PRELIMINARY

SPMQ461-01

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

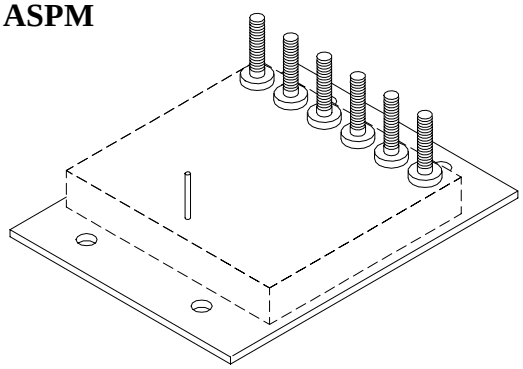
200 AMP/600 VOLTS HALF BRIDGE IGBT POWER MODULE FOR SPACE APPLICATIONS

DESIGNER'S DATA SHEET

FEATURES:

- **High Current Switching for Motor Drives and Inverters for Space Applications.**
- **Push-Pull Configuration with Freewheeling Diodes.**
- **Low Saturation Voltage at High Currents.**
- **Low Mechanical Stress Design.**
- **Hermetic Sealed Construction for Aerospace Applications.**
- **Excellent Thermal Management.**
- **Full Power Screened Hermetic Discretes.**
- **TX, TXV, and S-Level Screening Available.**
- **Consult Factory for:**
  - **Faster Switching Speeds;**
  - **Other Bridge Configurations and Terminal Styles.**

ASPM

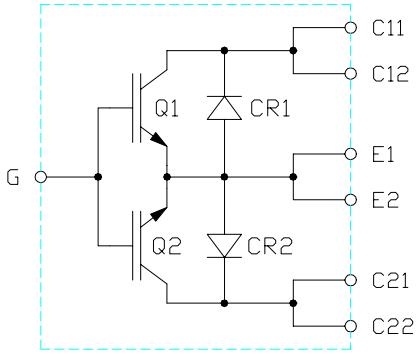


MAXIMUM RATINGS

CHARACTERISTIC		SYMBOL	VALUE	UNIT
Collector to Emiter Voltage, per Leg		V_{CES}	600	Volts
Gate to Collector Voltage		V_{GES}	±20	Volts
Continuous Collector Current, per Leg	T_B = 25°C T_B = 90°C	I_{C1} I_{C2}	200 100	Amps
Pulse Collector Current, per Leg 1/		I_{CM}	300	Amps
Clamped Inductive Load Current, per Leg (T_B = 125 °C, V_{CC} = 480V, V_{GE} = 15V, L = 30uH, R_G = 10Ω		I_{LM}	100	Amps
Reverse Voltage Avalange Energy, per Leg 1/ (I_C = 100A)		E_{ARV}	5.6	mJ
Operating and Storage Temperature		T_{OP} & T_{STG}	-55 TO +150	°C
Thermal Resistance, Junction to Base, per Leg		Θ_{JB}	0.28	°C/W
Total Module Dissipation, per Leg @T_B = 25°C **Dissipation Derating from T_B = 25°C to T_B = 150°C,** per Leg		P_{D1} P_{D2}	625 5	W W/°C

1/ Pulse Duration Limited by T_{JMAX}; Repetative Rating

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 #: PM0002B

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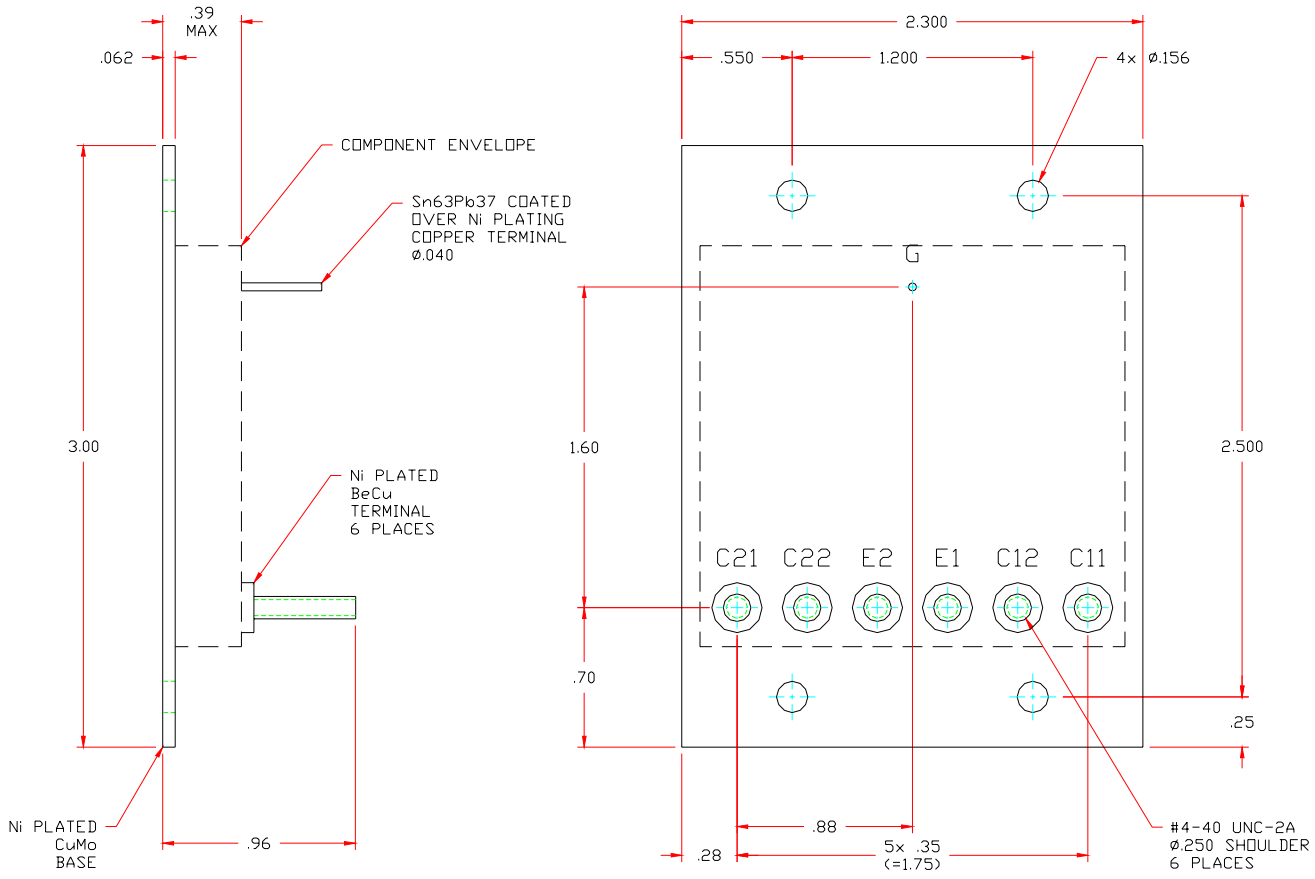
ELECTRICAL CHARACTERISTICS @ T_J =25°C, per Leg (Unless Otherwise Specified)

RATING		SYMBOL	MIN	MAX	UNIT
Collector - Emitter Breakdown Voltage (I_{CES} = 250µA, V_{GE} = 0V)		BV_{CES}	600	-	Volts
Gate - Emitter Threshold Voltage (I_C = 5mA, V_{CE} = V_{GE})		$V_{GE(th)}$	2.0	6	Volts
Collector-Emitter Saturation Voltage (I_C = 100A, V_{GE} = 15V)	(T_B = 25°C) (T_B = 90°C)	$V_{CE(sat)2}$ $V_{CE(sat)1}$	- -	3.1 2.5	Volts
Gate-Emitter Leakage Current (V_{GE} = ±20V, V_{CE} = 0V)		I_{GES}	-	2.0	µAmps
Collector Leakage Current (V_{CE} = 480V, V_{GE} = 0V)	(T_B = 25°C) (T_B = 125°C)	I_{CES1} I_{CES1}	- -	225 20	µAmps mAmps
Anti-Parallel Diode Forward Voltage (I_F = 100A, T_B = 25°C)		V_F	-	1.6	Volts
Insulation Resistance (All terminals to Base @1500V)		R_{INSUL1}	1	-	GΩ

PACKAGE OUTLINE: ASPM



Tolerances
(Unless specified):

.XX ±.03
.XXX ±.010