

SOLID STATE DEVICES, INC.

14830 Valley View Blvd * La Mirada, Ca 90638

Phone: (562) 404-7855 * Fax: (562) 404-1773

ssdi@ssdi-power.com * www.ssdi-power.com

DESIGNER'S DATA SHEET

FEATURES:

- Programable Charge Voltage (V_{FC}), Consult Factory
- Optimized for Use with Lithium Ion Batteries
- Radiation Tolerant Design
- High Charge/Discharge Current
- Low Forward Discharge Voltage (V_{FD})
- Compact and Rugged Construction Offering Weight and Space Savings
- Very Low Mechanical Stress and Thermal Resistance
- Hermetic Sealed Discrete Elements
- TX, TXV, and S-Level Screening Available Upon Request
- Available with Male or Female and Inch or Metric Terminals

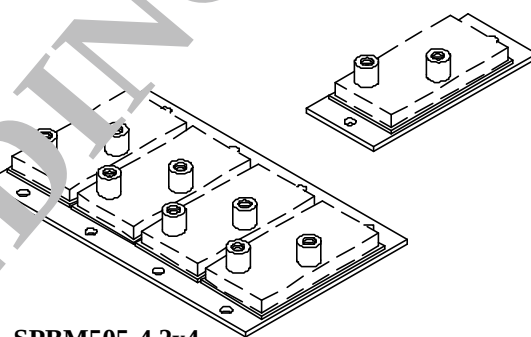
SPBM505-4.2x1

SPBM505-4.2x4

300 AMPS DISCHARGE
20 AMPS CHARGE CURRENT
PROGRAMABLE
BATTERY BYPASS MODULE

ASPM

SPBM505-4.2x1



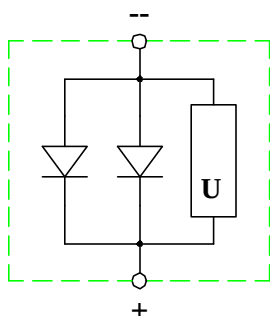
SPBM505-4.2x4

MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Discharge Current	I_D	300	Amps
Charge Current	I_C	20	Amps
Surge Current (Non-repetitive, $t = 8.3$ ms Pulse)	I_{FSM}	1000 40	Amps
Operating Temperature Range Storage Temperature Range	T_{OP} T_{STG}	-40 TO +125 -55 TO +175	$^{\circ}C$
Thermal Resistance, Junction to Base	θ_{JBd} θ_{JBc}	0.40 0.80	$^{\circ}C/W$

ELECTRICAL SCHEMATIC

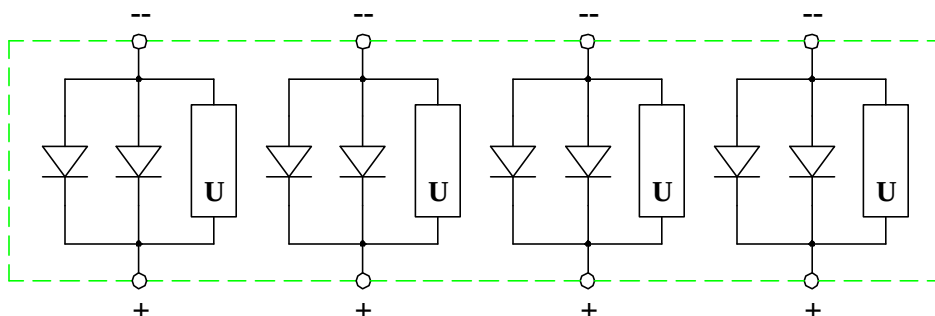
SPBM505-4.2x1



NOTE:

U - Charge Circuit

SPBM505-4.2x4



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

DATA SHEET #: PM0013A

SPBM505-4.2x1
SPBM505-4.2x4



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ELECTRICAL CHARACTERISTICS (per Section)

RATING		SYMBOL	MIN	MAX	UNIT
Discharge Voltage ($T_A = 25^\circ\text{C}$)	$I_F = 100\text{A}$	V_{FD1}	--	.52	Volts
	$I_F = 200\text{A}$	V_{FD2}	--	.55	
	$I_F = 300\text{A}$	V_{FD3}	--	.67	
Discharge Voltage ($I_F = 300\text{A}$)	$T_A = -40^\circ\text{C}$	V_{FD4}	--	.70	Volts
	$T_A = +100^\circ\text{C}$	V_{FD5}	--	.62	
Charge Voltage ($T_A = 25^\circ\text{C}$)	$I_F = 15\text{mA}$	V_{FC1}	4.20	--	Volts
	$I_F = 20\text{A}$	V_{FC2}	4.25	4.75	
Charge Voltage	$I_F = 15\text{mA}, T_A = -40^\circ\text{C}$	V_{FC3}	4.20	--	Volts
	$I_F = 20\text{A}, T_A = -40^\circ\text{C}$	V_{FC4}	4.25	4.75	
	$I_F = 20\text{A}, T_A = +100^\circ\text{C}$	V_{FC5}	4.25	4.75	
Charge Leakage Current ($V_R = 4.0\text{V}$)	$T_A = 25^\circ\text{C}$	I_{RC1}	--	10	mA
	$T_A = -40^\circ\text{C}$	I_{RC2}	--	10	
	$T_A = +100^\circ\text{C}$	I_{RC3}	--	10	
Insulation Resistance (All terminals to Base @200V)		R_{INS}	1.0	--	GS

PACKAGE OUTLINE: SPBM505-4.2x1

NOTES:

(Unless otherwise specified)

All dimensions are in inches

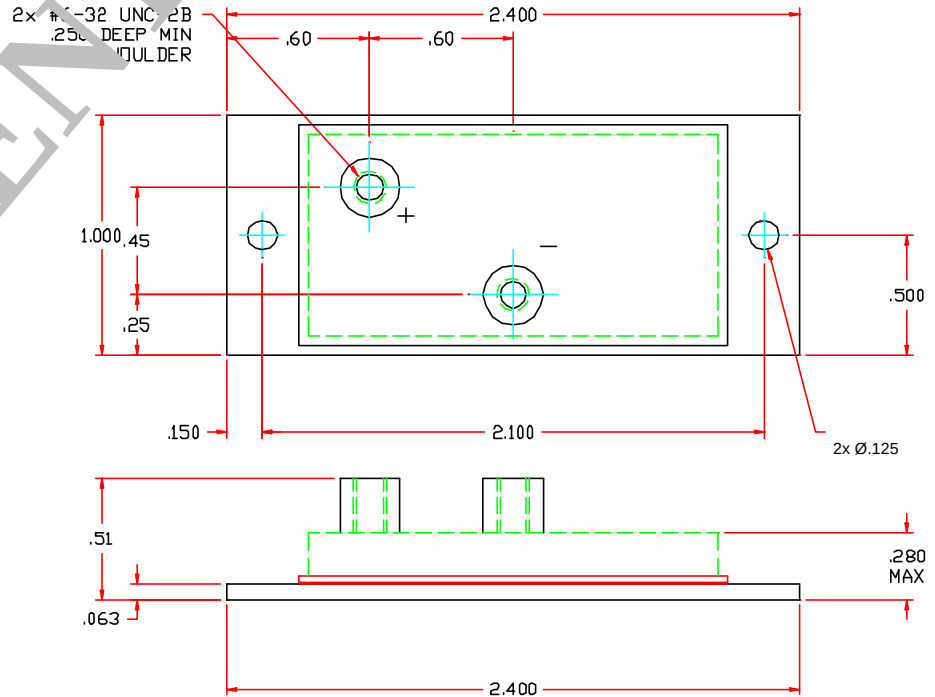
For -x4 Package Outline Contact Factory.

Tolerances

(Unless specified):

.XX ".03

.XXX ".010



AVAILABLE TERMINAL CONFIGURATIONS

PART No.	THREAD TYPE	THREAD SIZE	PART No.	THREAD TYPE	THREAD SIZE
SPBM505-4.2x1	INCH FEMALE	6-32 UNC-2B	SPBM505-4.2x4	INCH FEMALE	6-32 UNC-2B
SPBM505-4.2x1A	INCH MALE	6-32 UNC-2A	SPBM505-4.2x4A	INCH MALE	6-32 UNC-2A
SPBM505-4.2x1M	METRIC FEMALE	M4 x 0.7	SPBM505-4.2x4M	METRIC FEMALE	M4 x 0.7
SPBM505-4.2x1MA	METRIC MALE	M4 x 0.7	SPBM505-4.2x4MA	METRIC MALE	M4 x 0.7