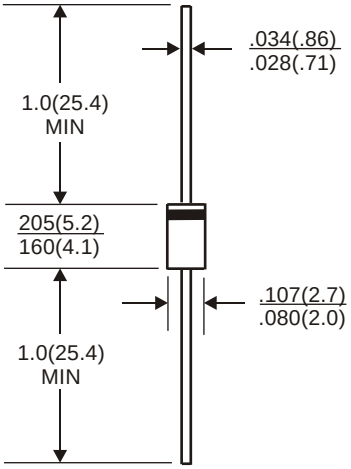
SEP ELECTRONIC CORP.

FR101 thru FR107

1.0 A Fast Recovery Silicon Rectifier

Rectifier Reverse Voltage 50 to 1000V

DO-41



All dimensions inches and (milimeters)

Features

- Diffused junction
- Fast switching for high efficiency
- High current capability and low Forward Voltage Drop
- Surge overload rating to 30A peak
- Low reverse leakage current
- Plastic material has UL flammability classification 94V-0

Mechanical Data

Case: Molded plastic
Terminals: Solder plated solderable per MIL-STD-202, Method 208
Polarity: Cathode band
Mounting Position: Any
Weight: 0.3grams (approx)

Maximum Ratings & Thermal Characteristics

Rating at 25°C ambient temperature unless otherwise specified, Resistive or Inductive load, 60 Hz.
For Capacitive load derate current by 20%.

Parameter	Symbol	FR101	FR102	FR103	FR104	FR105	FR106	FR107	unit
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS bridge input 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 output current at T_A=75°C	$I_{F(AV)}$	1.0							A
Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30.0							A
Maximum reverse recovery time T_J=25°C	Trr	150				250	500		nS
Typical thermal resistance per element	$R_{\theta JA}$	50							°C/W
Typical junction capacitance per element	Cj	15							pF
Operating junction and storage temperature range	T_J, T_{STG}	-65 to + 150							°C

Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified. Resistive or Inductive load, 60Hz.
For Capacitive load derate by 20 %.

Parameter	Symbol	FR101	FR102	FR103	FR104	FR105	FR106	FR107	Unit
Maximum instantaneous forward voltage drop per leg at 1.0A	VF	1.3							V
Maximum DC reverse current at rated T_A =25°C DC blocking voltage per element T_A =125°C	IR	5.0 50.0							μA

Rating and Characteristic Curves (TA = 25°C Unless otherwise noted)
FR101 thru FR107

Fig. 1 Reverse Recovery Time and Test Circuit Diagram

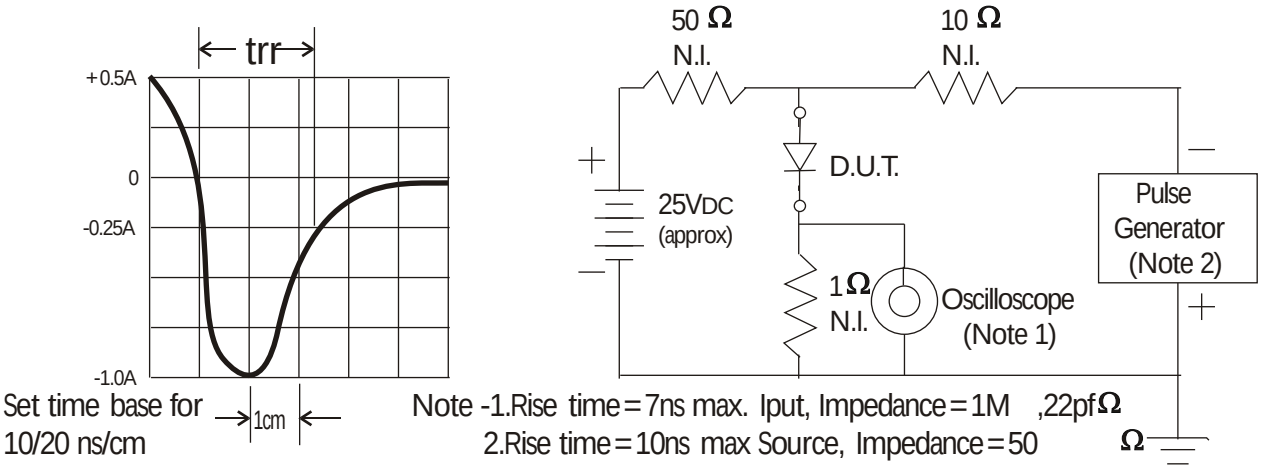


Fig. 2 Derating Curve for Output Rectified Current

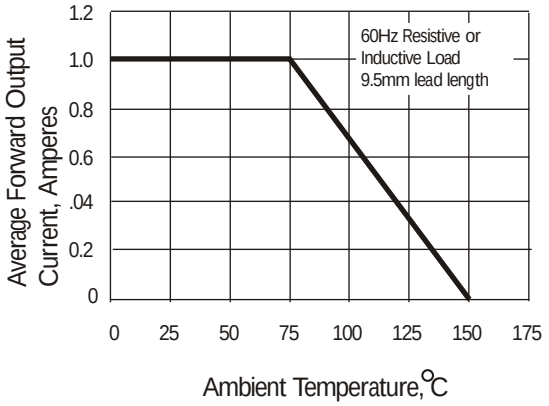


Fig. 3 Peak Forward Surge Current

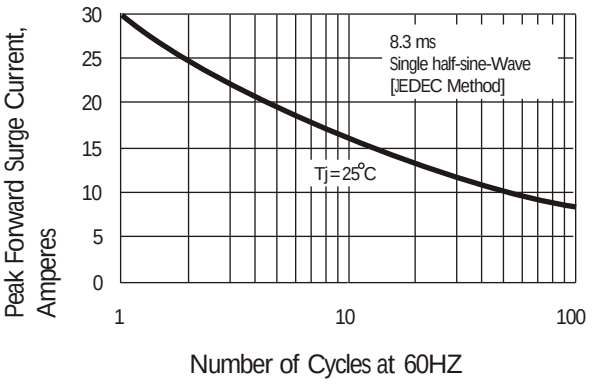


Fig. 4 Typical Instantaneous Forward Characteristics

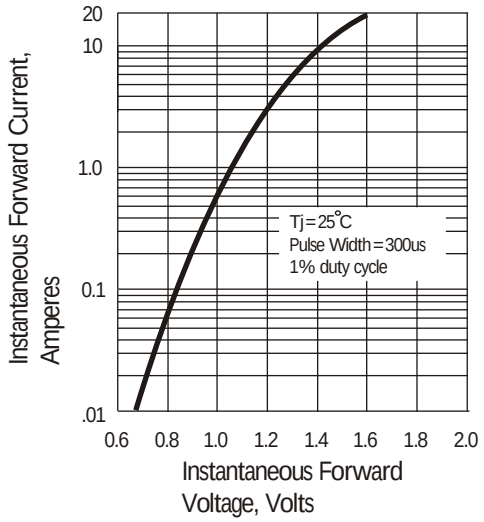


Fig. 5 Typical Junction Capacitance