

January 29, 1998

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## HIGH VOLTAGE, HIGH DENSITY, STANDARD RECOVERY MODULAR RECTIFIER ASSEMBLY

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

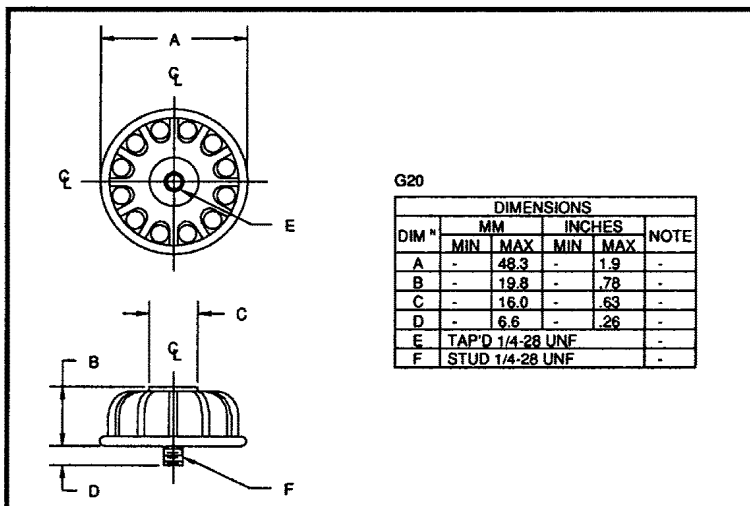
## QUICK REFERENCE DATA

- $V_R = 2.5kV - 15kV$
- $I_F = 0.8 - 2.0A$  (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	A <sup>2</sup> 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	
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 $V_F @ 2.0A @ 25^\circ C$	Maximum Reverse Recovery Time <sup>1</sup> $t_{rr} @ 25^\circ C$
	@ 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

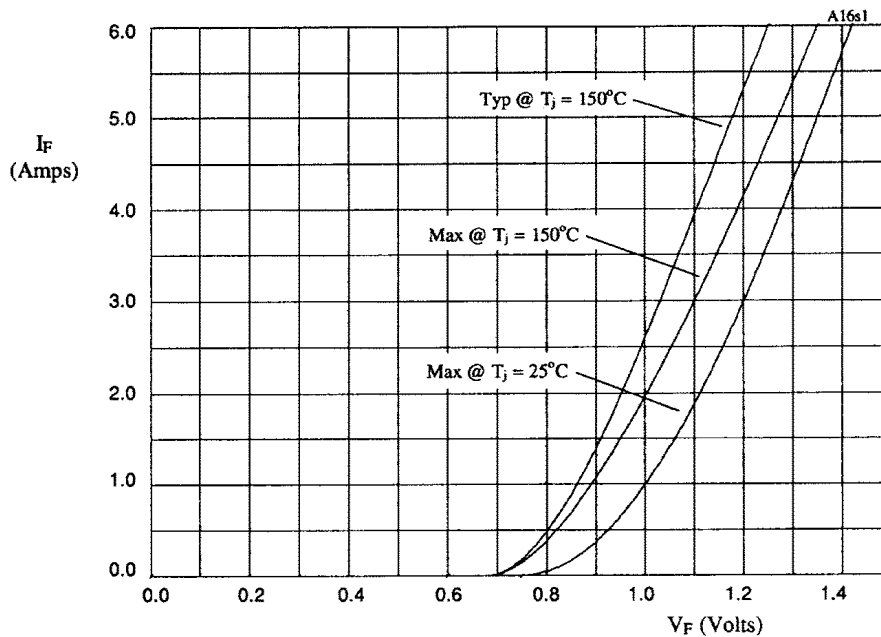


Figure 1. Forward voltage drop as a function of forward current for use with table 1.

TABLE 1

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