January 9, 1998

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

HIGH VOLTAGE, HIGH CURRENT, STANDARD RECOVERY DOUBLER AND CENTER TAPS

- Up to 12kV reverse voltage
- Air or oil environment
- Low reverse leakage currents
- High forward current and surge ratings
- Integral cooling fins

QUICK REFERENCE DATA

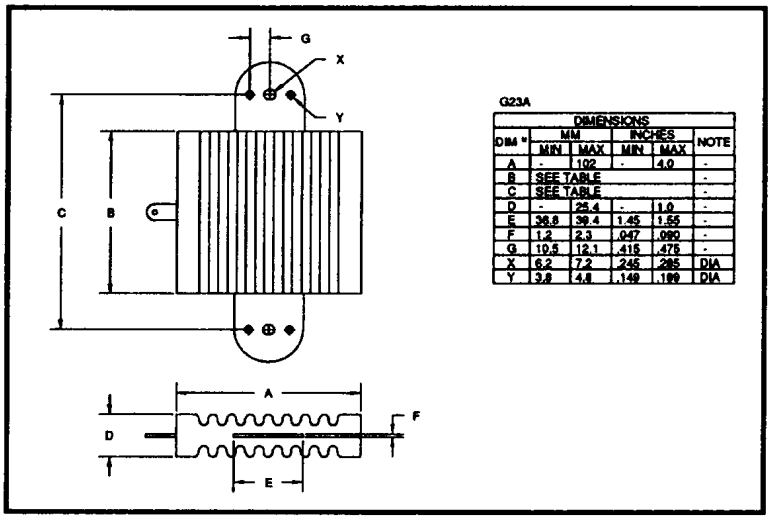
- V_R = 2kV - 12kV
- I_F = 30 - 40A (in oil)
- I_R = 4.0μA
- I_{FSM} = 500A

ABSOLUTE MAXIMUM RATINGS (apply per leg)

Device Type	Working Reverse Voltage V_{RWM}	Average Rectified Current				1 Cycle Surge Current t_p = 8.3mS		Repetitive Surge Current	I^2t t_p = 8.3mS
		air @ 25°C	air @ 65°C	forced air 600CFM @ 55°C	in oil @ 25°C	@ 25°C	@ 100°C	@ 25°C	@ 25°C
	Volts	Amps	Amps	Amps	Amps	Amps	Amps	Amps	A^2S
S4KW2C-1*	2000	16	11	16	40	↑	↑	↑	↑
S4KW4C-2*	4000	12	8	12	30				
S4KW6C-3*	6000	12	8	12	30	500	400	80	975
S4KW8C-4*	8000	12	8	12	30				
S4KW10C-5*	10000	12	8	12	30				
S4KW12C-6*	12000	12	8	12	30	↓	↓	↓	↓

* add suffix for desired circuit arrangement
D = doubler, N = Negative center tap, P = positive center tap
(I_O x 0.5 for doubler)

MECHANICAL



G23A

DIM	DIMENSIONS MM MIN	MM MAX	INCHES MIN	INCHES MAX	NOTE
A	-	102	-	4.0	-
B	SEE TABLE				-
C	SEE TABLE				-
D	-	25.4	-	1.0	-
E	38.8	39.4	1.45	1.55	-
F	1.2	2.3	.047	.090	-
G	10.5	12.1	.415	.475	-
X	6.2	7.2	.245	.285	DIA
Y	3.8	4.8	.149	.199	DIA

Dimensions (see drawing)	
B ±0.030"	C ±0.030"
inches	inches
4.78	6.48
7.98	9.68
11.18	12.88
14.38	16.08
17.58	19.28
20.78	22.48

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CHARACTERISTICS (apply per leg)

Device Type	Reverse Current @ V_{RWM} @ 25 °C	Reverse Current @ V_{RWM} @ 100 °C	Maximum Forward Voltage V_F @ 12A @ 25°C	Maximum Reverse Recovery Time [1] t_{rr} @ 25°C
	µA	µA	Volts	µS
S4KW2C-1*	4.0	80	2.00	2.0
S4KW4C-2*			4.00	
S4KW6C-3*			6.00	
S4KW8C-4*			8.00	
S4KW10C-5*			10.0	
S4KW12C-6*			12.0	

[1] Measured on discrete devices prior to assembly

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

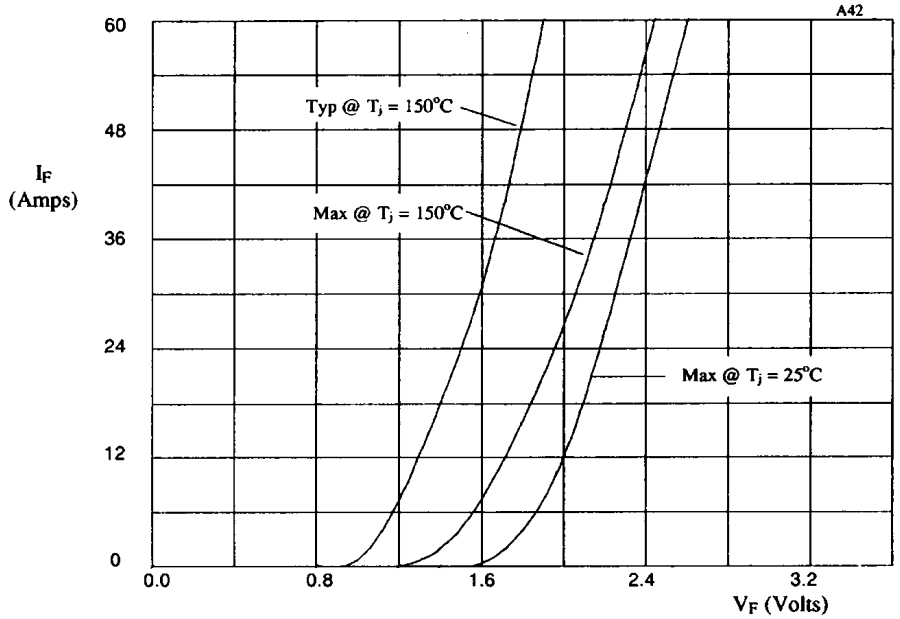


Figure 1. Forward voltage drop per leg as a function of forward current for use with table 1.

TABLE I

DEVICE	X-axis
S4KW2C-1*	x1
S4KW4C-2*	x2
S4KW6C-3*	x3
S4KW8C-4*	x4
S4KW10C-5*	x5
S4KW12C-6*	x6

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