

TECHNICAL DATA
DATA SHEET 317, REV -**HERMETIC POWER MOSFET**
N-CHANNEL**FEATURES:**

- 100 Volt, 0.16 Ohm, 14A MOSFET
- Fast Switching
- Low $R_{DS(on)}$
- Equivalent to IRF130 Series

MAXIMUM RATINGSALL 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 @ $T_C = 100^\circ\text{C}$	I_D	-	-	14	Amps
OPERATING AND STORAGE TEMPERATURE	T_{OP}/T_{STG}	-55	-	+150	$^\circ\text{C}$
TOTAL DEVICE DISSIPATION @ $T_C = 25^\circ\text{C}$	P_D	-	-	96	Watts
THERMAL RESISTANCE, JUNCTION TO CASE	R_{thJC}	-	-	1.3	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS

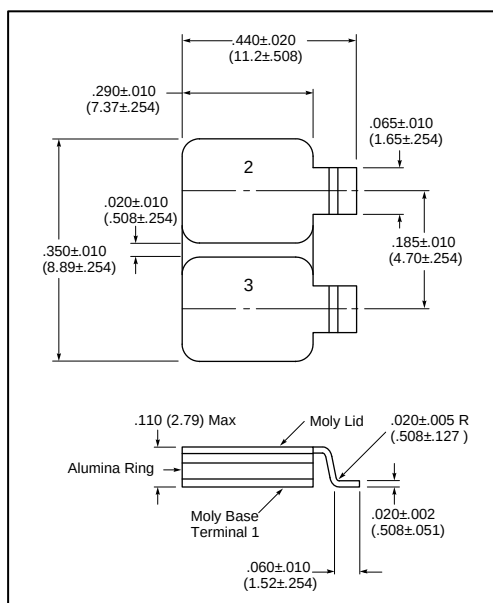
DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS} = 0\text{V}, I_D = 1.0\text{mA}$	BV_{DSS}	100	-	-	Volts
DRAIN TO SOURCE ON-STATE VOLTAGE $V_{GS} = 10\text{V}, I_D = 10\text{A}$	$V_{DS(ON)}$	-	-	100	Volts
STATIC DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 10\text{V}, I_D = 20\text{A}$	$R_{DS(ON)}$	-	0.14	0.16	Ω
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	$V_{GS(th)}$	2.0	2.8	4.0	Volts
FORWARD TRANSCONDUCTANCE $V_{DS} \geq I_{D(ON)} \times R_{DS(ON)} \text{ Max.}, I_{DS} = 0.6 \times I_D$	g_{fs}	4.6	7.0	-	$\text{S}(1/\Omega)$
ZERO GATE VOLTAGE DRAIN CURRENT $V_{DS} = \text{Max. Rating}, V_{GS} = 0\text{V}$ $V_{DS} = 0.8 \times \text{Max. Rating}, V_{GS} = 0\text{V}, T_J = 125^\circ\text{C}$	I_{DSS}	-	-	250 1000	μA
GATE TO SOURCE LEAKAGE FORWARD $V_{GS} = 20\text{V}$ GATE TO SOURCE LEAKAGE REVERSE $V_{GS} = -20\text{V}$	I_{GSS}	-	-	100 -100	nA
TURN ON DELAY TIME $V_{DD} = 50\text{V}, I_D = 7.0\text{A},$ RISE TIME $R_G = 12\Omega,$ TURN OFF DELAY TIME $V_{GS} = 10\text{V}$ FALL TIME	$t_{d(ON)}$ t_r $t_{d(OFF)}$ t_f	-	9.5 42 22 25	14 63 33 38	nsec
DIODE FORWARD VOLTAGE $T_C = 25^\circ\text{C}, I_S = 14\text{A},$ $V_{GS} = 0\text{V}$	V_{SD}	-	1.0	2.5	Volts
REVERSE RECOVERY TIME $T_J = 25^\circ\text{C},$ $I_r = 14\text{A},$ $di_F/ds = 100\text{A}/\mu\text{sec},$	t_{rr}	-	-	250	nsec
INPUT CAPACITANCE $V_{GS} = 0\text{V}$ OUTPUT CAPACITANCE $V_{DS} = 25\text{V}$ REVERSE TRANSFER CAPACITANCE $f = 1.0\text{MHz}$	C_{iss} C_{oss} C_{rss}	-	650 240 44	-	pF

SENSITRON

DATA SHEET 317

REVISION -

MECHANICAL DIMENSIONS: in Inches / m

**SHD-4A**

PINOUT TABLE

DEVICE TYPE	PIN 1	PIN 2	PIN 3
N-CHANNEL MOSFET SHD-4A PACKAGE	DRAIN	SOURCE	GATE

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