



PRELIMINARY

**SOLID STATE DEVICES, INC.**

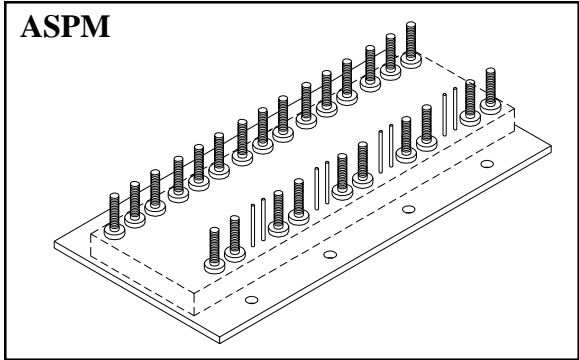
14005 Stage Road \* Santa Fe Springs, Ca 90670  
 Phone: (562) 404-4474 \* Fax: (562) 404-1773

**DESIGNER'S DATA SHEET**

**SPMR451-01**

**180 AMPS/600 VOLTS  
 5 CELLS  
 SRM POWER MODULE**

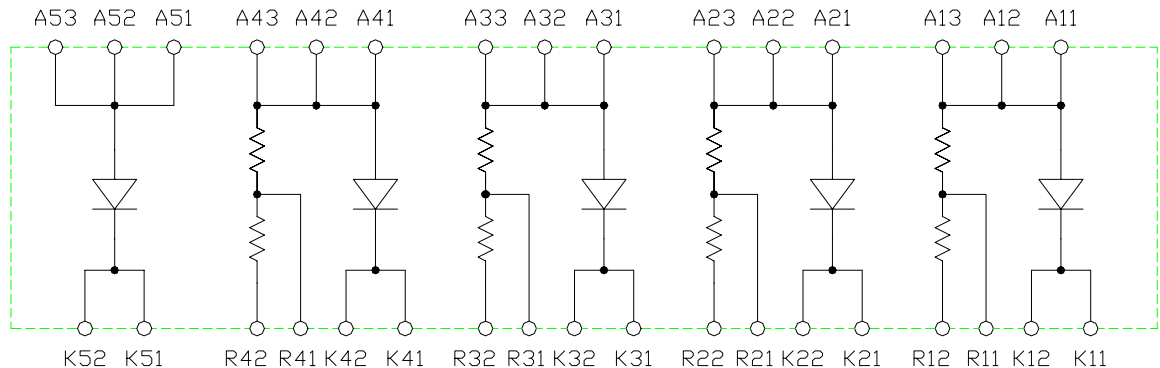
- FEATURES:**
- **Application: Power Input Module for Power Controller.**
  - **Fail-Safe Configuration Utilizing Multiple Cell Design.**
  - **Low Mechanical Stress Design.**
  - **Hermetic Sealed Construction for Aerospace Applications.**
  - **Excellent Thermal Management.**
  - **Low Forward Voltage ( $V_F$ ).**
  - **Voltage Monitor Included for Customer Specified Ratio.**
  - **Full Power Screened Hermetic Discretes.**
  - **TX, TXV, and S-Level Screening Available.**
  - **Consult Factory for Other Configurations and Terminal Styles.**



**MAXIMUM RATINGS**

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Peak Repetitive Reverse and DC Blocking Voltage, per Cell	$V_{RM}$ $V_{RWM}$ $V_R$	600	Volts
Average Rectified Forward Current, per Cell (Non-repetitive, $t = 8.3$ ms Pulse)	$I_O$	180	Amps
Peak Surge Current, per Cell (Non-repetitive, $t = 8.3$ ms Pulse, $T_J = 25^\circ\text{C}$ )	$I_{FSM}$	750	Amps
Operating Temperature Range	$T_{OP}$	-55 TO +150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 TO +150	$^\circ\text{C}$
Thermal Resistance, Junction to Base, per Cell	$\Theta_{JB}$	0.30	$^\circ\text{C/W}$

**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 #: PM0003A**

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## ELECTRICAL CHARACTERISTICS @ $T_J = 25^\circ\text{C}$ , per Cell (Unless Otherwise Specified)

PARAMETER	SYMBOL	MIN	MAX	UNIT
Instantaneous Forward Voltage Drop ( $I_F = 180\text{A}, T_B = 25^\circ\text{C}$ )	$V_{F1}$	-	2.5	Volts
	$V_{F2}$	-	2.8	
Reverse Leakage ( $V_R = 600\text{V}, T_B = 25^\circ\text{C}$ )	$I_{R1}$	-	100	$\mu\text{Amps}$
	$I_{R2}$	-	1000	
Insulation Resistance (All terminals to Base @ 1000V)	$R_{\text{INSUL1}}$	1	-	$\text{G}\Omega$
Insulation Resistance (Between Cells @ 1000V)	$R_{\text{INSUL2}}$	1	-	$\text{G}\Omega$
Resistance of Series Resistors	$R_{\text{SER}}$	215	225	$\text{k}\Omega$
Resistance of Monitor Resistors	$R_{\text{MON}}$	4.4	4.6	$\text{k}\Omega$

## PACKAGE OUTLINE: ASPM

Tolerances  
(Unless specified):  
.XX  $\pm .03$   
.XXX  $\pm .010$

