

January 8, 1998

TEL:805-498-2111 FAX:805-498-3804 WEB:http://www.semtech.com

QUICK REFERENCE DATA

- $V_R = 5000 - 25000V$
- $I_F = 0.5A$
- $I_R = 1\mu A$
- $I_{FSM} = 50A$

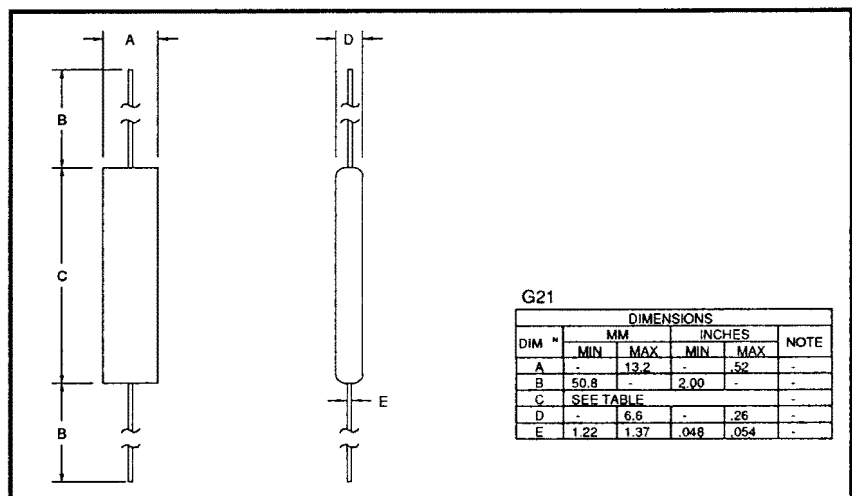
HIGH VOLTAGE, HIGH DENSITY, LEADED, SILICON RECTIFIER ASSEMBLY

- Low forward voltage drop
- 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 $I_{F(AV)}$				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°C	Case Length dim. C Max
		@ 55 °C	@ 100 °C	Forced air @ 600CFM, 55°C	in still oil @ 55 °C				
		Volts	Amps	Amps	Amps				
SCH5000	5000	↑	↑	↑	↑	↑	↑	↑	1.145
SCH7500	7500	↑	↑	↑	↑	↑	↑	↑	1.645
SCH10000	10000	↑	↑	↑	↑	↑	↑	↑	2.020
SCH12500	12500	0.50	0.33	1.0	1.0	50	12	10	2.395
SCH15000	15000	↓	↓	↓	↓	↓	↓	↓	2.770
SCH20000	20000	↓	↓	↓	↓	↓	↓	↓	3.520
SCH25000	25000	↓	↓	↓	↓	↓	↓	↓	4.270

MECHANICAL



January 8, 1998

ELECTRICAL CHARACTERISTICS

Device Type	Maximum Reverse Leakage Current $I_R @ V_{RWM}$		Maximum Forward Voltages $V_F @ 1.0A$ @ 25°C	Maximum Reverse Recovery Time ⁽¹⁾ $t_{rr} @ 25°C$
	@ 25 °C	@ 100 °C		
	µA	µA	Volts	µS
SCH5000	↑	↑	5.0	↑
SCH7500			8.0	
SCH10000			10.0	
SCH12500	1.0	20	13.0	5.0
SCH15000	↓	↓	15.0	↓
SCH20000			20.0	
SCH25000			25.0	

1. Measured on discrete devices prior to assembly.

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

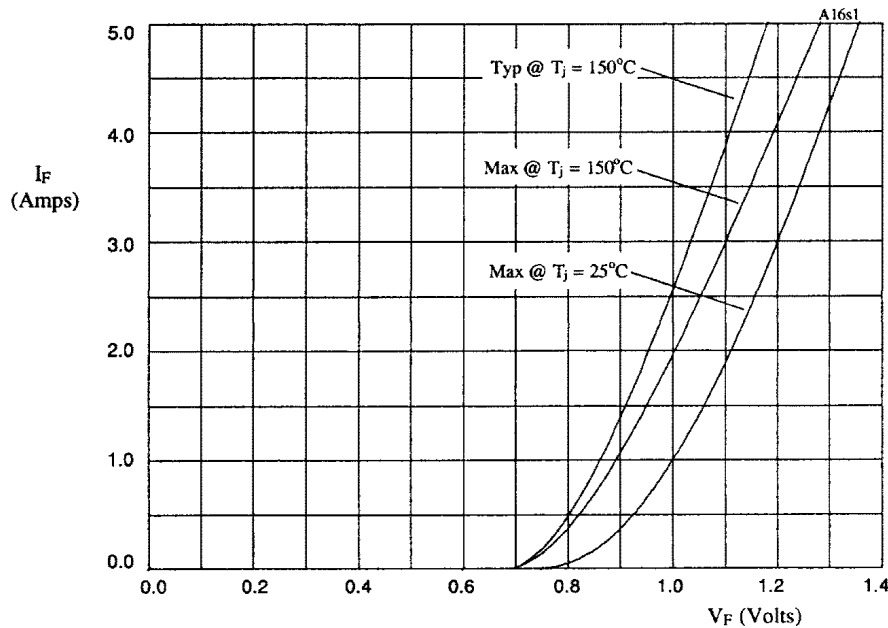


Figure 1. Forward voltage drop as a function of forward current (see Table 1).

TABLE 1

DEVICE	X-AXIS
SCH5000	x5
SCH7500	x8
SCH10000	x10
SCH12500	x13
SCH15000	x15
SCH20000	x20
SCH25000	x25

January 8, 1998

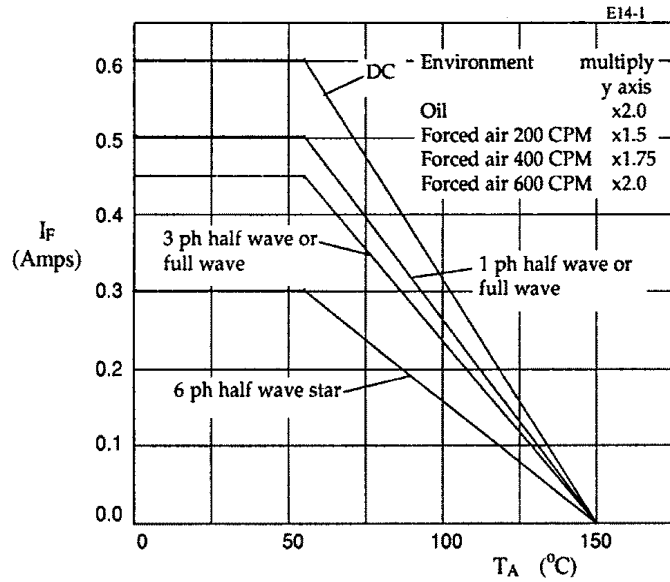


Figure 2. Maximum forward current against ambient temperature.

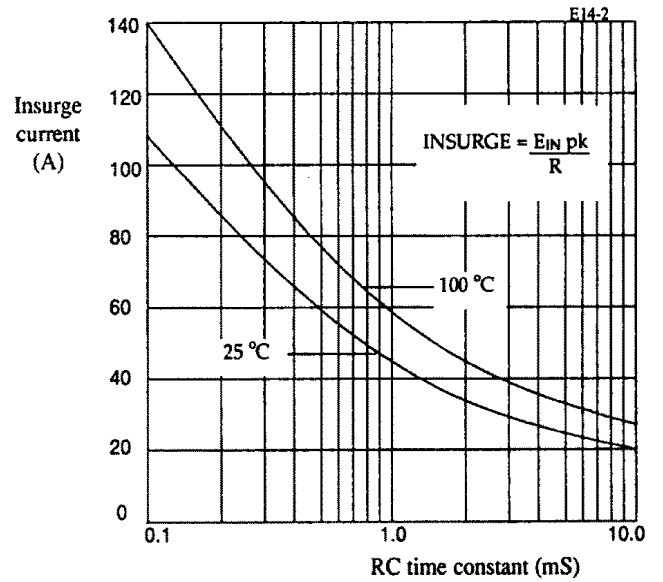


Figure 3. Maximum ratings for capacitive loads. Insurge current versus RC time constant

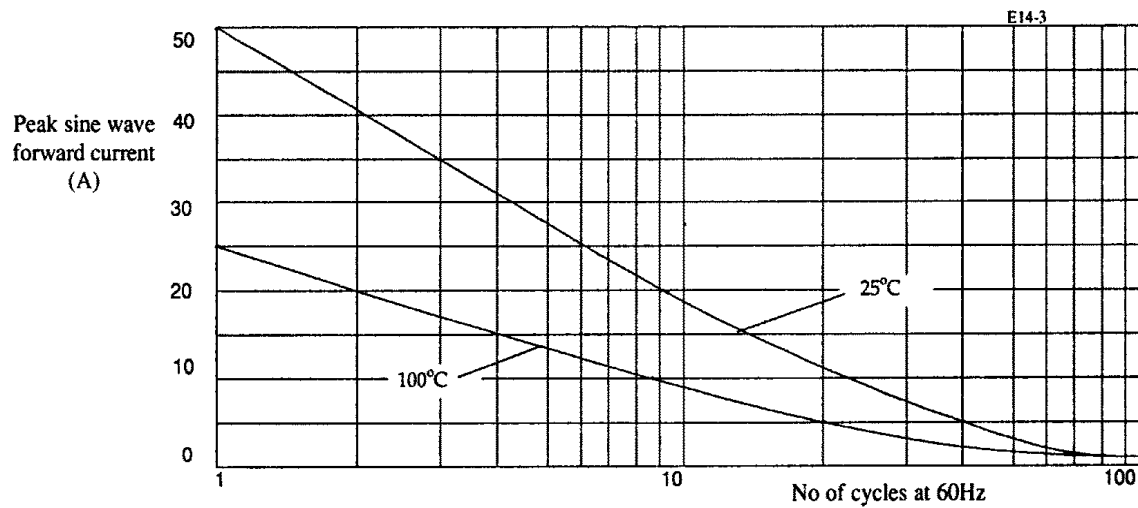


Figure 4. Non repetitive forward current surge curves.