



PRELIMINARY

SPMT6678-01

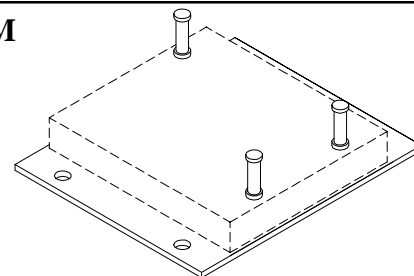
SOLID STATE DEVICES, INC.

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

DESIGNER'S DATA SHEET

90 AMP
450 VOLTS
NPN TRANSISTOR
POWER MODULE

ASPM



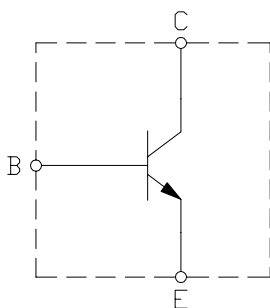
FEATURES:

- 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.

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	$^{\circ}C/W$
Operating and Storage Temperature	T_B and T_{STG}	-55 to 150	$^{\circ}C$
Total Module Power Dissipation @ $T_B = 50^{\circ}C$ ^{1/} Power Derating Above 100 $^{\circ}C$	P_D	400 4	W W/ $^{\circ}C$

^{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

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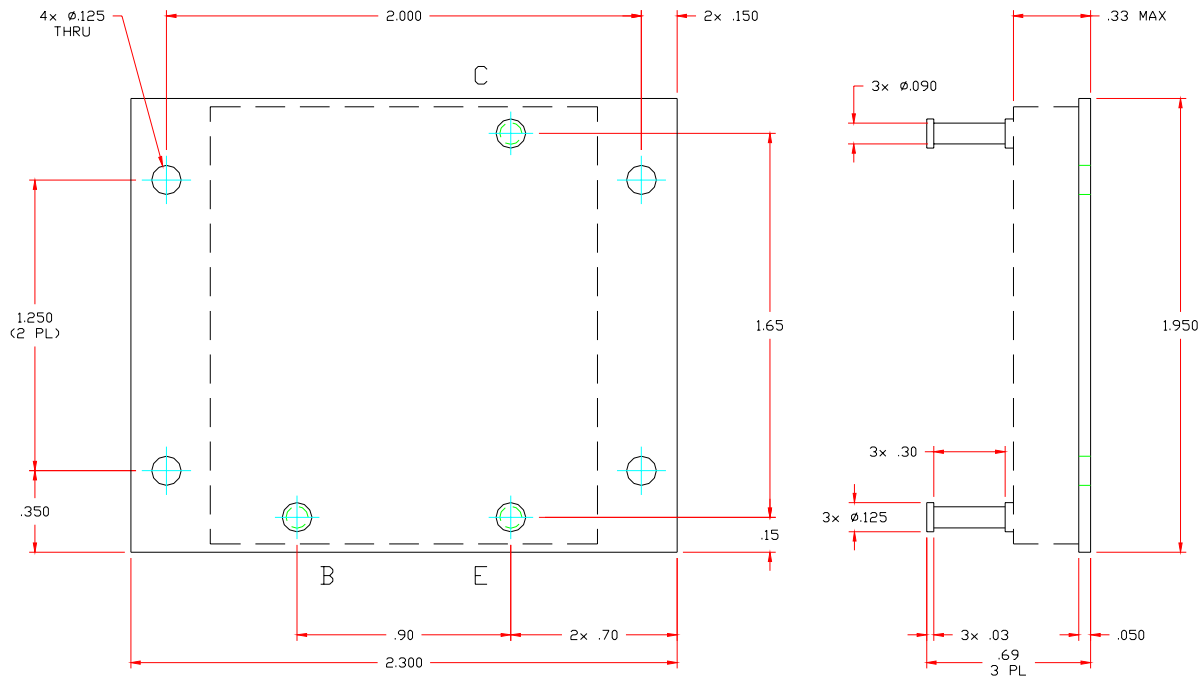


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ELECTRICAL CHARACTERISTICS		SYMBOL	MIN	MAX	UNITS
Collector Cutoff Current ($V_{CE} = 525V, V_{BE} = -2V$)	$T_B = 25^\circ C$ $T_B = 125^\circ C$	ICEV	-	2.0 10.0	mAmps
Emitter Cutoff Current ($V_{EB} = 8V$)		IEBO	-	5.0	mAmps
DC Current Gain ($I_C =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

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

CASE OUTLINE: ASPM



Tolerances
(Unless specified):

.XX $\pm .03$
.XXX $\pm .010$