

January 8, 1998

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

QUICK REFERENCE DATA

- $V_R = 2000 - 12000V$
- $I_F = 1.5A$
- $I_R = 5.0\mu A$
- $t_{rr} = 150nS$

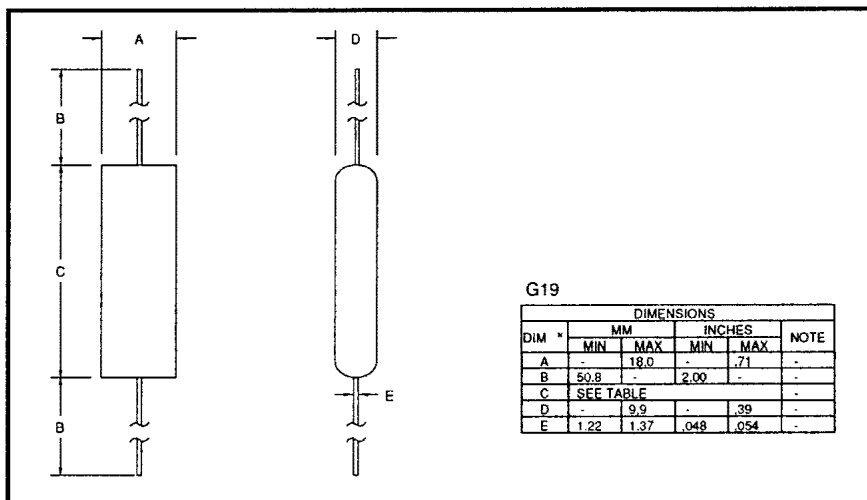
HIGH VOLTAGE, HIGH DENSITY, FAST RECOVERY LEADED SILICON RECTIFIER ASSEMBLY

- Low reverse recovery time
- Low reverse leakage currents
- High thermal shock resistance
- Corona free construction
- Low distributed capacitance

ABSOLUTE MAXIMUM RATINGS

Device Type	Working Reverse Voltage (V_{RWM})	Average Rectified Current $I_{F(AV)}$		Repetitive Surge Current @ 25 °C	1 Cycle Surge Current $t_p = 8.3mS$ (sinusoidal) I_{FSM}		I^2t $t_p = 8.3mS$ @ 25 °C	Case Length Max dim. C
		@ 55 °C	@ 100 °C		@ 25 °C	@ 100 °C		
		Amps	Amps		Amps	Amps		
SCFS2000	2000	↑	↑	↑	↑	↑	↑	1.53
SCFS4000	4000	↑	↑	↑	↑	↑	↑	2.53
SCFS6000	6000	1.5	1.0	10.0	150	75	93	3.53
SCFS8000	8000	↓	↓	↓	↓	↓	↓	4.53
SCFS10000	10000	↓	↓	↓	↓	↓	↓	5.53
SCFS12000	12000	↓	↓	↓	↓	↓	↓	6.53

MECHANICAL



January 8, 1998

ELECTRICAL CHARACTERISTICS

Device Type	Maximum Leakage Current @ V_{RWM} I_R		Maximum Forward Voltage drop V_F @ 3.0A	Maximum Reverse Recovery Time t_{rr} @ 25 °C
	@ 25 °C	@ 100 °C	@ 25 °C	
	μA	μA	Volts	nS
SCFS2000	5.0	25	5.4	150
SCFS4000			9.0	
SCFS6000			12.6	
SCFS8000			16.2	
SCFS10000			19.8	
SCFS12000			23.4	

(1) measured on discrete devices prior to assembly

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

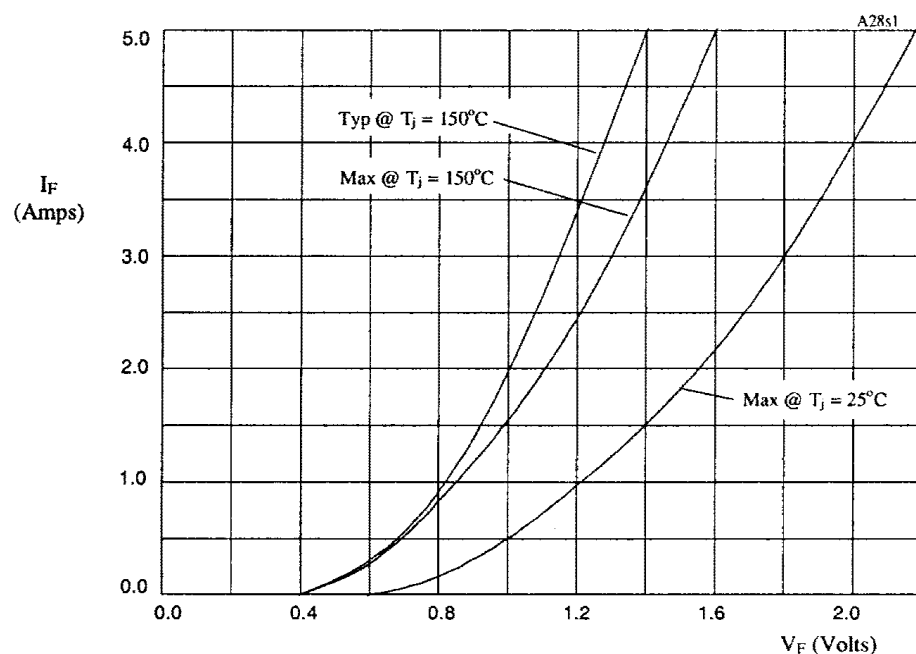


Fig 1. Forward voltage drop as a function of forward current.

TABLE 1

DEVICE	X-AXIS
SCFS2000	x3
SCFS4000	x5
SCFS6000	x7
SCFS8000	x9
SCFS10000	x11
SCFS12000	x13

January 8, 1998

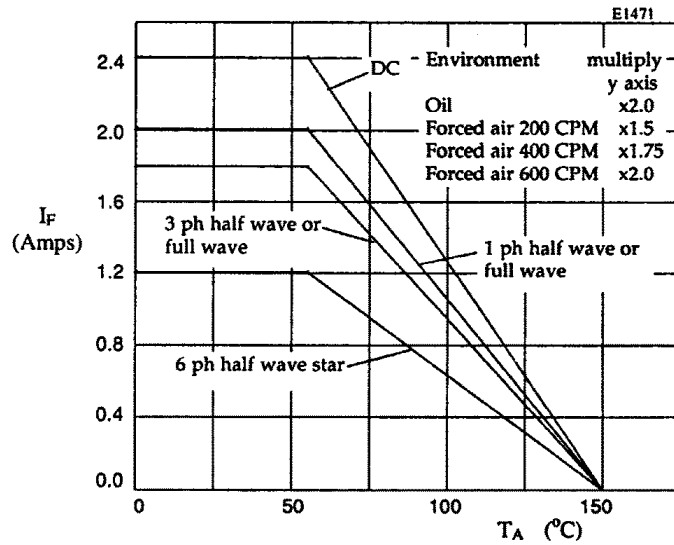


Figure 2. Maximum average forward currents against ambient temperature.

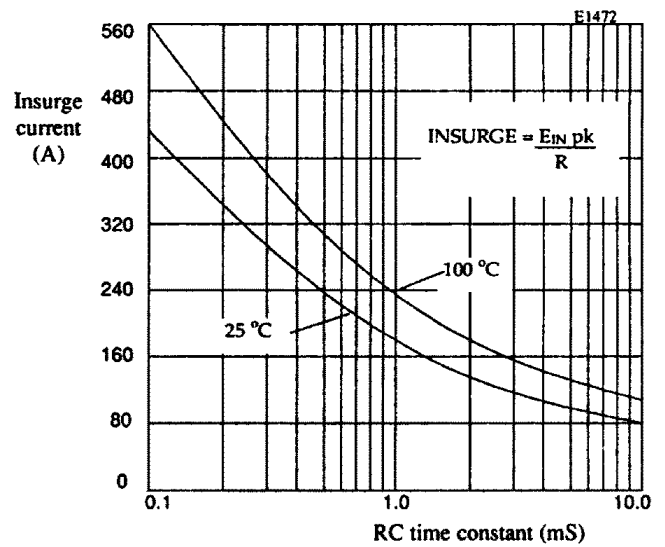


Figure 3. Maximum ratings for capacitive loads. Insurge current versus RC time constant

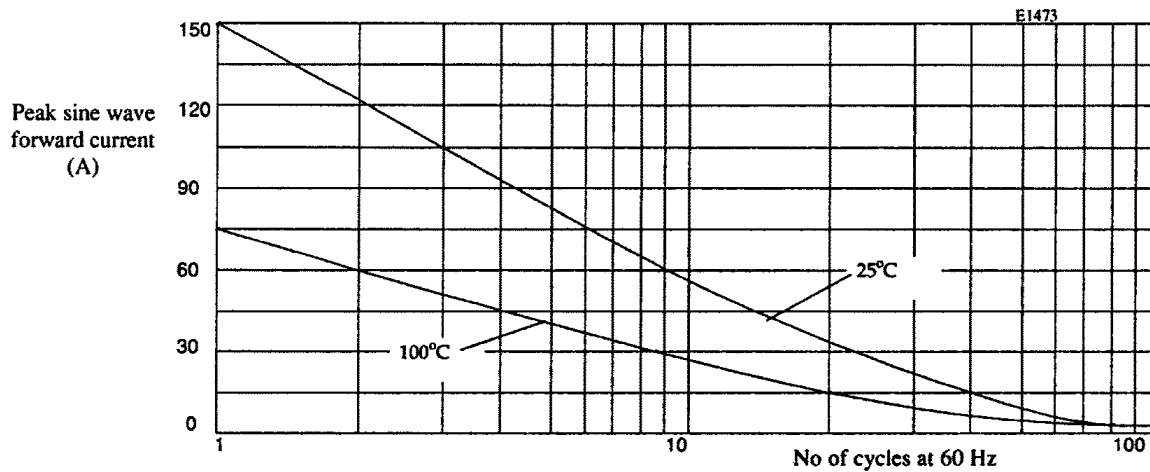


Figure 4. Non repetitive forward current surge curves for 25°C and 100°C