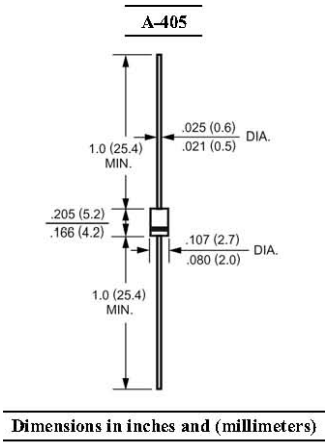
FR101S THRU FR107S

FAST RECOVERY RECTIFIERS
Reverse Voltage – 50 to 1000 V
Forward Current – 1 A

Features

- High Current Capability
- Fast switching for high efficiency
- Exceeds Environmental Standards of MIL-S-19500/228
- Low Leakage.



Dimensions in inches and (millimeters)

Mechanical Data

- **Case:** Molded plastic, A-405
- **Epoxy:** UL 94V-0 rate flame retarant
- **Lead:** Axial leads, solderable per MIL-STD-202, method 208 guaranteed.
- **Polarity:** Color band denotes cathode end
- **Mounting Position:** Any

Absolute Maximum Ratings and Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified, single phase, half wave, 60 Hz, resistive or inductive load, for capacitive load, derate current by 20 %.

Parameter	Symbols	FR101S	FR102S	FR103S	FR104S	FR105S	FR106S	FR107S	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375" (9.5 mm), Lead Length at T_a = 55 °C	$I_{F(AV)}$	1							A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	30							A
Maximum Forward Voltage at 1 A DC and 25 °C	V_F	1.3							V
Maximum Reverse Current T_a = 25 °C at Rated DC Blocking Voltage T_a = 100 °C	I_R	5 50							μA
Maximum Reverse Recovery Time [1]	t_{rr}	150				250	500		ns
Typical Junction Capacitance [2]	C_j	12							pF
Typical Thermal Resistance [3]	$R_{\theta JA}$	67							°C/W
Operating and Storage Temperature Range	T_j , T_{stg}	- 55 to + 150							°C

[1] Reverse recovery test conditions: I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A.

[2] Measured at 1MH_Z and applied reverse voltage of 4 VDC .

[3] Thermal resistance junction to ambient and form junction to lead at 0.375” (9.5 mm) lead length P.C.B. mounted.

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RATINGS AND CHARACTERISTIC CURVES

FIG.1- MAXIMUM TYPICAL FORWARD CURRENT DERATING CURVE

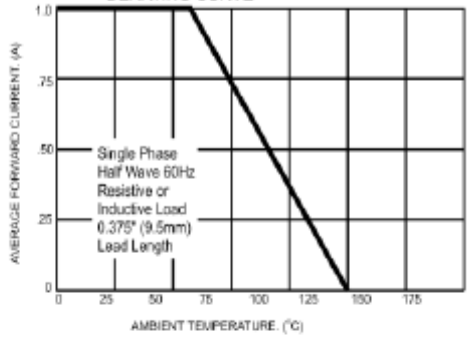

FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

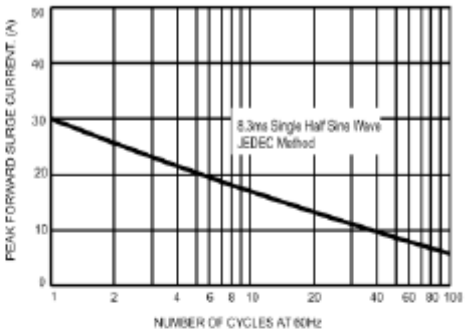

FIG.3- TYPICAL FORWARD CHARACTERISTICS

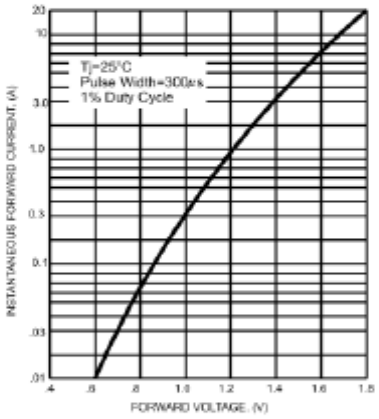

FIG.4- TYPICAL JUNCTION CAPACITANCE

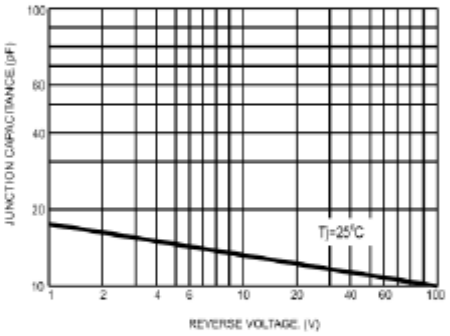

FIG.5- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM