TECHNICAL DATA
DATA SHEET 1012, REV -
Formerly Part Number SHD2185/A/B

HERMETIC POWER MOSFET
N-CHANNEL

FEATURES:

- **500 Volt, 0.3 Ohm, 9.0A MOSFET**
- **Low $R_{DS\ (on)}$**
- **Equivalent to IRF450 Series**

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 @ T_C = 25°C	I_D	-	-	12	Amps
PULSED DRAIN CURRENT @ T_C = 25°C	I_{DM}	-	-	48	Amps(pk)
OPERATING AND STORAGE TEMPERATURE	T_{OP}/T_{STG}	-55	-	+150	°C
TERMAL RESISTANCE JUNCTION TO CASE	$R_{\theta JC}$	-	-	0.6	°C/W
TOTAL DEVICE DISSIPATION @ T_C = 25°C	P_D	-	-	200	Watts

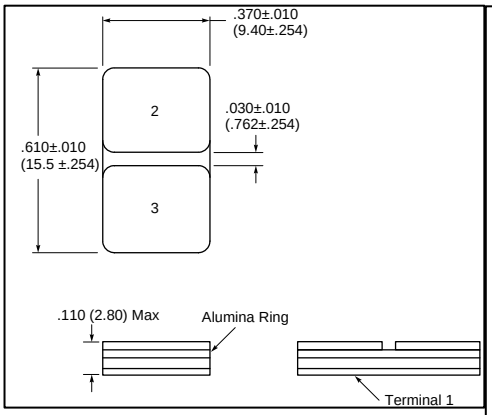
ELECTRICAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNITS
DRAIN TO SOURCE BREAKDOWN VOLTAGE V_{GS} = 0V, I_D = 250µA	BV_{DSS}	500	-	-	Volts
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}$, I_D = 250µA	$V_{GS(th)}$	2.0	-	4.0	
DRAIN TO SOURCE ON STATE RESISTANCE V_{GS} = 10Vdc, I_D = 8.0A PULSE TEST, t ≤ 300 µs, DUTY CYCLE d ≤ 2%	$R_{DS(on)}$	-	-	0.415	Ω
ZERO GATE VOLTAGE DRAIN CURRENT V_{DS} = 0.8xMax. Rating, T_J = 25°C V_{GS} = 0Vdc, T_J = 125°C	I_{DSS}	-	-	25 250	µA mA
GATE TO BODY LEAKAGE CURRENT V_{GS} = ±20Vdc, V_{DS} = 0	I_{GSS}	-	-	±100	nA
TOTAL GATE CHARGE V_{GS} = 10 Vdc GATE TO SOURCE CHARGE V_{DS} = 0.5VxMax. Rating, GATE TO DRAIN CHARGE I_D = 12A	Q_g Q_{gs} Q_{gd}	55 5.0 27	-	120 19 70	nC
TURN ON DELAY TIME V_{DD} = 250V, RISE TIME I_D = 12, TURN OFF DELAY TIME R_G = 2.35Ω FALL TIME	$t_{d(ON)}$ t_r $t_{d(OFF)}$ t_f	-	-	35 190 170 130	nsec
FORWARD VOLTAGE I_S = 12A, V_{GS} = 0V PULSE TEST, t ≤ 300 µs, DUTY CYCLE d ≤ 2%	V_{SD}	-	-	1.7	Volts
REVERSE RECOVERY TIME I_F = 12A REVERSE RECOVERY CHARGE di/dt = 100A/µsec V_{DD} ≤ 50V	t_{rr} Q_{RR}	-	1600 14	-	nsec µC
INPUT CAPACITANCE V_{DS} = 25 Vdc, OUTPUT CAPACITANCE V_{GS} = 0 Vdc, REVERSE TRANSFER CAPACITANCE f = 1 MHz DRAIN TO CASE CAPACITANCE	C_{iss} C_{oss} C_{rss} C_{DC}	-	2700 600 240 12	-	pF

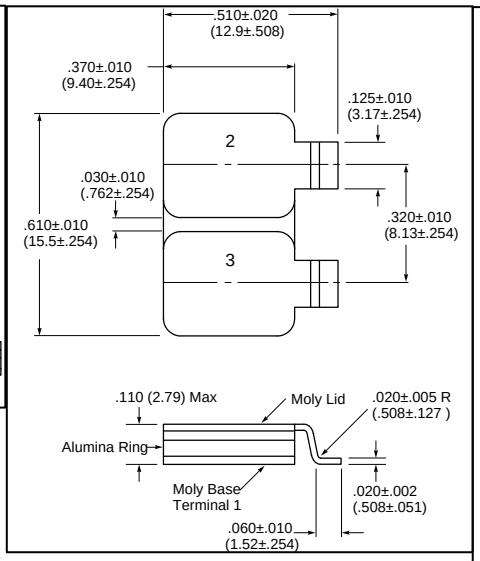
SENSITRON

DATA SHEET, 1012 REV. -

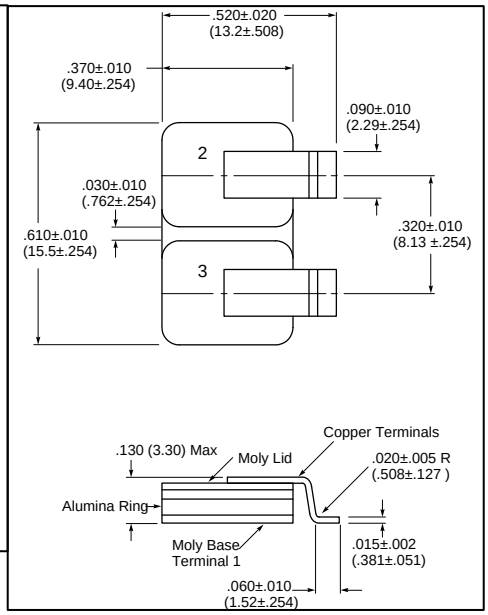
MECHANICAL DIMENSIONS: in Inches / mm



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