

Diode - Fast



**RoHS
Compliant**



Features:

- Glass passivated chip junction
- 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 inch, (9.5mm) lead lengths at 5lbs., (2.3kg) tension
Mounting position	: Any
Weight	: 1.2 grams

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	FR302G	FR305G	FR307G	Units
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	100	600	1000	V
Maximum RMS Voltage	V _{RMS}	70	420	700	
Maximum DC Blocking Voltage	V _{DC}	100	600	1000	
Maximum Average Forward Rectified Current 0.375 inch (9.5mm) Lead Length at T _A = 55°C	I _(AV)	3			A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	125			
Maximum Instantaneous Forward Voltage at 3A	V _F	1.3			V

Diode - Fast



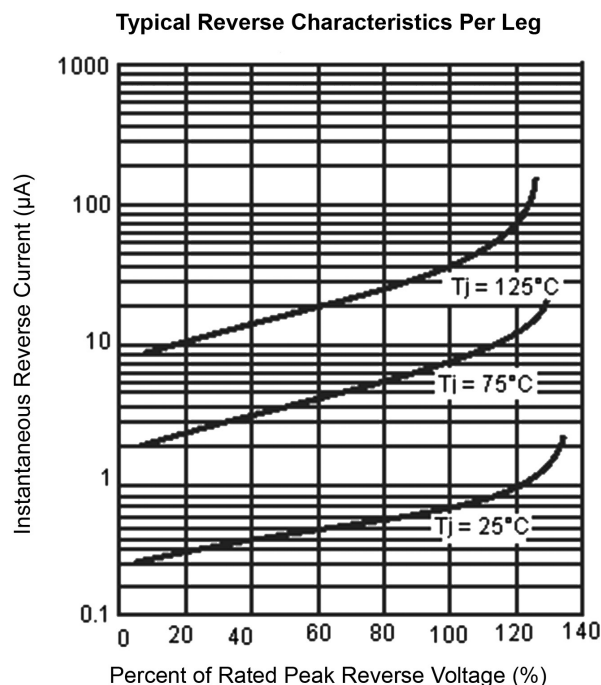
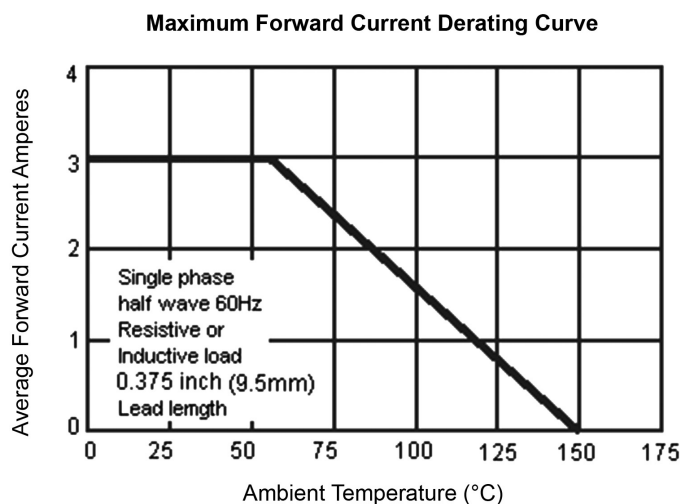
Type Number	Symbol	FR302G	FR305G	FR307G	Units
Maximum DC Reverse Current at $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage at $T_A = 125^\circ\text{C}$	I_R	5 100			μA μA
Maximum Reverse Recovery Time (Note 1)	T_{rr}	150	250	500	nS
Typical Junction Capacitance (Note 2)	C_j	30			pF
Typical Thermal Resistance	$R_{\theta JA}$	35			$^\circ\text{C/W}$
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 4 Volts DC.

Note: 3. Mount on Cu-Pad Size 16mm $\times$ 16mm on PCB.

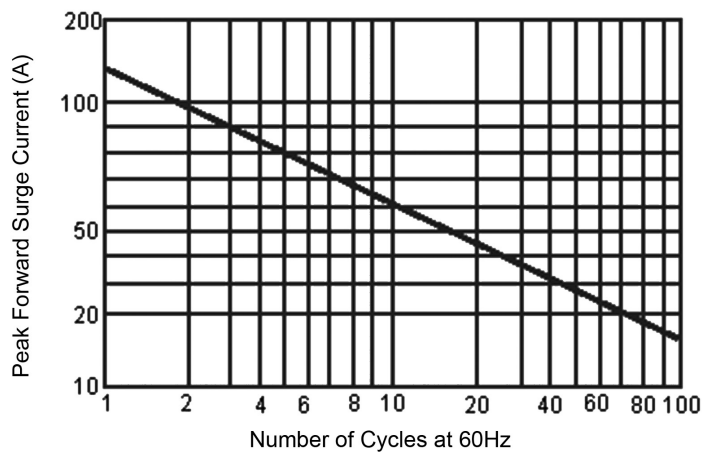
Ratings and Characteristic Curves (FR302G, FR305G, FR307G)



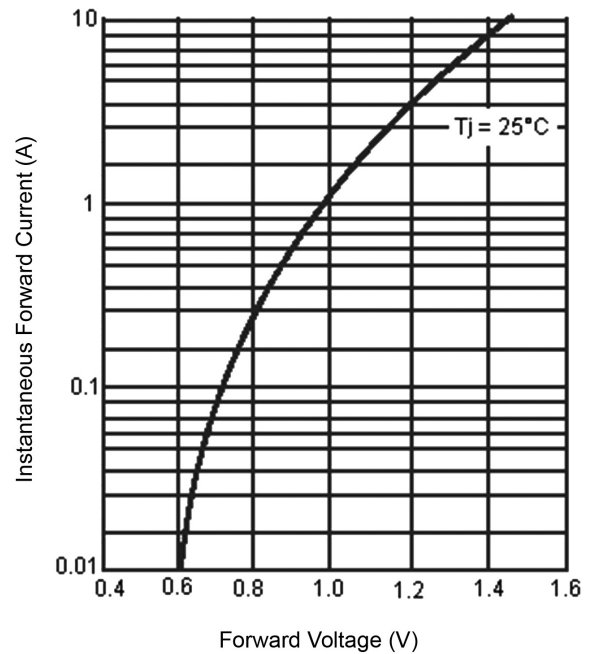
Diode - Fast



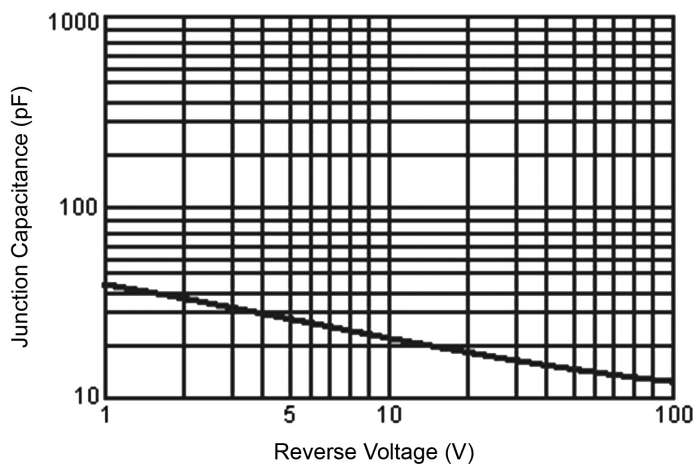
Maximum Non-Repetitive Peak Forward Surge Current



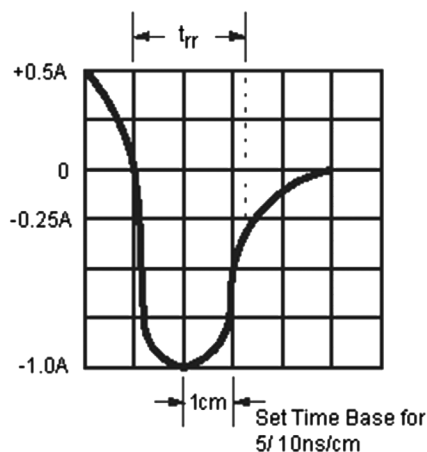
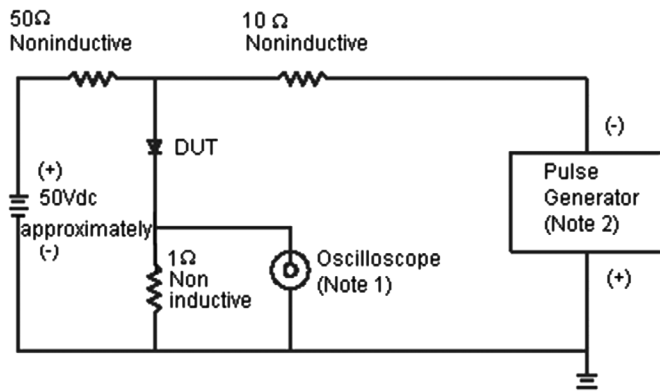
Typical Forward Characteristics



Typical Junction Capacitance



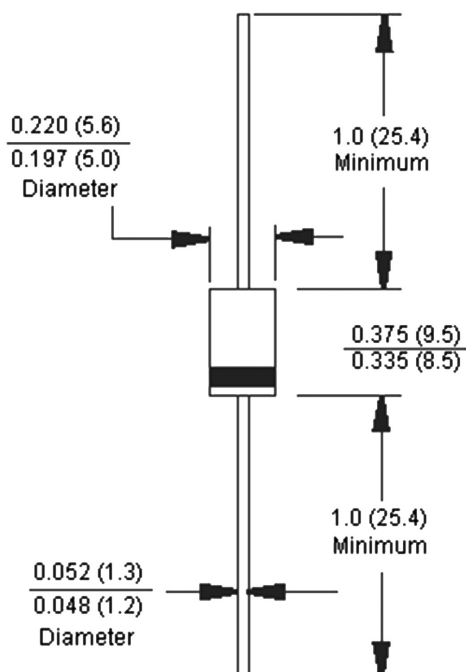
Reverse Recovery Time Characteristic and Test Circuit Diagram



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

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

DO-201AD



Dimensions : Inches (Millimetres)

Part Number Table

Description	Part Number
Diode, Fast, 3A, 100V	FR302G
Diode, Fast, 3A, 600V	FR305G
Diode, Fast, 3A, 1000V	FR307G

Important Notice : This data sheet and its contents (the "Information") belong to the members of the Premier Farnell group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell plc 2012.