

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 RATINGS

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

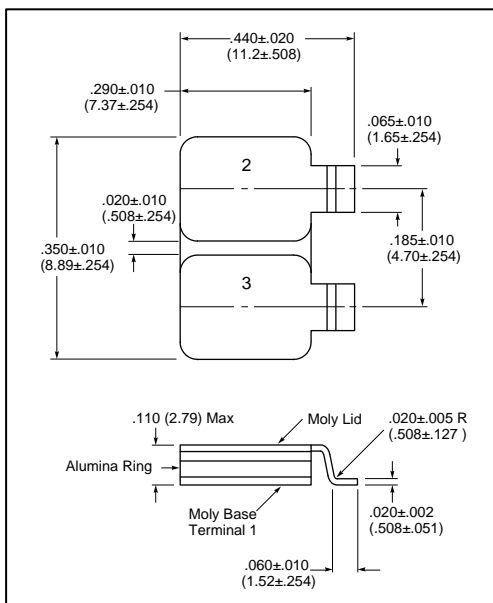
RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	V_{GS}	-	-	± 20	Volts
ON-STATE DRAIN CURRENT @ $T_C = 100^\circ\text{C}$	I_D	-	-	14	Amps
OPERATING AND STORAGE TEMPERATURE	T_{OP}/T_{STG}	-55	-	+150	$^\circ\text{C}$
TOTAL DEVICE DISSIPATION @ $T_C = 25^\circ\text{C}$	P_D	-	-	96	Watts
THERMAL RESISTANCE, JUNCTION TO CASE	R_{thJC}	-	-	1.3	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS

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