

TECHNICAL DATA
DATA SHEET 349, REV -**HERMETIC POWER MOSFET
P-CHANNEL**

FEATURES:

- -100 Volt, 0.2 Ohm, -18A MOSFET
- Electrically Isolated Hermetically Sealed
- Low $R_{DS(on)}$
- Equivalent to IRF9140 Series

MAXIMUM RATINGS

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

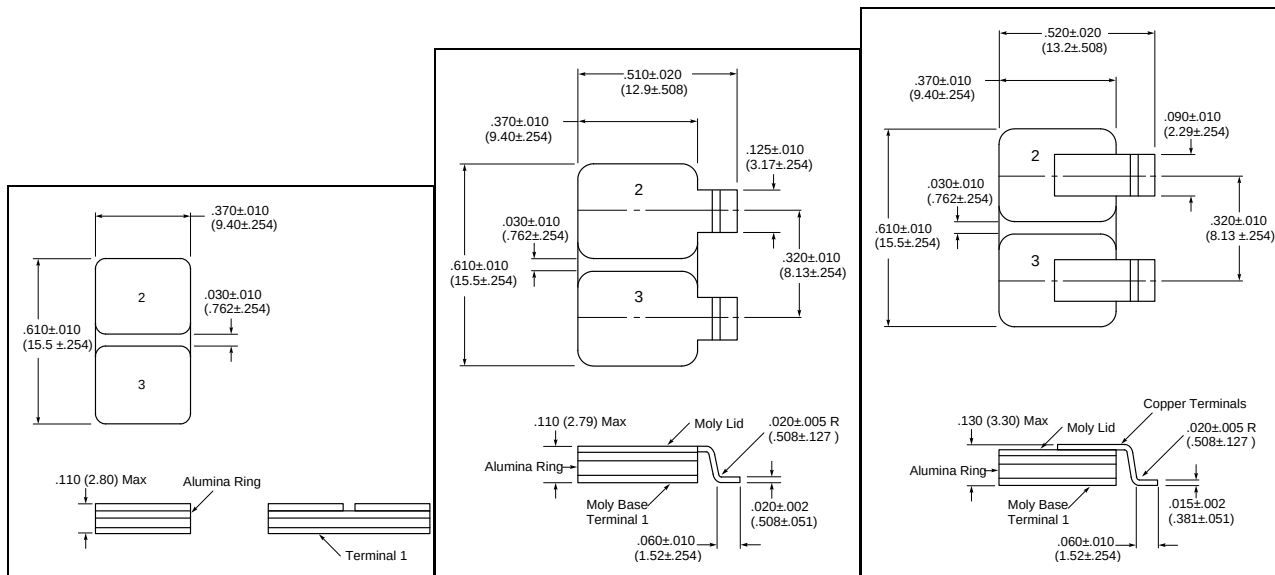
RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	V_{GS}	-	-	± 20	Volts
CONTINUOUS DRAIN CURRENT $V_{GS}=10\text{V}$, $T_C = 25^\circ\text{C}$ $V_{GS}=10\text{V}$, $T_C = 100^\circ\text{C}$	I_D	-	-	-18 -11	Amps
PULSED DRAIN CURRENT @ $T_C = 25^\circ\text{C}$	I_{DM}	-	-	-72	Amps
OPERATING AND STORAGE TEMPERATURE	T_{OP}/T_{STG}	-55	-	+150	$^\circ\text{C}$
TERMAL RESISTANCE JUNCTION TO CASE	$R_{\theta JC}$	-	-	0.75	$^\circ\text{C/W}$
TOTAL DEVICE DISSIPATION @ $T_C = 25^\circ\text{C}$	P_D	-	-	167	Watts

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 RESISTANCE $V_{GS} = -10\text{V}$, $I_D = -11\text{A}$ $V_{GS} = -10\text{V}$, $I_D = -18\text{A}$	$R_{DS(ON)}$	-	-	0.20 0.22	Ω
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}$, $I_D = -250\mu\text{A}$	$V_{GS(th)}$	-2.0	-	-4.0	Volts
FORWARD TRANSCONDUCTANCE $V_{DS} \geq -15\text{V}$, $I_{DS} = -11\text{A}$	g_{fs}	6.2	-	-	$\text{S}(1/\Omega)$
ZERO GATE VOLTAGE DRAIN CURRENT $V_{DS} = 0.8 \times \text{Max. Rating}$, $V_{GS} = 0\text{V}$ $V_{DS} = 0.8 \times \text{Max. Rating}$ $V_{GS} = 0\text{V}$, $T_J = 125^\circ\text{C}$	I_{DSS}	-	-	-25 -250	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
TOTAL GATE CHARGE $V_{GS} = -10\text{V}$ GATE TO SOURCE CHARGE $V_{DS} = \text{Max. Rating} \times 0.5$ GATE TO DRAIN CHARGE $I_D = -18\text{A}$	Q_g Q_{gs} Q_{gd}	31 3.7 7.0	-	60 13 35.2	nC
TURN ON DELAY TIME $V_{DD} = -50\text{V}$, RISE TIME $I_D = -11\text{A}$, TURN OFF DELAY TIME $R_G = 9.1\Omega$ FALL TIME	$t_{d(on)}$ t_r $t_{d(off)}$ t_f	-	-	35 85 85 65	nsec
DIODE FORWARD VOLTAGE $T_J = 25^\circ\text{C}$, $I_S = -18\text{A}$, $V_{GS} = 0\text{V}$	V_{SD}	-	-	-4.2	Volts
DIODE REVERSE RECOVERY TIME $T_J = 25^\circ\text{C}$, REVERSE RECOVERY CHARGE $I_F = -18\text{A}$, $di/dt = -100\text{A}/\mu\text{sec}$, $V_{DD} \leq -50\text{V}$	t_{rr} Q_{rr}	-	-	280 3.6	nsec μC
INPUT CAPACITANCE $V_{GS} = 0\text{V}$, OUTPUT CAPACITANCE $V_{DS} = 25\text{V}$, REVERSE TRANSFER CAPACITANCE $f = 1.0\text{MHz}$ DRAIN TO CASE CAPACITANCE	C_{iss} C_{oss} C_{rss} C_{DC}	-	1400 600 200 12	-	pF

SENSITRON
DATA SHEET 349
REVISION -

MECHANICAL DIMENSIONS: in Inches / mm



SHD-5

SHD-5A

SHD-5B

PINOUT TABLE

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

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