

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

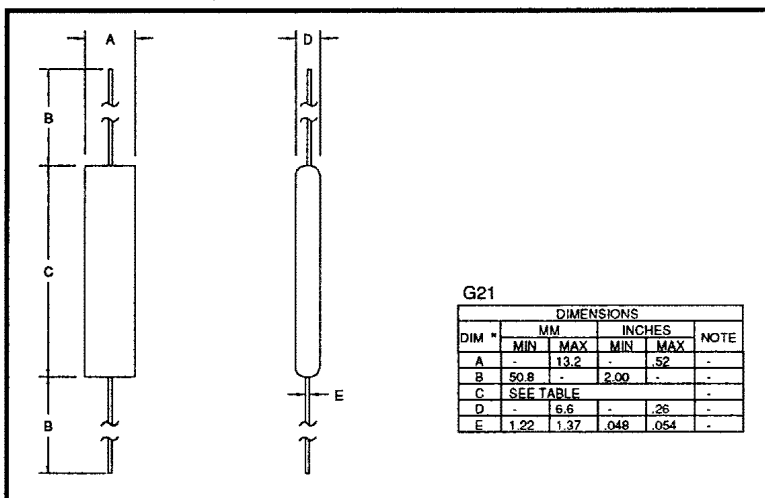
QUICK REFERENCE DATA

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

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 ² 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



January 8, 1998

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

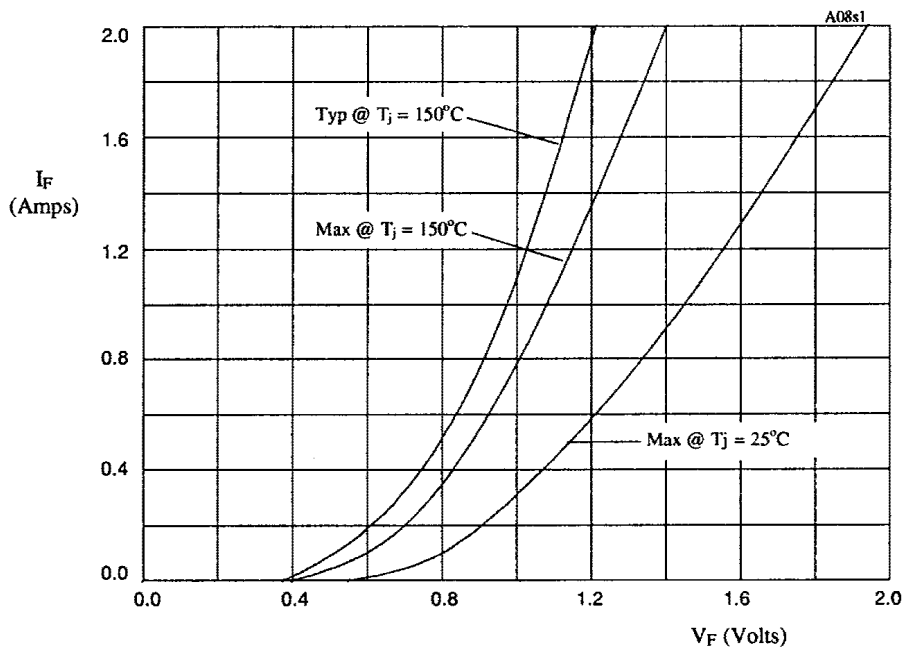


Fig 1. Forward voltage drop as a function of forward current.

TABLE 1

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

January 8, 1998

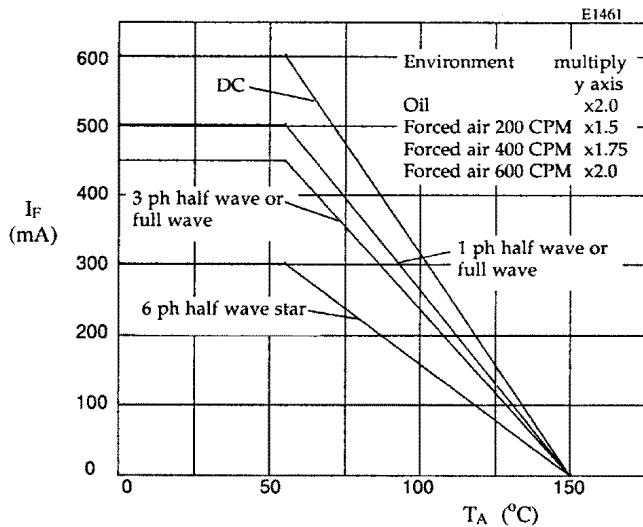


Figure 2. Maximum average forward currents against ambient temperature.

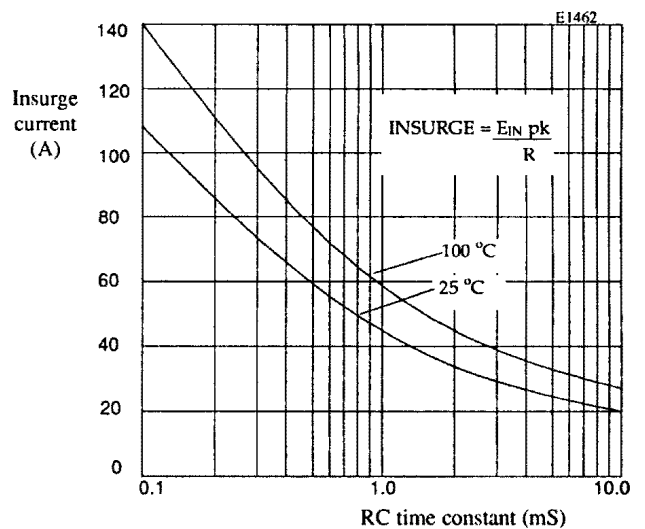


Figure 3. Maximum ratings for capacitive loads. Insurge current versus RC time constant

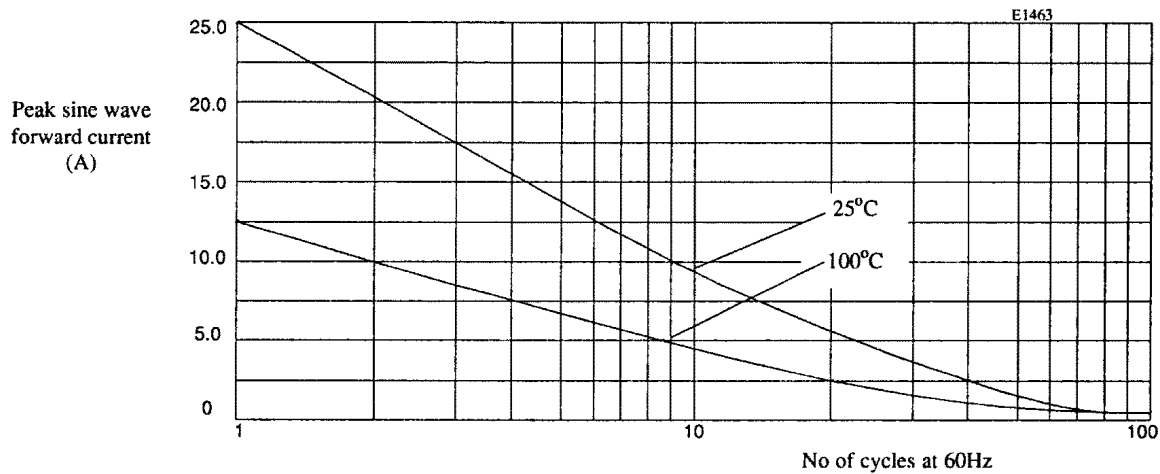


Figure 4. Non repetitive forward current surge curves.