

January 29, 1998

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HIGH VOLTAGE, HIGH DENSITY, STANDARD RECOVERY MODULAR RECTIFIER ASSEMBLY

QUICK REFERENCE DATA

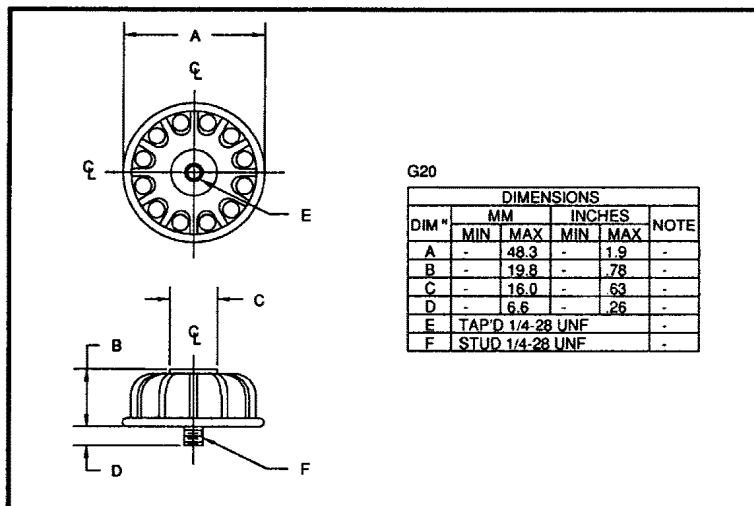
- Up to 15kV reverse voltage
- Modular construction
- Low reverse leakage currents
- High thermal shock resistance
- Provides design versatility

- $V_R = 2.5kV - 15kV$
- $I_F = 500mA$ (in air)
- $I_R = 1.0 \mu A$
- $I_{FSM} = 20A$

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		
SHVM2.5	2500	↑	↑	↑	↑	↑	↑	↑	
SHVM5	5000	↑	↑	↑	↑	↑	↑	↑	
SHVM7.5	7500	↑	↑	↑	↑	↑	↑	↑	
SHVM10	10000	0.5	0.2	0.5	0.5	20.0	8.0	1.67	
SHVM12.5	12500	↓	↓	↓	↓	↓	↓	↓	
SHVM15	15000	↓	↓	↓	↓	↓	↓	↓	

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 $V_F @ 0.8A$ @ 25°C	Maximum Reverse Recovery Time ¹ $t_{rr} @ 25°C$
	@ 25 °C	@ 100 °C		
	µA	µA	Volts	µS
SHVM2.5	↑ 1.0 ↓	↑ 50 ↓	7.0	↑ 2.0 ↓
SHVM5			14.0	
SHVM7.5			21.0	
SHVM10			28.0	
SHVM12.5			35.0	
SHVM15			42.0	

1. Measured on discrete devices prior to assembly

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

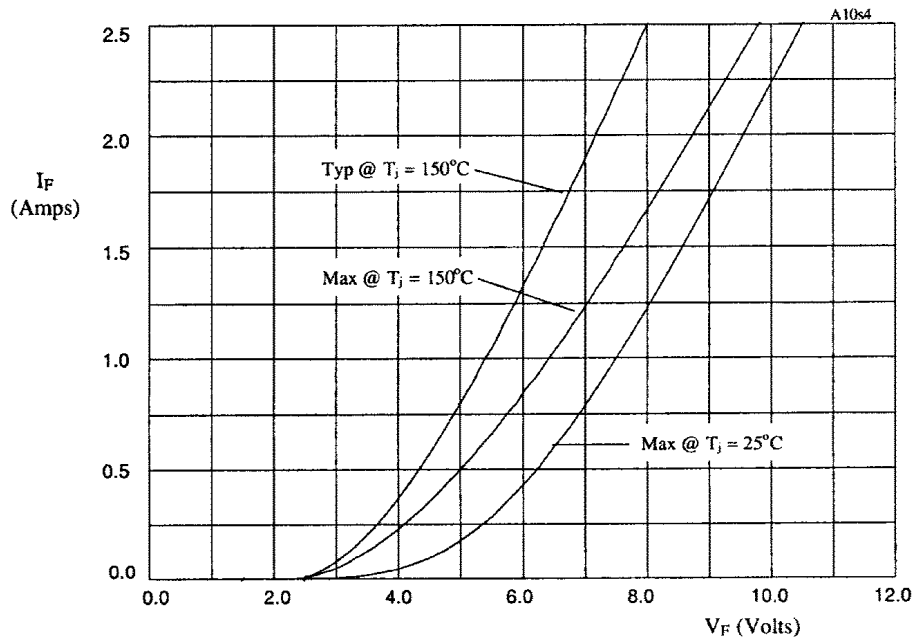


Figure 1. Forward voltage drop as a function of forward current for use with table 1.

TABLE 1

DEVICE	X-axis
SHVM2.5	x1
SHVM5	x2
SHVM7.5	x3
SHVM10	x4
SHVM12.5	x5
SHVM15	x6