

TECHNICAL DATA
DATA SHEET 547, REV. -
Formerly Part Number SHD2182/A/B

HERMETIC POWER MOSFET N-CHANNEL

FEATURES:

- 100 Volt, .055 Ohm, 38A MOSFET
- Isolated Hermetic Metal Package
- Fast Switching
- Low $R_{DS(on)}$
- Equivalent to IRFM150

MAXIMUM RATINGS

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

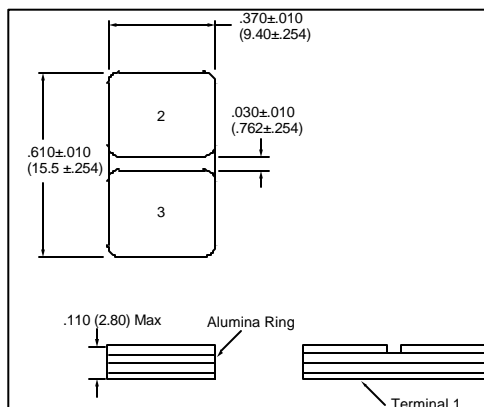
RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	V_{GS}	-	-	± 20	Volts
ON-STATE DRAIN CURRENT	I_D	-	-	38	Amps
PULSED DRAIN CURRENT @ $T_C = 25^\circ\text{C}$	I_{DM}	-	-	152	Amps
OPERATING AND STORAGE TEMPERATURE	T_J/T_{STG}	-55	-	+150	$^\circ\text{C}$
TOTAL DEVICE DISSIPATION @ $T_C = 25^\circ\text{C}$	P_D	-	-	200	Watts
THERMAL RESISTANCE, JUNCTION TO CASE	R_{thJC}	-	-	0.6	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS

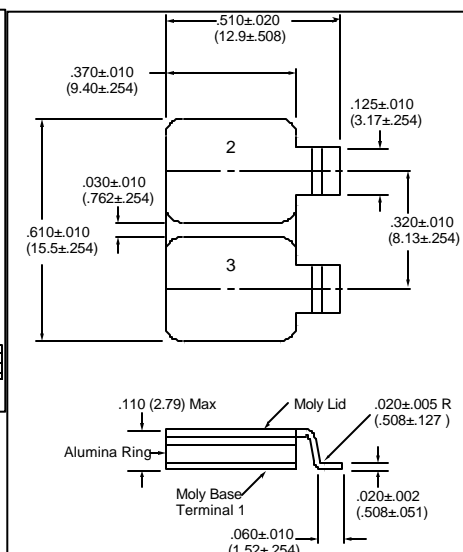
DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS} = 0V, I_D = 1.0 \text{ mA}$	BV_{DSS}	100	-	-	Volts
STATIC DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 10V, I_D = 24A$	$R_{DS(ON)}$	-	-	0.055	Ω
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = 250\mu A$	$V_{GS(th)}$	2.0	-	4.0	Volts
FORWARD TRANSCONDUCTANCE $V_{DS} \geq 15V, I_{DS} = 24A$	g_{fs}	9.0	-	-	$S(1/\Omega)$
ZERO GATE VOLTAGE DRAIN CURRENT $V_{DS} = 0.8 \times \text{Max. rating}, V_{GS} = 0V, T_J = 25^\circ\text{C}$	I_{DSS}	-	-	25	μA
ZERO GATE VOLTAGE DRAIN CURRENT $V_{DS} = 0.8 \times \text{Max. rating}, V_{GS} = 0V, T_J = 125^\circ\text{C}$	I_{DSS}	-	-	250	μA
GATE TO SOURCE LEAKAGE FORWARD GATE TO SOURCE LEAKAGE REVERSE $V_{GS} = 20V$ $V_{GS} = -20V$	I_{GSS}	-	-	100 -100	nA
TURN ON DELAY TIME RISE TIME TURN OFF DELAY TIME FALL TIME $V_{DD} = 50V, I_D = 38A, R_G = 2.35\Omega$	$t_{d(ON)}$ t_r $t_{d(OFF)}$ t_f	-	-	35 190 170 130	nsec
DIODE FORWARD VOLTAGE $T_C = 25^\circ\text{C}, I_S = 38A, V_{GS} = 0V$	V_{SD}	-	-	1.8	Volts
REVERSE RECOVERY TIME $T_J = 25^\circ\text{C}, I_F = 38A, di/ds \leq 100A/\mu\text{sec}, V_{DD} \leq 50V$	t_{rr}	-	-	500	nsec
INPUT CAPACITANCE OUTPUT CAPACITANCE REVERSE TRANSFER CAPACITANCE $V_{GS} = 0V$ $V_{DS} = 25V$ $f = 1.0\text{MHz}$	C_{iss} C_{oss} C_{rss}	-	3700 1100 200	-	pF

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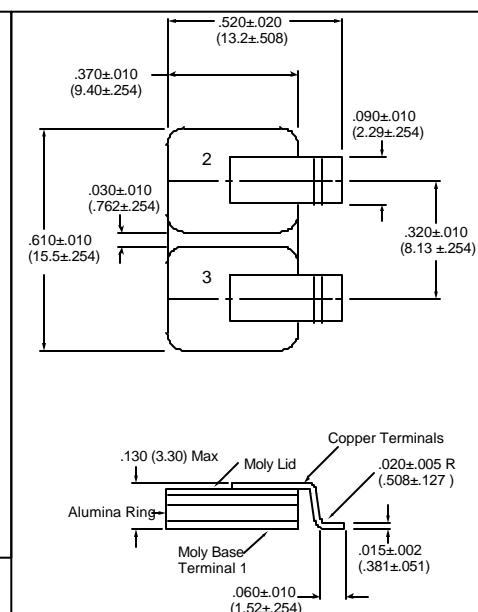
MECHANICAL DIMENSIONS: in Inches / mm



SHD-5



SHD-5A



SHD-5B

PINOUT TABLE

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

TECHNICAL DATA

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