

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

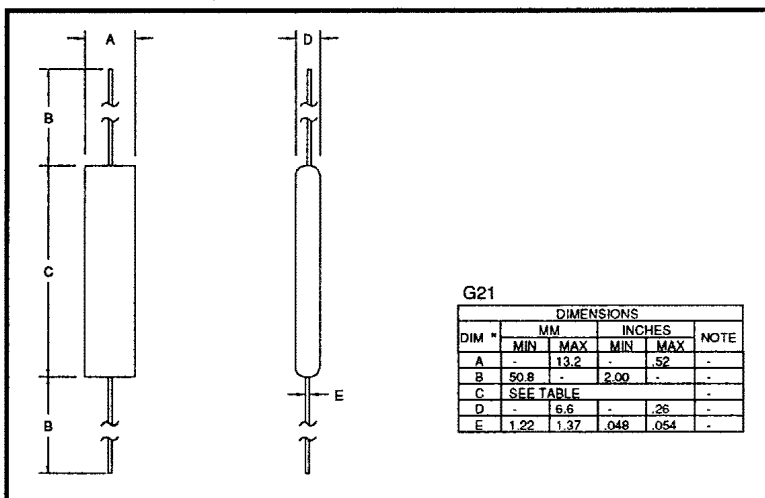
QUICK REFERENCE DATA

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

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^2S
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
	μA	μA	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

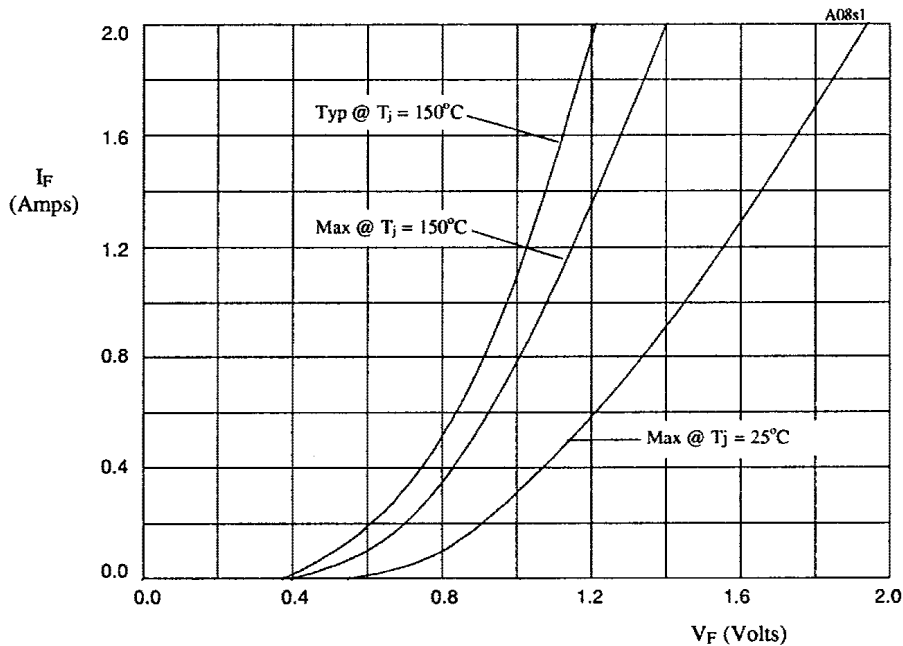


Fig 1. Forward voltage drop as a function of forward current.

TABLE 1

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

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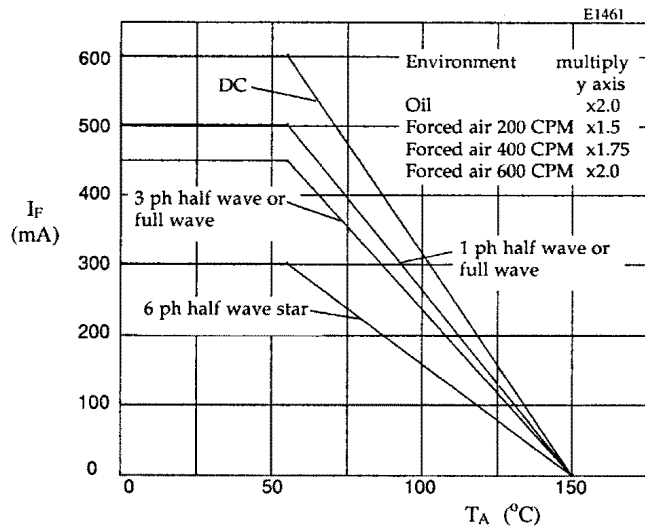


Figure 2. Maximum average forward currents against ambient temperature.

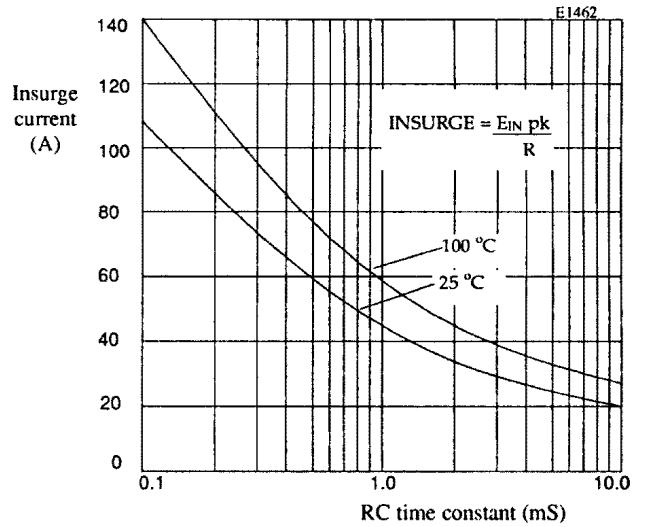


Figure 3. Maximum ratings for capacitive loads. Insurge current versus RC time constant

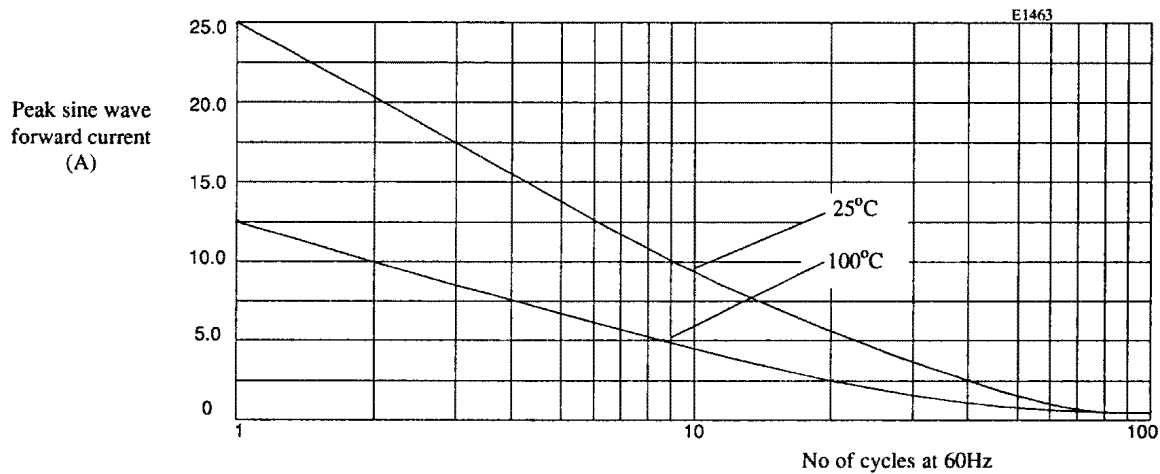


Figure 4. Non repetitive forward current surge curves.