

SEMTECH

**STANDARD RECOVERY
HIGH VOLTAGE RECTIFIER
ASSEMBLY**

**S2HVM2.5
S2HVM7.5
S2HVM12.5**

**S2HVM5
S2HVM10
S2HVM15**

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HIGH VOLTAGE, HIGH DENSITY, STANDARD RECOVERY MODULAR RECTIFIER ASSEMBLY

QUICK REFERENCE DATA

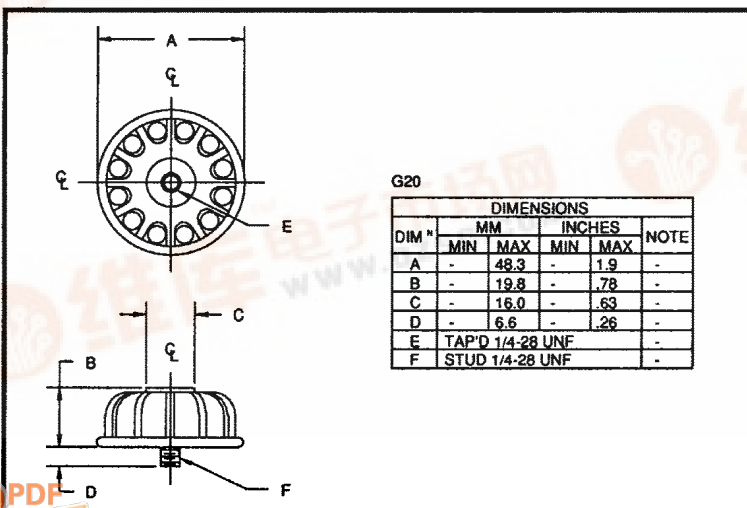
- Up to 15kV reverse voltage
- Modular construction
- Low reverse leakage current
- High thermal shock resistance
- Provides design versatility

- $V_R = 2.5kV - 15kV$
- $I_F = 0.8 - 2.0A$ (in air)
- $I_R = 1.0\mu A$
- $I_{FSM} = 50A$

ABSOLUTE MAXIMUM RATINGS

Device Type	Working Reverse Voltage V_{RWM}	Average Rectified Current $I_F(AV)$				1 Cycle Surge Current I_{FSM} $t_p = 8.3mS$		Repetitive Surge Current I_{FRM} @ 25°C	I^2t $t_p = 8.3mS$ @ 25°C
		Air @ 25°C	Air @ 100°C	Stud to Heatsink @ 25 °C	Still oil @ 55 °C	@ 25°C	@ 100°C		
	Volts	Amps	Amps	Amps	Amps	Amps	Amps	Amps	A ² S
S2HVM2.5	2500	2.0	0.8	2.0	↑	↑	↑	↑	↑
S2HVM5	5000	2.0	0.8	2.0	↑	↑	↑	↑	↑
S2HVM7.5	7500	2.0	0.8	2.0	2.0	50	20	12.0	10.0
S2HVM10	10000	1.2	0.5	2.0	↓	↓	↓	↓	↓
S2HVM12.5	12500	1.0	0.4	2.0	↓	↓	↓	↓	↓
S2HVM15	15000	0.8	0.3	1.5	↓	↓	↓	↓	↓

MECHANICAL



MAXIMUM THERMAL IMPEDANCES

Junction - Ambient $R_{\theta JA} < 12^{\circ}C/W$
 Junction - Stud $R_{\theta JS} < 6^{\circ}C/W$
 Junction - Oil $R_{\theta JO} < 4.5^{\circ}C/W$



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ELECTRICAL CHARACTERISTICS

Device Type	Maximum Reverse Leakage Current I_R @ V_{RWM}		Maximum Forward Voltage V_F @ 2.0A @ 25°C	Maximum Reverse Recovery Time ¹ t_{rr} @ 25°C
	@ 25 °C	@ 100 °C		
	μA	μA	Volts	μS
S2HVM2.5	1.0	20	3.3	2.5
S2HVM5			5.5	
S2HVM7.5			8.8	
S2HVM10			11.1	
S2HVM12.5			14.4	
S2HVM15			16.6	

1. Measured on discrete devices prior to assembly

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

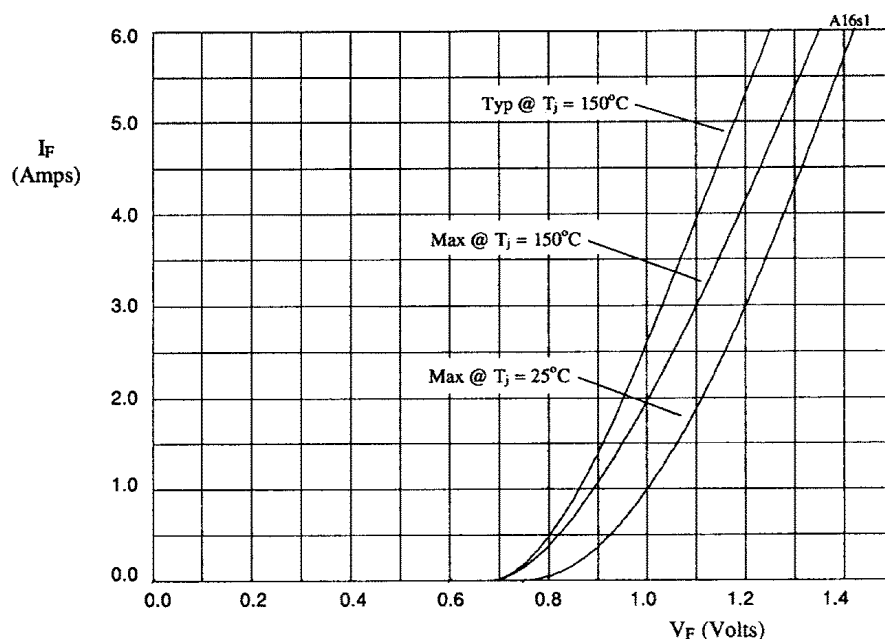


TABLE 1

DEVICE	X-axis
S2HVM2.5	x3
S2HVM5	x5
S2HVM7.5	x8
S2HVM10	x10
S2HVM12.5	x13
S2HVM15	x15

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