

January 8, 1998

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

HIGH VOLTAGE, HIGH DENSITY, STANDARD RECOVERY LEADED SILICON RECTIFIER ASSEMBLY

QUICK REFERENCE DATA

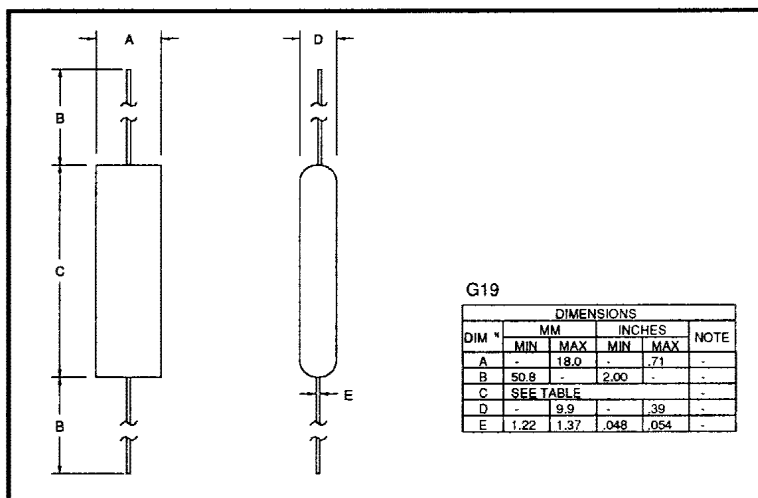
- Low reverse leakage current
- Low forward voltage drop
- High thermal shock resistance
- Corona free construction
- Low distributed capacitance

- $V_R = 2500V - 15000V$
- $I_F = 2.0A$
- $I_R = 1.0 \mu A$
- $I_{FSM} = 80A$

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 @ 25°C	Case Length dim. C Max
		@ 55 °C	@ 100 °C	Forced air 600CFM, 25°C	in still oil @ 55 °C				
		Volts	Amps	Amps	Amps				
SCHS2500	2500	↑	↑	↑	↑	↑	↑	1.53	
SCHS5000	5000	↑	↑	↑	↑	↑	↑	2.53	
SCHS7500	7500	2.0	1.2	2.0	4.0	80	31	3.53	
SCHS10000	10000	↓	↓	↓	↓	↓	↓	4.53	
SCHS12500	12500	↓	↓	↓	↓	↓	↓	5.53	
SCHS15000	15000	↓	↓	↓	↓	↓	↓	6.53	

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ELECTRICAL CHARACTERISTICS

Device Type	Maximum Reverse Leakage Current I_R @ V_{RWM}		Maximum Forward Voltages V_F @ 3.0A @ 25°C	Maximum Reverse Recovery Time ⁽¹⁾ @ 25°C
	@ 25 °C	@ 100 °C		
	µA	µA	Volts	µS
SCHS2500	↑ 1.00 ↓	↑ 10.0 ↓	3.45	↑ 2.5 ↓
SCHS5000			5.75	
SCHS7500			9.20	
SCHS10000			11.50	
SCHS12500			14.95	
SCHS15000			18.40	

1. Measured on discrete devices prior to assembly.

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

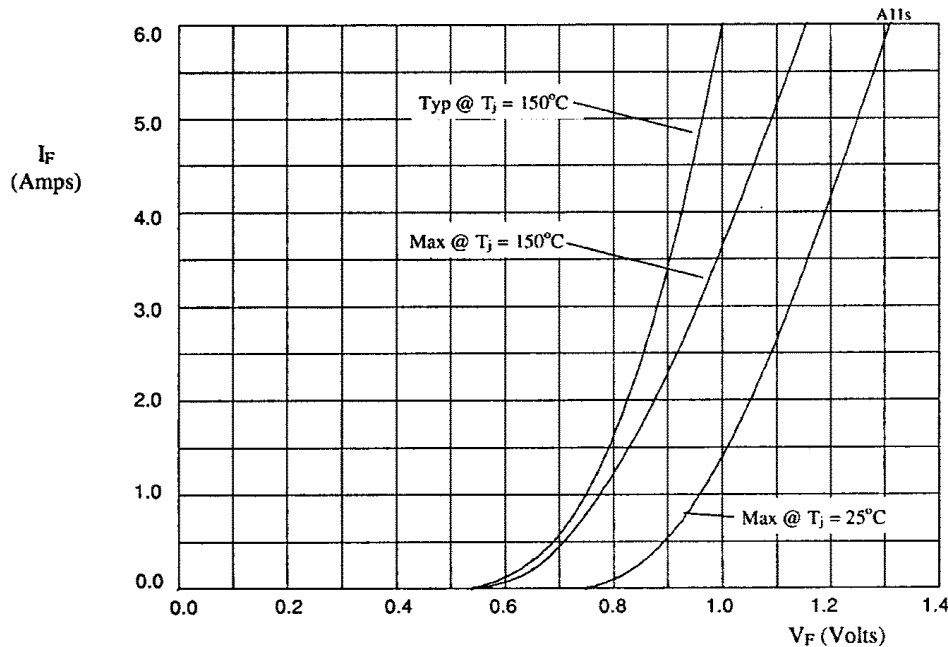


Figure 1. Forward voltage drop as a function of forward current.

TABLE 1

DEVICE	X-AXIS
SCHS2500	x3
SCHS5000	x6
SCHS7500	x8
SCHS10000	x10
SCHS12500	x13
SCHS15000	x16

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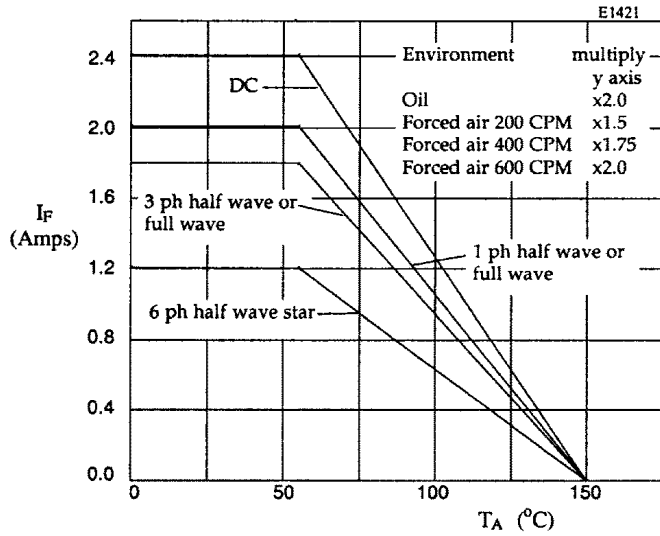


Figure 2. Maximum forward current against ambient temperature.

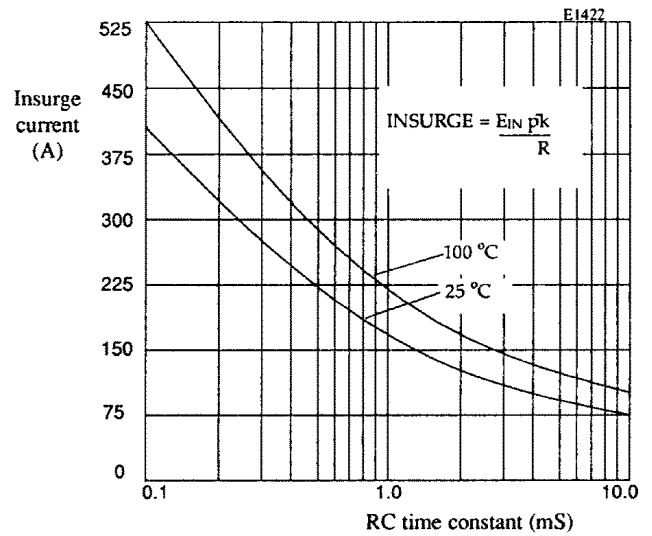


Figure 3. Maximum ratings for capacitive loads. Insurge current versus RC time constant

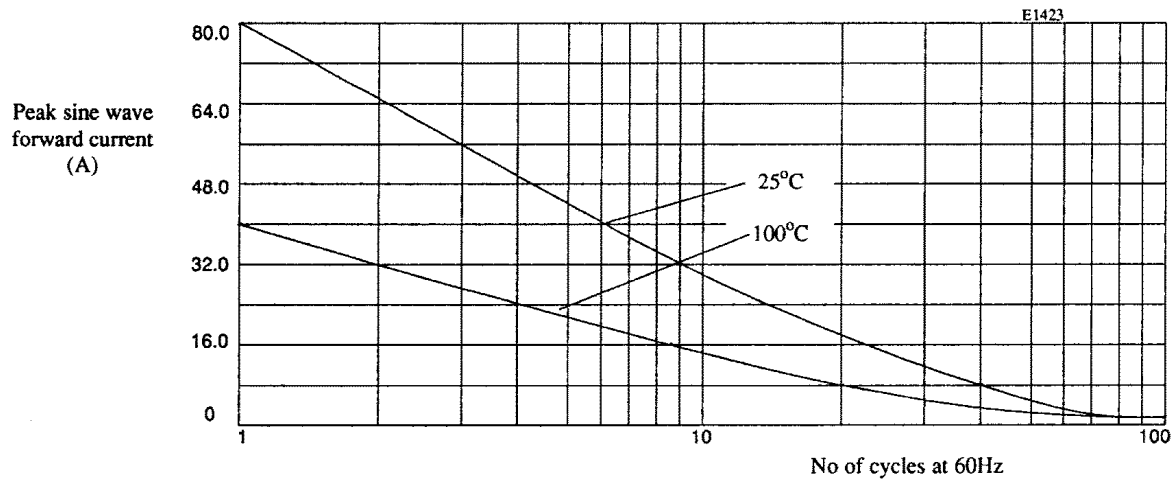


Figure 4. Non repetitive forward current surge curves.

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