

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 24kV reverse voltage
- Air or oil environment
- High reverse surge current
- High thermal shock resistance
- Integral cooling fins

QUICK REFERENCE DATA

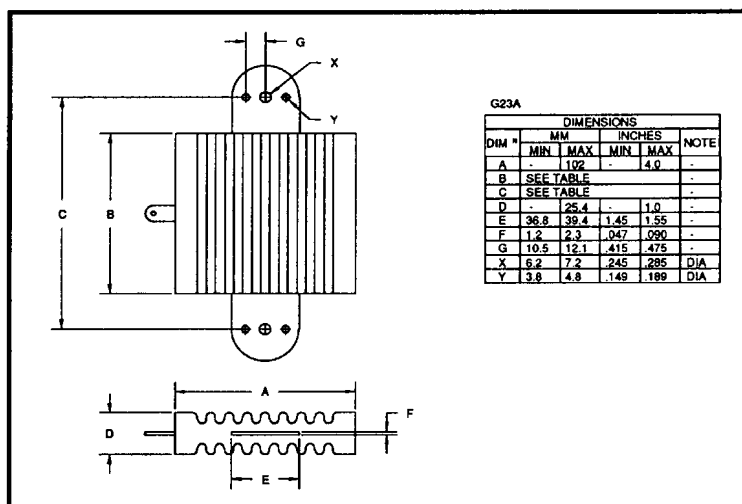
- $V_R = 4kV - 24kV$
- $I_F = 15 - 20A$ (in oil)
- $I_R = 2.0\mu A$
- $I_{FSM} = 250A$

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 $t_p = 8.3mS$	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		
	Volts	Amps	Amps	Amps	Amps	Amps	Amps	Amps	A ² S
S2KW4C-1*	4000	8.0	5.5	16	20	250	150	45.0	240
S2KW8C-2*	8000	6.0	4.1	12	15				
S2KW12C-3*	12000	6.0	4.1	12	15				
S2KW16C-4*	16000	6.0	4.1	12	15	250	150	45.0	240
S2KW20C-5*	20000	6.0	4.1	12	15				
S2KW24C-6*	24000	6.0	4.1	12	15				

* add suffix for desired circuit arrangement
D = doubler, N = Negative center tap, P = positive center tap
($I_o \times 0.5$ for doubler)

MECHANICAL



Dimensions (see drawing)	
B $\pm 0.030"$	C $\pm 0.030"$
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

January 9, 1998

CHARACTERISTICS (apply per leg)

Device Type	Reverse Current @ VRWM		Maximum Forward Voltage V_F @ 6.0A @ 25°C	Maximum Reverse Recovery Time ¹ t_{rr} @ 25°C
	@ 25 °C	@ 100 °C		
	μA	μA	Volts	μS
S2KW4C-1*	2.0	40	4.0	2.0
S2KW8C-2*			8.0	
S2KW12C-3*			12	
S2KW16C-4*			16	
S2KW20C-5*			20	
S2KW24C-6*			24	

¹ Measured on discrete devices prior to assembly

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

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

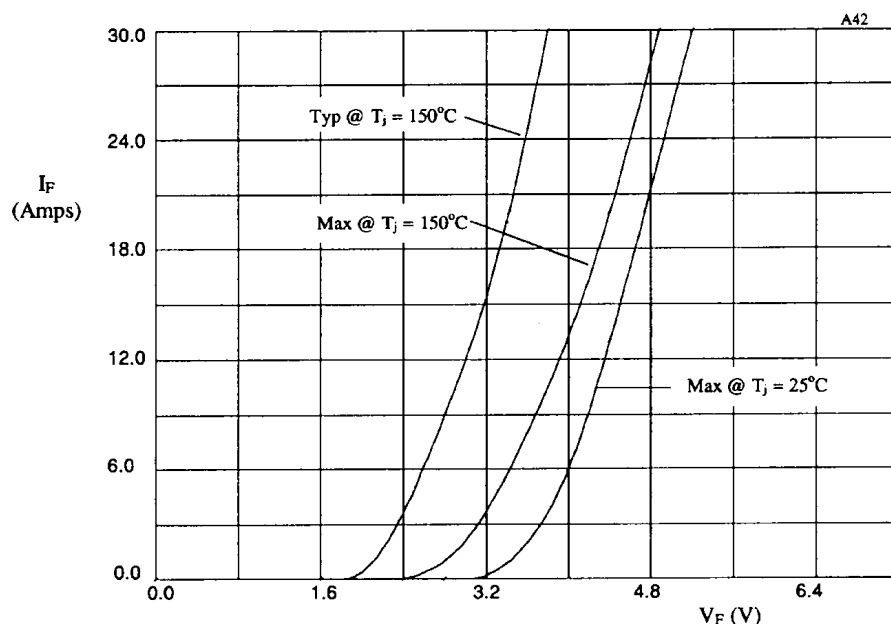


TABLE 1

DEVICE	X-axis
S2KW4C-1*	x1
S2KW8C-2*	x2
S2KW12C-3*	x3
S2KW16C-4*	x4
S2KW20C-5*	x5
S2KW24C-6*	x6

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