

# FR101S THRU FR107S

## FAST RECOVERY RECTIFIERS Reverse Voltage – 50 to 1000 Volts Forward Current – 1.0 Ampere

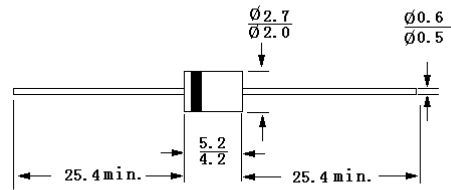
### Features

- High Current Capability
- Fast switching for high efficiency
- Exceeds Environmental Standards of MIL-S-19500/228
- 1 ampere operation at  $T_A = 55^\circ\text{C}$  with no thermal runaway
- Low Leakage.

### Mechanical Data

- **Case:** Molded plastic, A-405
- **Lead:** Axial leads, solderable per MIL-STD-202, method 208 guaranteed.
- **Polarity:** Color band denotes cathode end
- **Mounting Position:** Any

A-405



Dimensions in mm

### Absolute Maximum Ratings and Characteristics

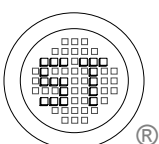
Ratings at  $25^\circ\text{C}$  ambient temperature unless otherwise specified, single phase, half wave, 60Hz, resistive or inductive load, for capacitive load, derate current by 20%.

	Symbols	FR 101S	FR 102S	FR 103S	FR 104S	FR 105S	FR 106S	FR 107S	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Average forward rectified current .375" (9.5mm) lead length at $T_A = 55^\circ\text{C}$	$I_{(AV)}$	1							Amp
Peak forward surge current 8.3mS single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30							Amps
Maximum forward voltage at 1A DC and $25^\circ\text{C}$	$V_F$	1.3							Volts
Maximum reverse current $T_A = 25^\circ\text{C}$ at rated DC blocking voltage $T_A = 100^\circ\text{C}$	$I_R$	5 500							$\mu\text{A}$
Maximum reverse recovery time (Note 1)	$T_{rr}$	150			250	500			nS
Typical junction capacitance (Note 2)	$C_J$	12							pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	67							$^\circ\text{C/W}$
Operating and storage temperature range	$T_J, T_S$	-55 to +150							$^\circ\text{C}$

1) Reverse recovery test conditions:  $I_F = 0.5\text{A}$ ,  $I_R = 1\text{A}$ ,  $I_{rr} = 0.25\text{A}$ .

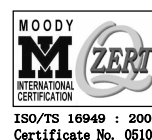
2) Measured at 1MHz and applied reverse voltage of 4 VDC .

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



## SEMTECH ELECTRONICS LTD.

(Subsidiary of Semtech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002  
Certificate No. 05103



ISO 14001  
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ISO 9001 : 2000  
Certificate No. 555-199-0402-04

Dated : 23/08/2004