

TECHNICAL DATA
DATA SHEET 1097, REV. -

HERMETIC POWER MOSFET N-CHANNEL

FEATURES:

- 400 Volt, 0.3 Ohm, 9.0A MOSFET
- Low $R_{DS(on)}$
- Electrically Equivalent to IRF350 Series

MAXIMUM RATINGS

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

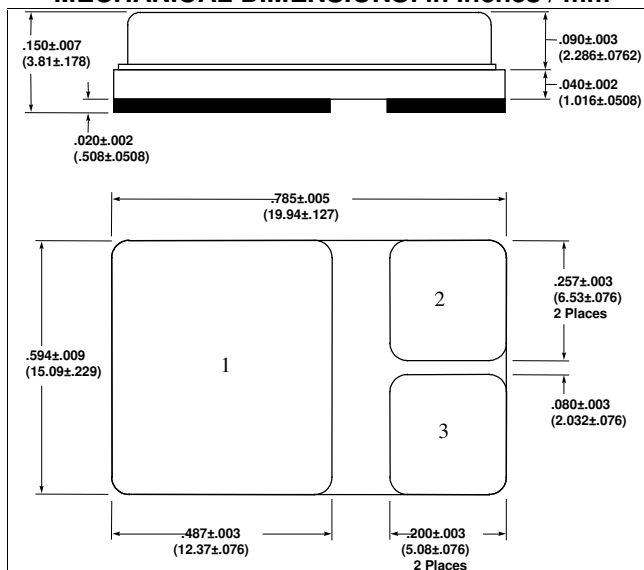
RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	V_{GS}	-	-	± 20	Volts
ON-STATE DRAIN CURRENT @ $T_C = 25^\circ\text{C}$	I_D	-	-	14	Amps
ON-STATE DRAIN CURRENT @ $T_C = 100^\circ\text{C}$	I_D	-	-	9.0	Amps
OPERATING AND STORAGE TEMPERATURE	T_{OP}/T_{STG}	-55	-	+150	$^\circ\text{C}$
THERMAL RESISTANCE, JUNCTION TO CASE	R_{thJC}	-	-	0.37	$^\circ\text{C}/\text{W}$
TOTAL DEVICE DISSIPATION @ $T_C = 25^\circ\text{C}$	P_D	-	-	340	Watts

ELECTRICAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNITS
DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS} = 0\text{V}, I_D = 1.0\text{mA}$	BV_{DSS}	400	-	-	Volts
STATIC DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 10\text{V}, I_D = 9.0\text{A}$ $V_{GS} = 10\text{V}, I_D = 14\text{A}$	$R_{DS(ON)}$	-	-	0.3 0.4	Ω
GATE THRESHOLD VOLTAGE $V_{DS} \geq 15\text{V}, I_{DS} = 9.0\text{A}$	$V_{GS(th)}$	6.0	-	-	Volts
FORWARD TRANSCONDUCTANCE $V_{DS} \geq 15\text{V}, I_{DS} = 9.0\text{A}$	g_{fs}	6.0	-	-	$\text{S}(1/\Omega)$
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 $V_{DD} = 200\text{V},$ RISE TIME $I_D = 14\text{A},$ TURN OFF DELAY TIME $R_G = 2.35\Omega$ FALL TIME	$t_{d(ON)}$ t_r $t_{d(OFF)}$ t_f	-	-	35 190 170 130	nsec
TOTAL GATE CHARGE $I_D = 14\text{A},$	Q_g	52	-	110	nC
GATE TO SOURCE CHARGE $V_{GS} = 10\text{V},$	Q_{gs}	5.0	-	18	nC
GATE TO DRAIN CHARGE $V_{DS} = 0.5 \times \text{Max. Rating}$	Q_{gd}	25	-	65	nC
DIODE FORWARD VOLTAGE $T_C = 25^\circ\text{C}, I_S = 14\text{A},$ $V_{GS} = 0\text{V}$	V_{SD}	-	-	1.7	Volts
REVERSE RECOVERY CHARGE $T_J = 25^\circ\text{C},$ $di/dt \leq 100\text{A}/\mu\text{sec}, V_{DD} \leq 50\text{V}$	Q_{RR}	-	-	11	μC
REVERSE RECOVERY TIME $T_J = 25^\circ\text{C},$ $I_F = 14\text{A},$ $di/dt \leq 100\text{A}/\mu\text{sec}, V_{DD} \leq 50\text{V}$	t_{rr}	-	-	1200	nsec
INPUT CAPACITANCE $V_{GS} = 0\text{V}$	C_{iss}	-	2600	-	pF
OUTPUT CAPACITANCE $V_{DS} = 25\text{V}$	C_{oss}	-	680	-	pF
REVERSE TRANSFER CAPACITANCE $f = 1.0\text{MHz}$	C_{rss}	-	250	-	pF

SENSITRON
DATA SHEET 1097
REVISION -

MECHANICAL DIMENSIONS: in Inches / mm



SHD-6

PINOUT TABLE

DEVICE TYPE	PIN 1	PIN 2	PIN 3
MOSFET, SURFACE MOUNT SHD-6 PACKAGE	DRAIN	SOURCE	GATE

TECHNICAL DATA

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