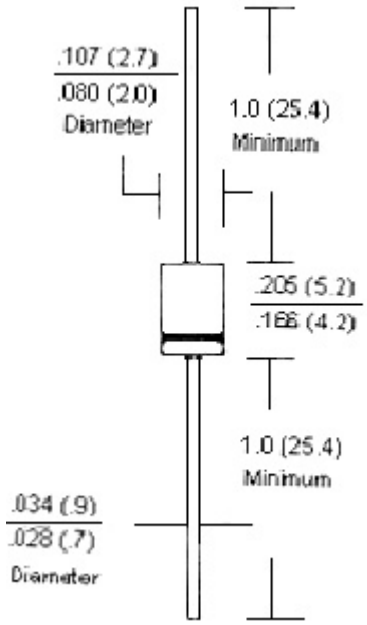
FR103, FR107

Fast Recovery Axial Rectifiers

Features:

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

DO-41



Dimensions : Inches (Millimetres)

Mechanical Data:

Case	: Moulded plastic.
Lead	: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed.
Polarity	: Colour band denotes cathode end.
High temperature soldering guaranteed	: 250°C/10 seconds/0.375", (9.5mm) lead lengths at 5lbs, (2.3kg) tension.
Weight	: 0.34 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%.

Parameter	FR103	FR107	Units
Maximum recurrent peak reverse voltage	200	1000	V
Maximum RMS voltage	140	700	
Maximum DC blocking voltage	200	1000	
Maximum average forward rectified current 0.375" (9.5mm) lead length at T_A = 55°C	1.0		A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	30		
Maximum Instantaneous forward voltage at 1.0A	1.3		V

Parameter		FR103	FR107	Units
Maximum DC reverse current at rated DC blocking voltage	T_A = 25°C T_A = 100°C	5.0 100		µA
Maximum reverse recovery time (Note 1)		150	500	nS
Typical junction capacitance (Note 2)		15		pF
Operating and Storage temperature range T_J, T_{STG}		-65 to +125 / -65 to +150		°C

Notes:

1. Reverse recovery test conditions: I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A.
2. Measured at 1MHz and applied reverse voltage of 4.0V dc.

Ratings and Characteristics Curves

Figure - 1 Typical Forward Current Derating Curve

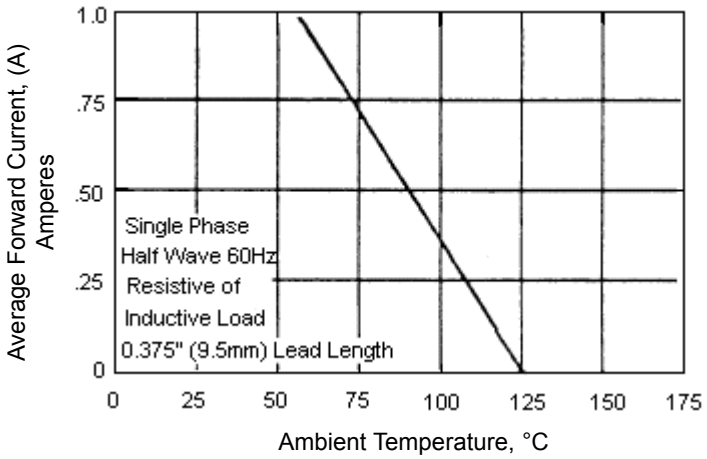


Figure - 2 Maximum Non-Repetitive Forward Surge Current

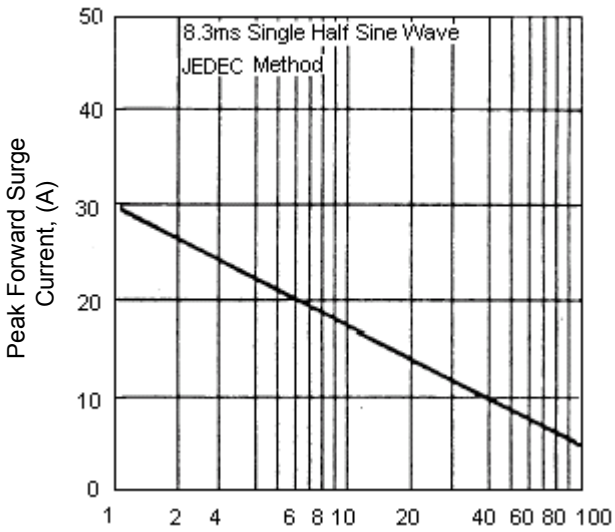


Figure - 3 Typical Forward Characteristics

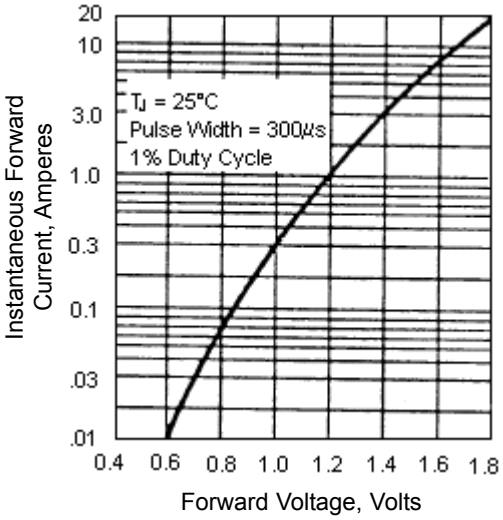


Figure - 4 Typical Junction Capacitance

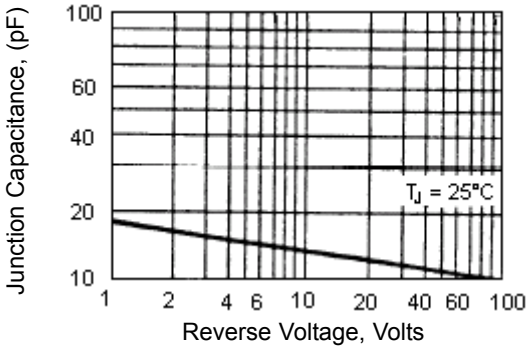
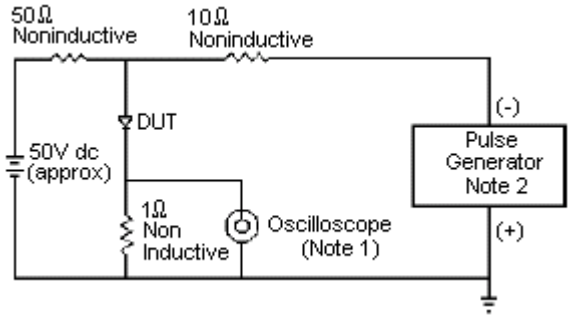
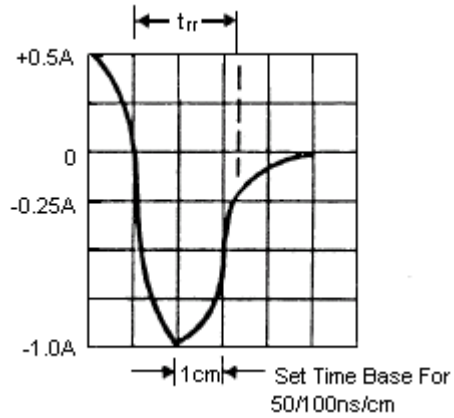


Figure - 5 Test Circuit Diagram and Reverse Recovery Time Characteristics





NOTE: 1. Rise Time = 7ns maximum
Input Impedance = 1MΩ, 22pF
2. Rise Time = 10ns maximum
Source Impedance = 50Ω

Specifications

I_F (av) (A)	I_{fsm} (A)	t_{rr} maximum (ns)	V_{rrm} (V)	V_F (V) at I_F = 1A	Length	Diameter	Package	Part Number
1	30	150	200	-	5.2	2.7	DO-41	FR103
		500	1000	1.3				FR107

Dimensions : Millimetres

Notes:

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