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SEMTECH

**STANDARD RECOVERY
HIGH VOLTAGE, HIGH
CURRENT RECTIFIER**

**S2KW8KA-1 S2KW16KA-2
S2KW24KA-3 S2KW32KA-4
S2KW40KA-5 S2KW48KA-6**

January 29, 1998

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

HIGH VOLTAGE, HIGH CURRENT, HIGH DENSITY, STANDARD RECOVERY RECTIFIER ASSEMBLY

QUICK REFERENCE DATA

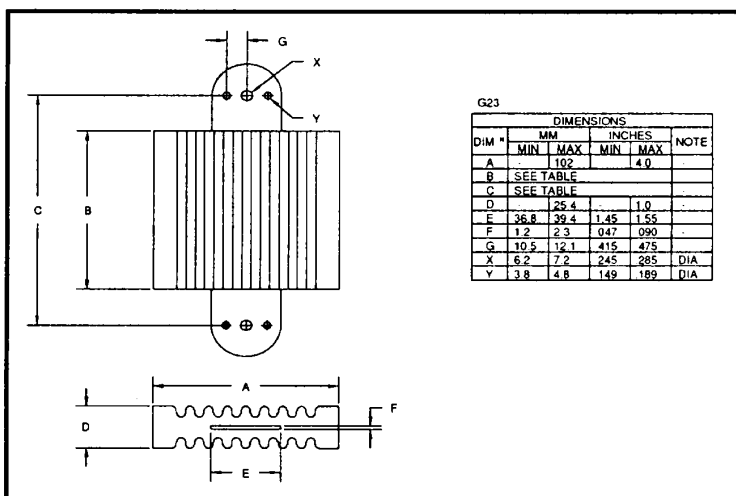
- Up to 48kV reverse voltage
- Air or oil environment
- High reverse surge current
- High thermal shock resistance
- Integral cooling fins

- $V_R = 8\text{kV} - 48\text{kV}$
- $I_F = 7.5 - 10.0\text{A}$ (in oil)
- $I_R = 2.0\mu\text{A}$
- $I_{FSM} = 250\text{A}$

ABSOLUTE MAXIMUM RATINGS

Device Type	Working Reverse Voltage V_{RWM}	Average Rectified Current $I_F(AV)$				1 Cycle Surge Current $t_p = 8.3\text{ms}$ I_{FSM}		Repetitive Surge Current I_{FRM}	I^2t $t_p = 8.3\text{ms}$
		air @ 25 °C	air @ 65 °C	forced air 600CFM @ 55°C	still oil @ 55 °C	@ 25 °C	@ 100 °C	@ 25 °C	@ 25 °C
	Volts	Amps	Amps	Amps	Amps	Amps	Amps	Amps	A ² S
S2KW8KA-1	8000	4.0	2.7	8.0	10.0	↑	↑	↑	↑
S2KW16KA-2	16000	3.0	2.0	6.0	7.5	↑	↑	↑	↑
S2KW24KA-3	24000	3.0	2.0	6.0	7.5	250	150	45	250
S2KW32KA-4	32000	3.0	2.0	6.0	7.5	↓	↓	↓	↓
S2KW40KA-5	40000	3.0	2.0	6.0	7.5	↓	↓	↓	↓
S2KW48KA-6	48000	3.0	2.0	6.0	7.5	↓	↓	↓	↓

MECHANICAL



Dimensions (see drawing)	
B (max)	C (max)
inches	inches
4.780	6.480
7.980	9.680
11.18	12.88
14.38	16.08
17.58	19.28
20.78	22.48

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CHARACTERISTICS

Device Type	Maximum Reverse Leakage Current I_R @ V_{RWM}		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
S2KW8KA-1	2.0	40	8	2.0
S2KW16KA-2			16	
S2KW24KA-3			24	
S2KW32KA-4			32	
S2KW40KA-5			40	
S2KW48KA-6			48	

¹ Measured on discrete devices prior to assembly

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

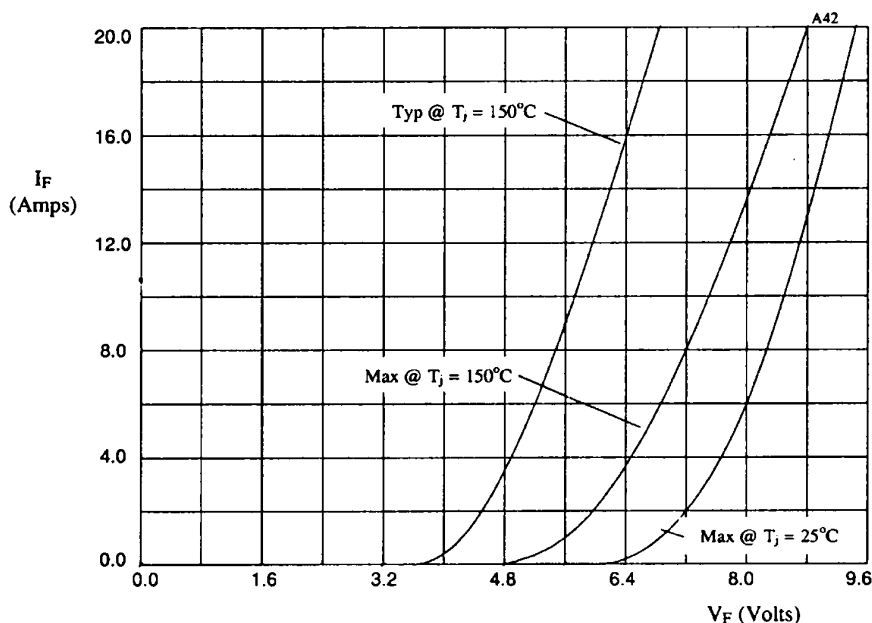


Figure 1. Forward voltage drop as a function of forward current.

TABLE I

DEVICE	X-axis
S2KW8KA-1	x1
S2KW16KA-2	x2
S2KW24KA-3	x3
S2KW32KA-4	x4
S2KW40KA-5	x5
S2KW48KA-6	x6