



# SOLID STATE DEVICES, INC.

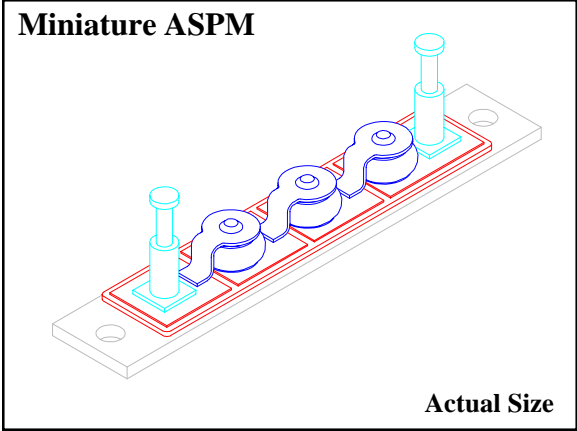
14830 Valley View Blvd \* La Mirada, Ca 90638  
Phone: (562) 404-7855 \* Fax: (562) 404-1773  
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## DESIGNER'S DATA SHEET

**SPMR494-01**  
**SPMR494-02**

**60 A / 1000V**  
**BATTERY CHARGE**  
**POWER MODULE**

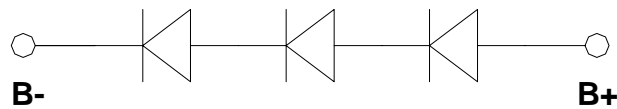
- FEATURES:**
- Optimized for Use with NiH2 Batteries
  - Radiation Tolerant Design
  - High Charge Current
  - Controlled Forward Discharge Voltage ( $V_{FD}$ )
  - Proven Space Flight Heritage
  - Compact and Rugged Construction Offering Weight and Space Savings and Very Low Mechanical Stress
  - Low Thermal Resistance: 0.45 °C/W
  - Hermetic Sealed Discrete Elements
  - TX, TXV, and S-Level Screening Available
  - Higher Currents and Higher Voltages Available



## MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Peak Repetitive Reverse and DC Blocking Voltage	$V_R$	1000	Volts
Average Rectified Forward Current (Non-repetitive, t = 8.3 ms Pulse)	$I_O$	60	Amps
Peak Surge Current (Non-repetitive, t = 8.3 ms Pulse, $T_A = 25^\circ\text{C}$ )	$I_{FSM}$	200	Amps
Operating and Storage Temperature Range	$T_{OP}$	-65 TO +150	°C
Thermal Resistance, Junction to Base	$\theta_{JB}$	0.45	°C/W

## ELECTRICAL SCHEMATIC



**NOTE:** All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.

**DATA SHEET #: PM0017A**

**SPMR494-01**  
**SPMR494-02**



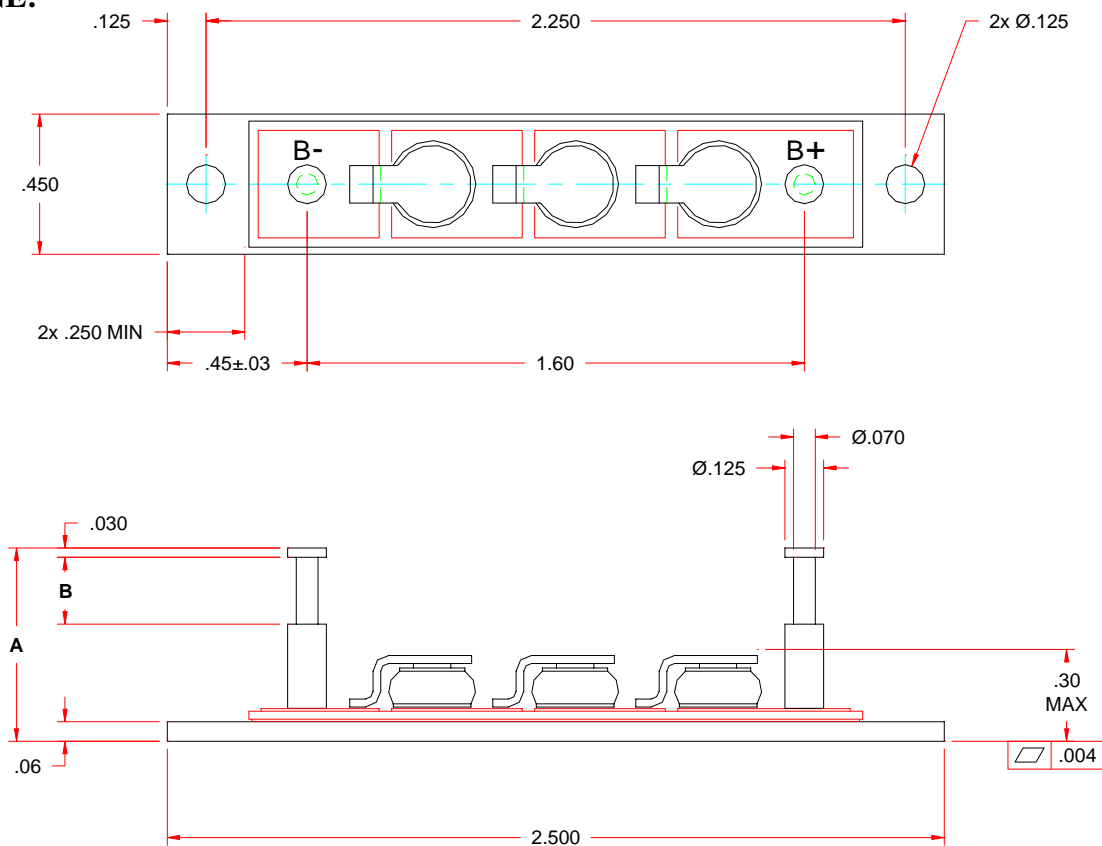
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**ELECTRICAL CHARACTERISTICS (per Section)**

RATING		SYMBOL	MIN	MAX	UNIT
Forward Voltage ( $T_A = 25^\circ\text{C}$ )	$I_F = 0.1\text{A}$	$V_{F1}$	1.6	--	Volts
	$I_F = 5\text{A}$	$V_{F2}$	2.16	--	
	$I_F = 20\text{A}$	$V_{F3}$	--	3.00	
	$I_F = 35\text{A}$	$V_{F4}$	--	3.25	
Forward Voltage ( $I_F = 20\text{A}$ )	$T_A = 125^\circ\text{C}$	$V_{F5}$	--	2.50	Volts
	$T_A = -55^\circ\text{C}$	$V_{F6}$	--	3.20	
Reverse Leakage Current ( $V_R = 150\text{V}$ )	$T_A = 25^\circ\text{C}$	$I_{R1}$	--	20	$\mu\text{A}$
	$T_A = +100^\circ\text{C}$	$I_{R2}$	--	2.0	mA
Insulation Resistance (All terminals to Base @1000V)		$R_{INS}$	1.0	--	G $\Omega$

**PACKAGE OUTLINE:**



**Tolerances:**  
 (Unless specified):  
 .XX  $\pm 0.03$   
 .XXX  $\pm 0.010$

DIMENSIONS		
DIM	A	B
SPMR494-01	0.77"	0.365"
SPMR494-02	0.62"	0.220"