

SEMTECH

STANDARD RECOVERY
HIGH VOLTAGE
RECTIFIER ASSEMBLY

SCHJ15K SCHJ22.5K
SCHJ30K SCHJ37.5K
SCHJ45K

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QUICK REFERENCE DATA

- $V_R = 15kV - 45kV$
- $I_F = 50mA$ (in air)
- $I_R = 1.0\mu A$
- $I_{FSM} = 25A$

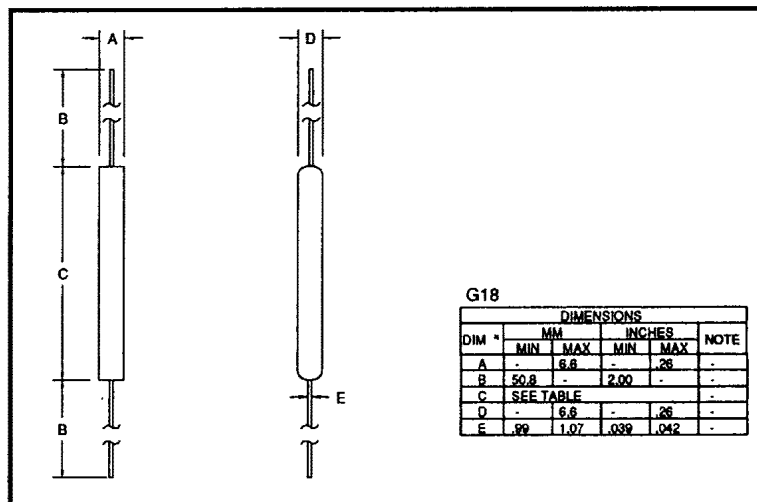
HIGH VOLTAGE, HIGH DENSITY, LEADED SILICON RECTIFIER ASSEMBLY

- Low forward voltage drops
- Low reverse leakage current
- High thermal shock resistance
- Corona free construction
- Low distributed capacitance

ABSOLUTE MAXIMUM RATINGS

Device Type	Working Reverse Voltage V_{RWM}	Average Rectified Current				1 Cycle Surge Current I_{FSM} $t_p = 8.3mS$ @ T_J MAX	I^2t $t_p = 8.3mS$ @ T_J MAX	Repetitive Surge Current I_{FRM} @ $25^\circ C$	Case Length Max Dim C
		@ $55^\circ C$	@ $100^\circ C$	Forced air 600CFM, $55^\circ C$	in still oil @ $55^\circ C$				
	Volts	Amps	Amps	Amps	Amps	Amps	A^2S	Amps	inches
SCHJ15K	15000	↑	↑	↑	↑	↑	↑	↑	1.52
SCHJ22.5K	22500	↑	↑	↑	↑	↑	↑	↑	2.02
SCHJ30K	30000	0.05	0.03	0.1	0.1	25	2.6	2.5	2.52
SCHJ37.5K	37500	↓	↓	↓	↓	↓	↓	↓	3.02
SCHJ45K	45000	↓	↓	↓	↓	↓	↓	↓	3.52

MECHANICAL



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ELECTRICAL CHARACTERISTICS

Device Type	Maximum Reverse Leakage Current I_R @ V_{RWM}		Maximum Forward Voltages V_F @ 0.1A @ 25°C	Maximum Reverse Recovery Time ⁽¹⁾ @ 25°C
	@ 25 °C	@ 100 °C		
	μA	μA	Volts	μS
SCHJ15K	↑	↑	20	↑
SCHJ22.5K			30	
SCHJ30K	1.0	20	40	2.5
SCHJ37.5K			50	
SCHJ45K	↓	↓	60	↓

1. Measured on discrete devices prior to assembly

Operating temperature range -55 °C to +150 °C
Storage temperature range -55 °C to +150 °C

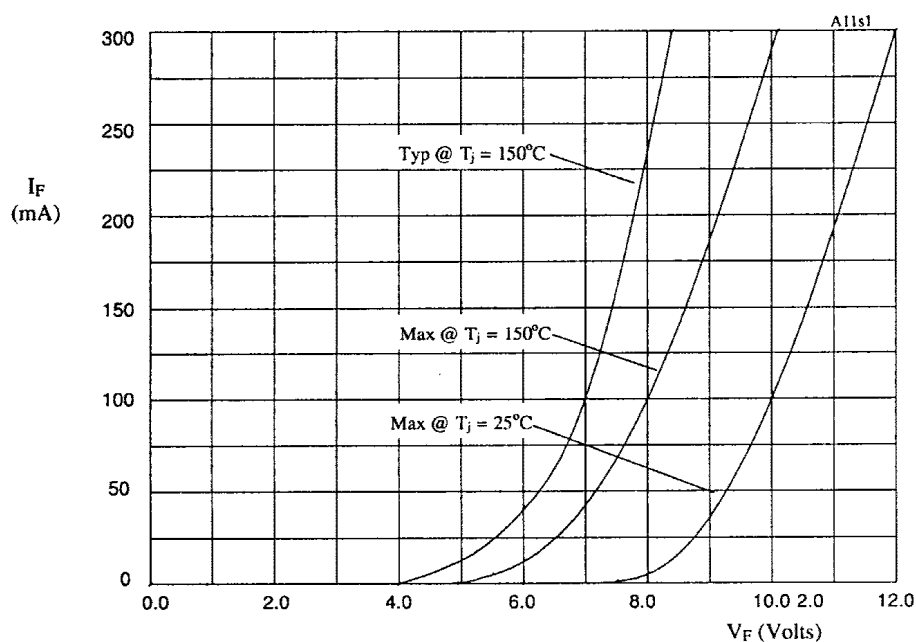


TABLE 1

DEVICE	X-AXIS
SCHJ15K	x2
SCHJ22.5K	x3
SCHJ30K	x4
SCHJ37.5K	x5
SCHJ45K	x6

Fig 1. Forward voltage drop as a function of forward current for use with table 1.

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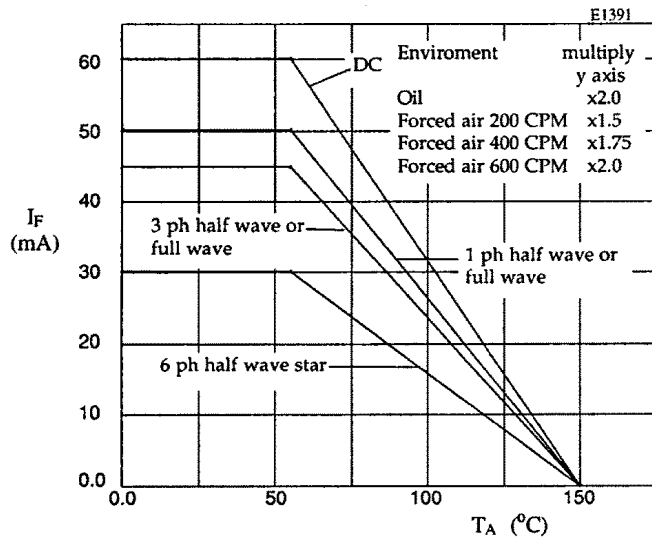


Figure 2. Maximum forward currents against ambient temperature.

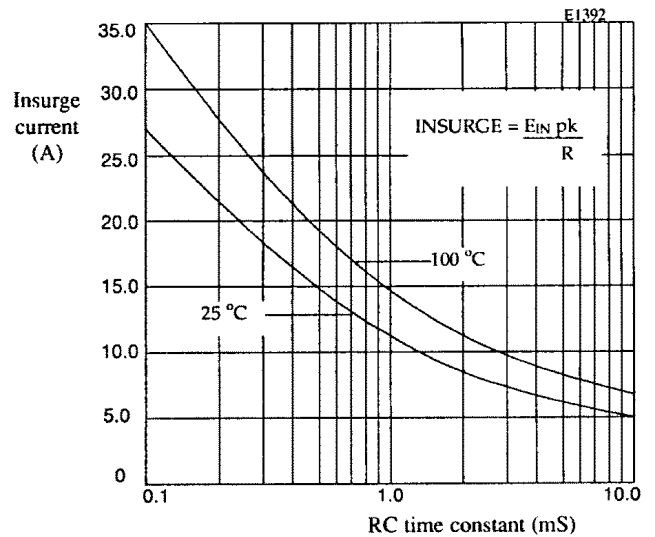


Figure 3. Maximum ratings for capacitive loads. Insurge current versus RC time constant

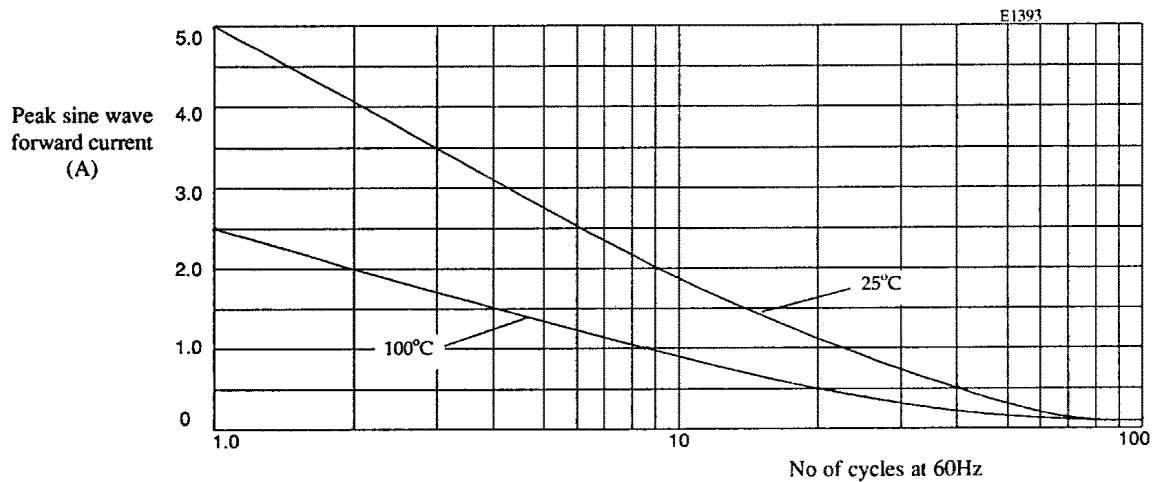


Figure 4. Non repetitive forward current surge curves for 25°C and 100°C