

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

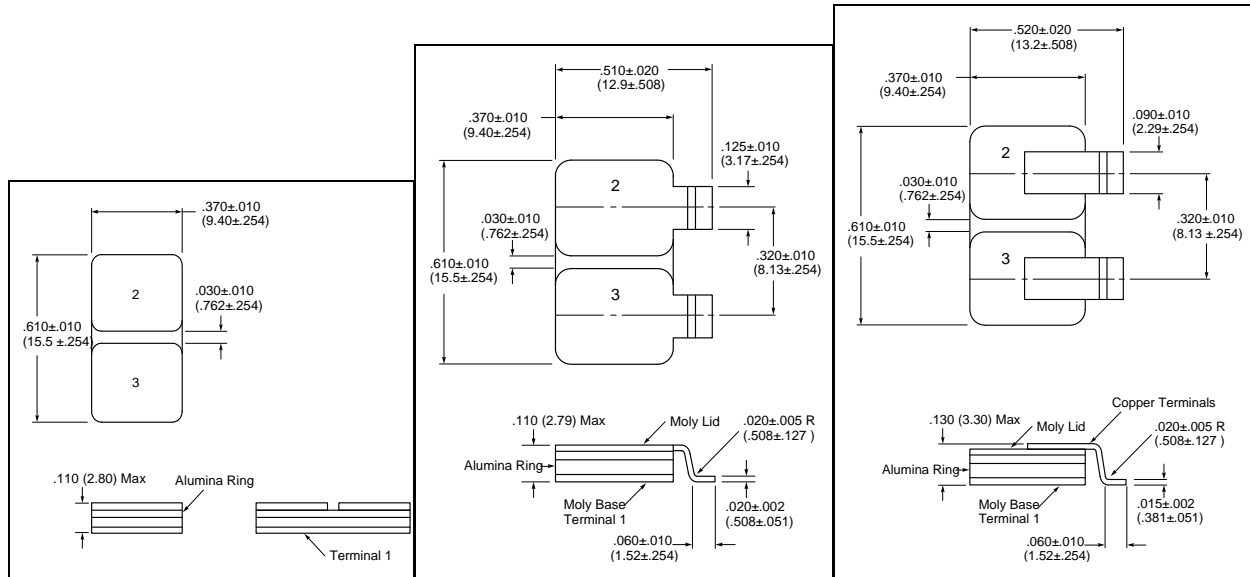
ALL RATINGS ARE AT $T_A = 25^\circ\text{C}$ UNLESS OTHERWISE SPECIFIED.

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

ELECTRICAL CHARACTERISTICS

DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS} = 0V, I_D = 250\mu\text{A}$	BV_{DSS}	100	-	-	Volts
DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 10V, I_D = 37.5A$ $V_{GS} = 10V, I_D = 37.5A, T_J = 125^\circ\text{C}$	$R_{DS(ON)}$	-	-	0.02 0.035	Ω
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = 1\text{mA}$	$V_{GS(th)}$	2.0	-	4.0	Volts
FORWARD TRANSCONDUCTANCE $V_{DS} \geq 10V, I_D = 75A$	g_{fs}	25	-	-	$S(1/\Omega)$
ZERO GATE VOLTAGE DRAIN CURRENT, $T_J = 25^\circ\text{C}$ ($V_{DS} = 0.8 \times \text{Max. Rating}, V_{GS} = 0V$), $T_J = 125^\circ\text{C}$	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 $V_{GS} = 10V,$ GATE TO SOURCE CHARGE $V_{DS} = 50V,$ GATE TO DRAIN CHARGE $I_D = 37.5A$	Q_g Q_{gs} Q_{gd}	-	180	260 36 70 85 160	nC
TURN ON DELAY TIME $V_{DD} = 250V,$ RISE TIME $I_D = 3.7A,$ TURN OFF DELAY TIME $R_G = 2.0\Omega,$ 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 $T_J = 25^\circ\text{C}, I_F = I_S,$ $V_{GS} = 0V$	V_{SD}	-	-	1.3	Volts
REVERSE RECOVERY TIME $T_J = 25^\circ\text{C},$ $I_S = 10A,$ $di/dt \leq 100A/\mu\text{sec},$	t_{rr}	-	-	200	nsec
REVERSE RECOVERY CHARGE	Q_{rr}	-	-	1.4	μC
INPUT CAPACITANCE $V_{GS} = 0V, V_{DS} = 25V,$ OUTPUT CAPACITANCE $f=1\text{MHz}$ 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	DRAIN	SOURCE	GATE
SHD-5/A/B PACKAGE			

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