TECHNICAL DATA
DATA SHEET 863, REV -

HERMETIC POWER MOSFET
N-CHANNEL

FEATURES:

- **100 Volt, 0.020 Ohm MOSFET**
- **Isolated and Hermetically Sealed**
- **Surface Mount Package**

MAXIMUM RATINGS

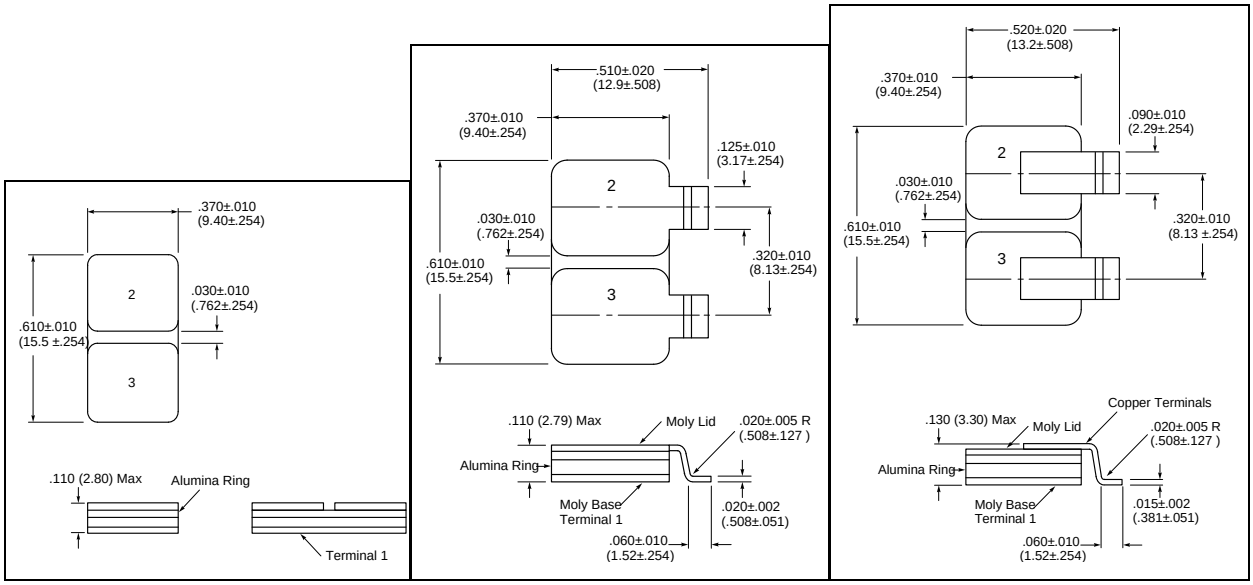
ALL RATINGS ARE AT T_A = 25°C UNLESS OTHERWISE SPECIFIED.

RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	V_{GS}	-	-	±20	Volts
CONTINUOUS DRAIN CURRENT V_{GS}=10V, T_C = 25°C V_{GS}=10V, T_C = 100°C	I_D	-	-	75 60	Amps
PULSED DRAIN CURRENT @ T_C = 25°C	I_{DM}	-	-	300	Amps
OPERATING AND STORAGE TEMPERATURE	T_{OP}/T_{STG}	-55	-	+150	°C
TERMAL RESISTANCE JUNCTION TO CASE	$R_{\theta JC}$	-	-	0.30	°C/W
TOTAL DEVICE DISSIPATION @ T_C = 25°C	P_D	-	-	300	Watts

ELECTRICAL CHARACTERISTICS

DRAIN TO SOURCE BREAKDOWN VOLTAGE V_{GS} = 0V, I_D = 250µA	BV_{DSS}	100	-	-	Volts
DRAIN TO SOURCE ON STATE RESISTANCE V_{GS} = 10V, I_D = 37.5A V_{GS} = 10V, I_D = 37.5A, T_J = 125°C	$R_{DS(ON)}$	-	-	 0.02 0.035	Ω
GATE THRESHOLD VOLTAGE V_{DS} = V_{GS}, I_D = 1mA	$V_{GS(th)}$	2.0	-	4.0	Volts
FORWARD TRANSCONDUCTANCE V_{DS} ≥ 10V, I_D = 75A	g_{fs}	25	-	-	S(1/Ω)
ZERO GATE VOLTAGE DRAIN CURRENT, T_J = 25°C (V_{DS} = 0.8xMax. Rating, V_{GS} = 0V), T_J = 125°C	I_{DSS}	-	-	250 1000	µA
GATE TO SOURCE LEAKAGE FORWARD V_{GS} = 20V GATE TO SOURCE LEAKAGE REVERSE V_{GS} = -20V	I_{GSS}	-	-	100 -100	nA
TOTAL GATE CHARGE V_{GS} = 10 V, GATE TO SOURCE CHARGE V_{DS} = 50V, GATE TO DRAIN CHARGE I_D =37.5A	Q_g Q_{gs} Q_{gd}	-	180 36 85	260 70 160	nC
TURN ON DELAY TIME V_{DD} = 250V, RISE TIME I_D = 3.7A, TURN OFF DELAY TIME R_G = 2.0Ω, FALL TIME V_{GS} = 15V	$t_{d(ON)}$ t_r $t_{d(OFF)}$ t_f	-	20 40 50 20	30 40 75 40	nsec
DIODE FORWARD VOLTAGE T_J = 25°C, I_F =, I_S V_{GS} = 0V	V_{SD}	-	-	1.3	Volts
REVERSE RECOVERY TIME T_J = 25°C, I_S = 10A, di/dt ≤ = 100A/µsec, REVERSE RECOVERY CHARGE	t_{rr} Q_{rr}	-	-	200 1.4	nsec µC
INPUT CAPACITANCE V_{GS} = 0V, V_{DS} = 25V, OUTPUT CAPACITANCE f=1MHz REVERSE TRANSFER CAPACITANCE	C_{iss} C_{oss} C_{rss}	-	4500 1600 800	-	pF

MECHANICAL DIMENSIONS: in Inches / mm



SHD-5/5A/5B

PINOUT TABLE

DEVICE TYPE	PIN 1	PIN 2	PIN 3
MOSFET SHD-5/A/B PACKAGE	DRAIN	SOURCE	GATE