PRELIMINARY

SPMT6678-01

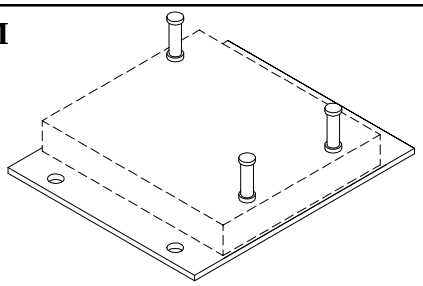
SOLID STATE DEVICES, INC.
14005 Stage Road * Santa Fe Springs, Ca 90670
Phone: (562) 404-4474 * Fax: (562) 404-1773

90 AMP
450 VOLTS
NPN TRANSISTOR
POWER MODULE

DESIGNER'S DATA SHEET

FEATURES:
- **High Current Switching for Motor Drives and Inverters for Aerospace Applications.**
- **Low Saturation Voltage at High Current.**
- **Low Mechanical Stress Design.**
- **Hermetic Construction for Aerospace Applications.**
- **Excellent Thermal Management.**
- **Full Power Screened Hermetic Discretes.**
- **TX, TXV, and S-Level Screening Available.**

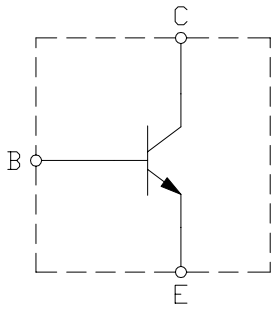
ASPM



MAXIMUM RATINGS	SYMBOL	VALUE	UNITS
Collector - Emitter Voltage	V_{CEO}	450	Volts
Collector - Base Voltage	V_{CBO}	525	Volts
Emitter - Base Voltage	V_{EBO}	8	Volts
Collector Current	I_C	90	Amps
Base Current	I_B	20	Amps
Emitter - Base Avalanche Energy	$E_{EBOaval}$	52	µJ
Emitter - Base Avalanche Power	$P_{EBOaval}$	1	W
Thermal Resistance, Junction to Base	Θ_{JB}	0.25	°C/W
Operating and Storage Temperature	T_B **and** T_{STG}	-55 to 150	°C
Total Module Power Dissipation @ T_B = 50°C 1/ **Power Derating Above 100°C**	P_D	400 4	W W/°C

1/ Subject to SOA Curves. Contact SSDI for Details.

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 #: PM0004B

SPMT6678-01

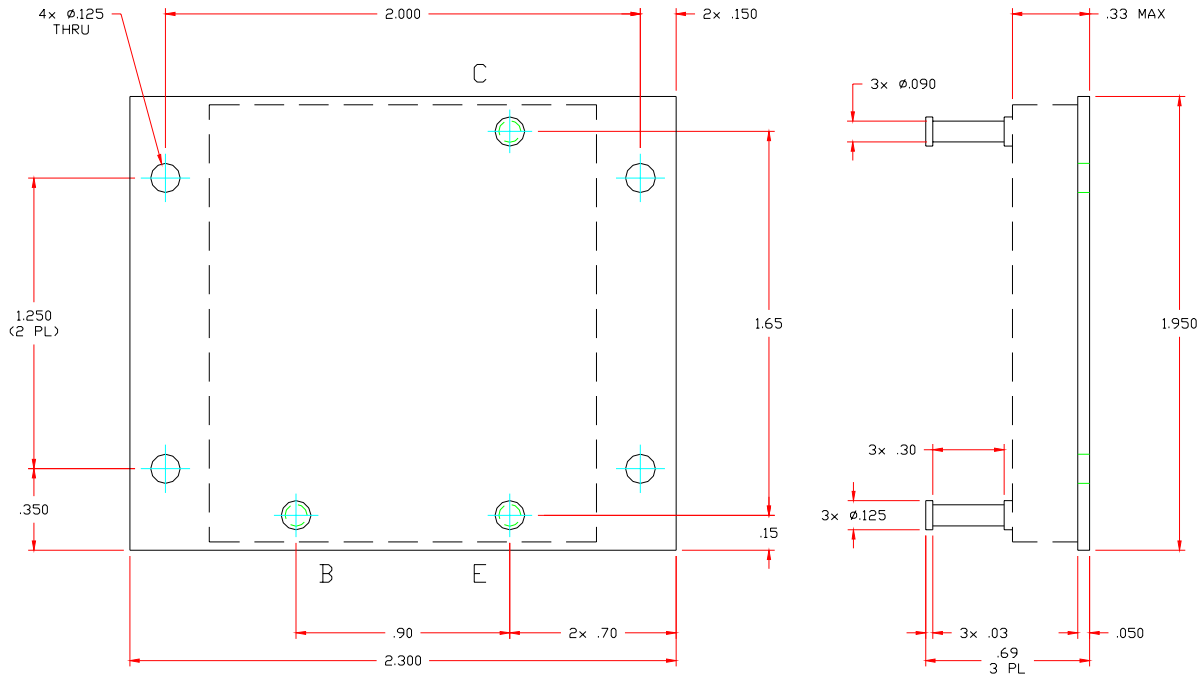
PRELIMINARY

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ELECTRICAL CHARACTERISTICS		SYMBOL	MIN	MAX	UNITS
Collector Cutoff Current (V_{CE} = 525V, V_{BE} = -2V)	T_B = 25°C T_B = 125°C	I_{CEV}	-	2.0 10.0	mAmps
Emitter Cutoff Current (V_{EB} = 8V)		I_{EBO}	-	5.0	mAmps
DC Current Gain (I_C = 40A, V_{BE} = -2V)	T_B = 25°C T_B = 85°C T_B = -55°C	H_{FE}	20.0 18.0 18.0	55 - -	-
Collector - Emitter Saturation Voltage (I_C = 40A, I_B = 3.33A)		$V_{CE(SAT)}$	-	1.0	Volts
Base - Emitter Saturation Voltage (I_C = 40A, I_B = 6.0A)		$V_{BE(SAT)}$	-	1.5	Volts
Switch Time (V_{CC} = 300V, I_C = 40A, I_{B1} = I_{B2} = 6A, T_B = 85°C)	**Turn On Time** **Storage Time** **Fall Time**	t_{ON} t_S t_F	- - -	1.2 4.0 1.0	µsec
Insulation Resistance (All terminals to Base @1000V)		R_{INSUL1}	1	-	GΩ

***Pulse Test: Pulse Width = 300us, Duty Cycle = 2%**

CASE OUTLINE: ASPM



Tolerances
(Unless specified):

.XX ±.03
.XXX ±.010