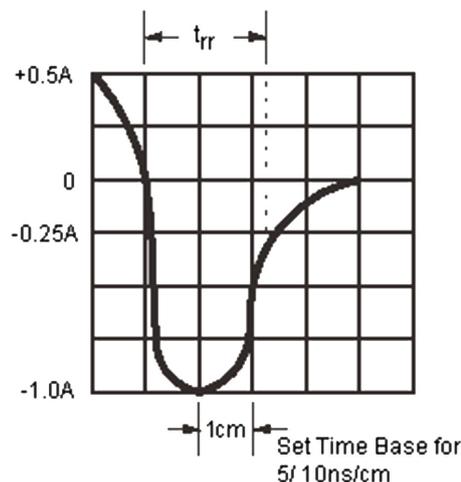
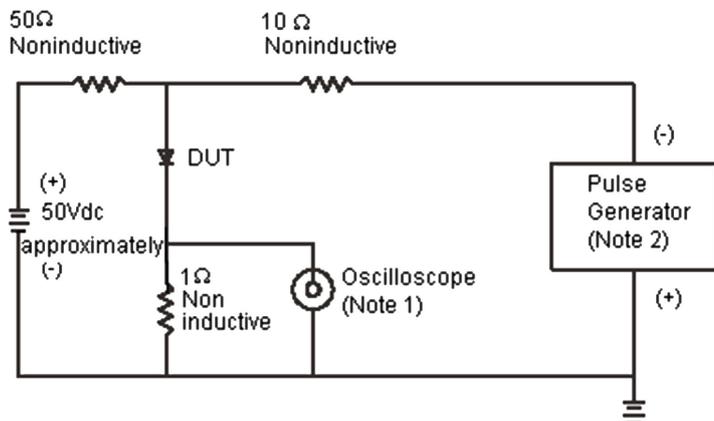
Typical Junction Capacitance



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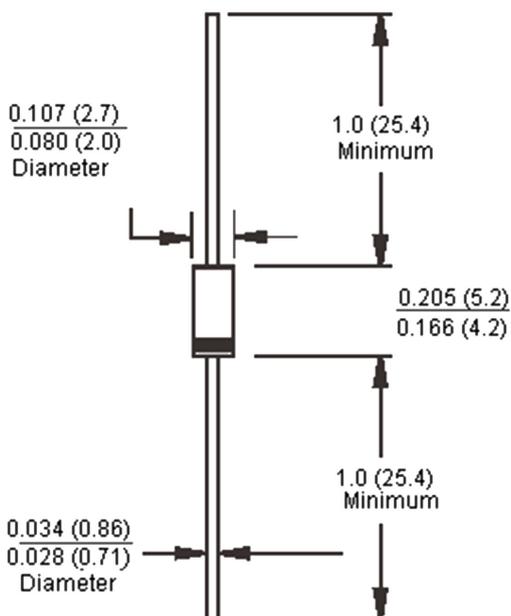
Reverse Recovery Time Characteristic and Test Circuit Diagram



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

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

DO-41



Dimensions : Inches (Millimetres)

Part Number Table

Description	Part Number
Diode, Fast, 1A, 100V	FR102
Diode, Fast, 1A, 200V	FR103
Diode, Fast, 1A, 600V	FR105

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