

January 8, 1998

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

- Low reverse recovery time
- Low forward voltage drop
- High thermal shock resistance
- Corona free construction
- Low distributed capacitance

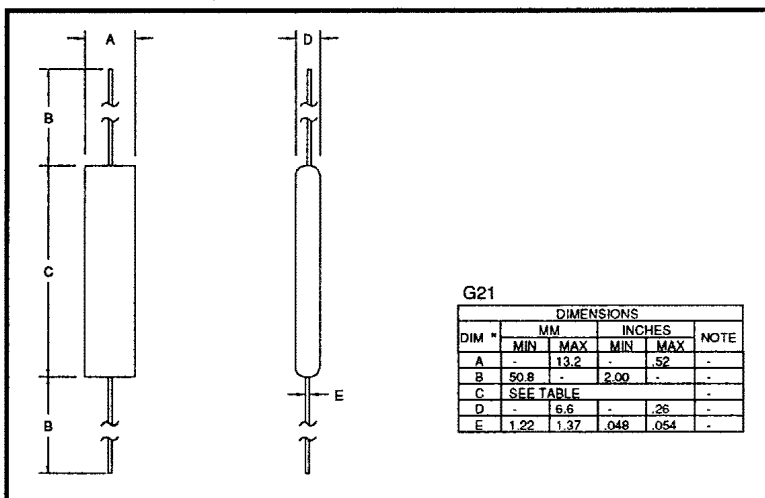
### QUICK REFERENCE DATA

- $V_R = 2500V - 12500V$
- $I_F = 0.5A$
- $I_R = 1.0 \mu A$
- $t_{rr} = 150ns$

### ABSOLUTE MAXIMUM RATINGS

Device Type	Working Reverse Voltage ( $V_{RWM}$ )	Average Rectified Current $I_{F(AV)}$		Repetitive Surge Current	1 Cycle Surge Current $t_p = 8.3ms$ (sinusoidal)		$I^2t$ $t_p = 8.3ms$	Case Length Max
		@ 55 °C	@ 100 °C		@ 25 °C	@ 25 °C		
		Volts	Amps	Amps	Amps	Amps	Amps	A <sup>2</sup> S
SCF2500	2500	↑	↑	↑	↑	↑	↑	1.145
SCF5000	5000	↑	↑	↑	↑	↑	↑	2.020
SCF7500	7500	0.5	0.3	15	25	12.5	2.6	2.770
SCF10000	10000	↓	↓	↓	↓	↓	↓	3.520
SCF12500	12500	↓	↓	↓	↓	↓	↓	4.270

### MECHANICAL



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### ELECTRICAL CHARACTERISTICS

Device Type	Max. Leakage Current @ $V_{RWM}$ $I_R$		Maximum Forward Voltage drop $V_F$ @ 0.5A	Maximum Reverse Recovery Time $t_{rr}$ (1)
	@ 25 °C	@ 100 °C	@ 25 °C	$t_{rr}$ @ 25 °C
	$\mu A$	$\mu A$	Volts	nS
SCF2500	↑	↑	3.45	↑
SCF5000	↑	↑	5.75	↑
SCF7500	1.0	25	9.20	150
SCF10000	↓	↓	11.5	↓
SCF12500	↓	↓	15.0	↓

(1) measured on discrete devices prior to assembly

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

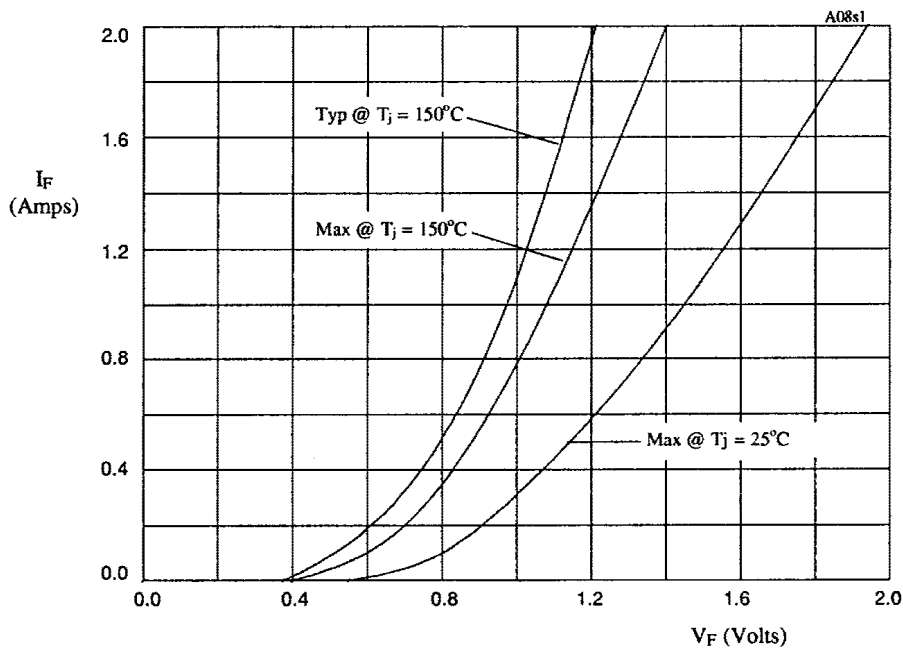


Fig 1. Forward voltage drop as a function of forward current.

TABLE 1

DEVICE	X-AXIS
SCF2500	x3
SCF5000	x5
SCF7500	x8
SCF10000	x10
SCF12500	x13

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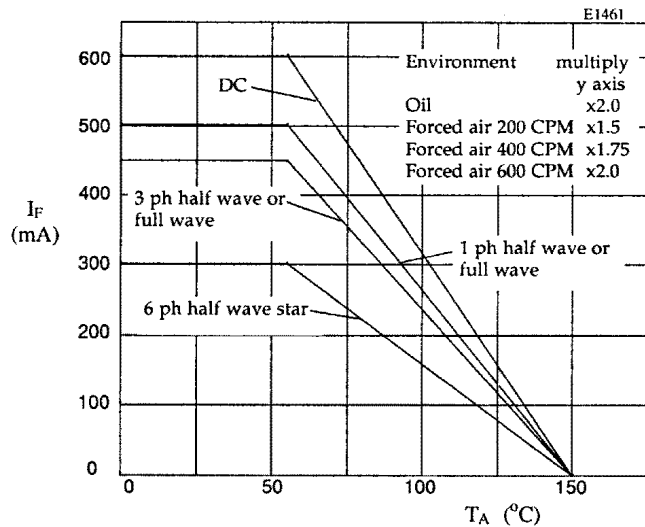


Figure 2. Maximum average forward currents against ambient temperature.

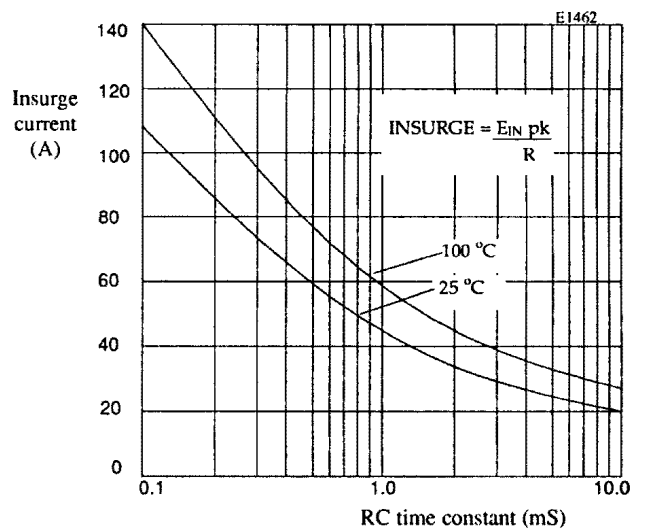


Figure 3. Maximum ratings for capacitive loads. Insurge current versus RC time constant

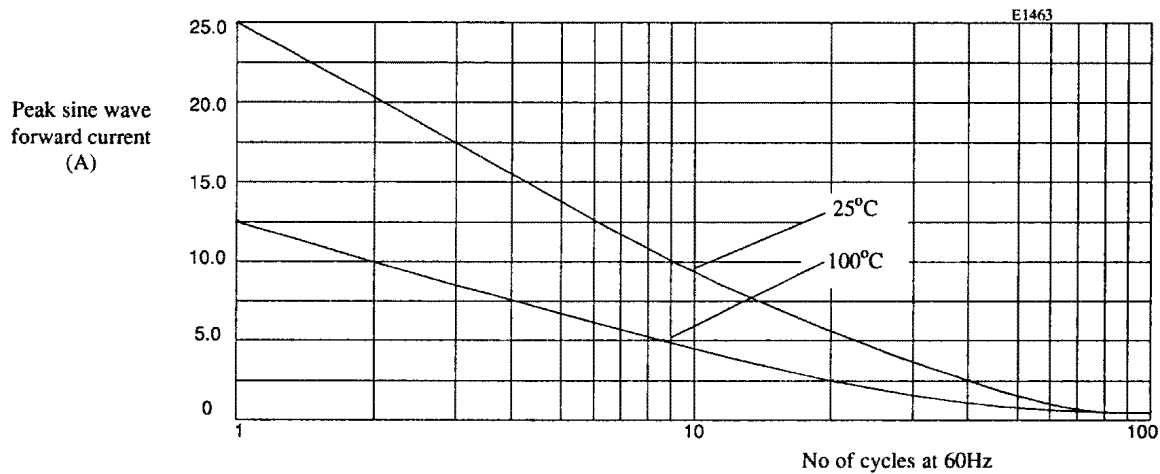


Figure 4. Non repetitive forward current surge curves.

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