

SEMTECH

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

**S1KW16KA-1 S1KW32KA-2
S1KW48KA-3 S1KW64KA-4
S1KW80KA-5 S1KW96KA-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

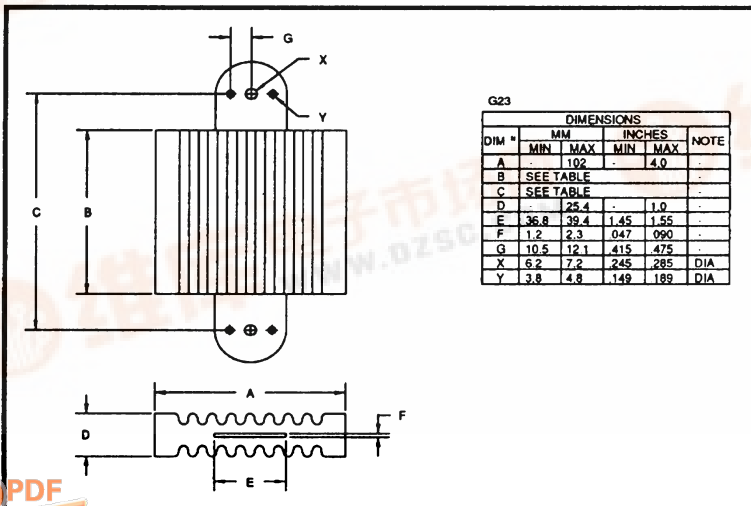
- Up to 96kV reverse voltage
- Air or oil environment
- Low reverse leakage currents
- High thermal shock resistance
- Integral cooling fins.

- $V_R = 16\text{kV} - 96\text{kV}$
- $I_F = 3.8 - 5.0\text{A}$ (in oil)
- $I_R = 1.0\mu\text{A}$
- $I_{FSM} = 150\text{A}$

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
S1KW16KA-1	16000	2.0	1.4	4.0	5.0	150	100	25.0	93.4
S1KW32KA-2	32000	1.5	1.0	3.0	3.8				
S1KW48KA-3	48000	1.5	1.0	3.0	3.8				
S1KW64KA-4	64000	1.5	1.0	3.0	3.8				
S1KW80KA-5	80000	1.5	1.0	3.0	3.8				
S1KW96KA-6	96000	1.5	1.0	3.0	3.8				

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



January 29, 1998

CHARACTERISTICS

Device Type	Maximum Reverse Leakage Current $I_R @ V_{RWM}$		Maximum Forward Voltage $V_F @ 3.0A$ @ 25°C	Maximum Reverse Recovery Time ¹ $t_{rr} @ 25°C$
	@ 25 °C	@ 100 °C		
	μA	μA	Volts	μS
S1KW16KA-1	1.0	20	16	2.0
S1KW32KA-2			32	
S1KW48KA-3			48	
S1KW64KA-4			64	
S1KW80KA-5			80	
S1KW96KA-6			72	

¹ Measured on discrete devices prior to assembly

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

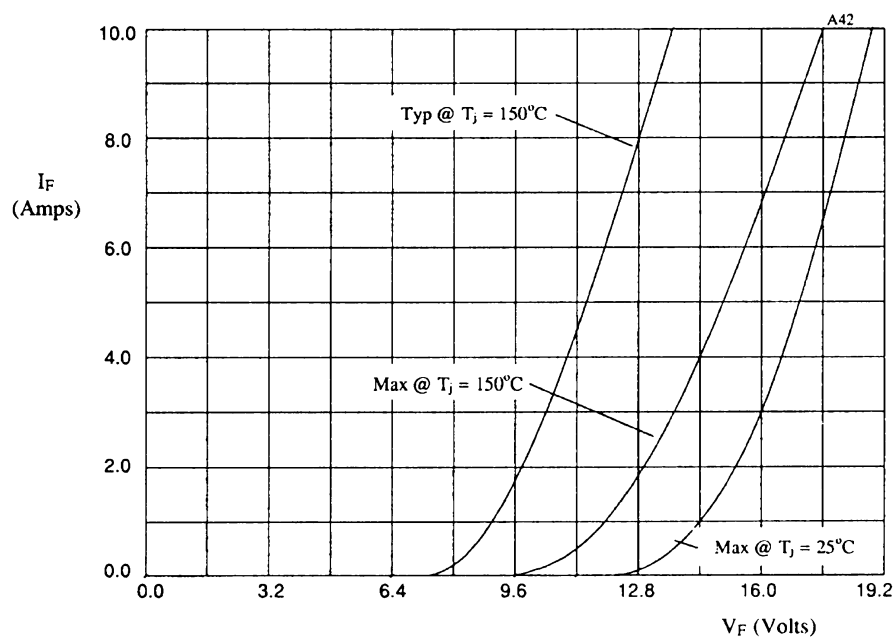


Figure 1. Forward voltage drop as a function of forward current.

TABLE I

DEVICE	X-axis
S1KW16KA-1	x1
S1KW32KA-2	x2
S1KW48KA-3	x3
S1KW64KA-4	x4
S1KW80KA-5	x5
S1KW96KA-6	x6