

TECHNICAL DATA
DATA SHEET 5575, REV -

HERMETIC POWER MOSFET N-CHANNEL

FEATURES:

- 500 Volt, 0.4 Ohm, 12.0A MOSFET
- Low $R_{DS(on)}$
- Equivalent to IRF450 Series
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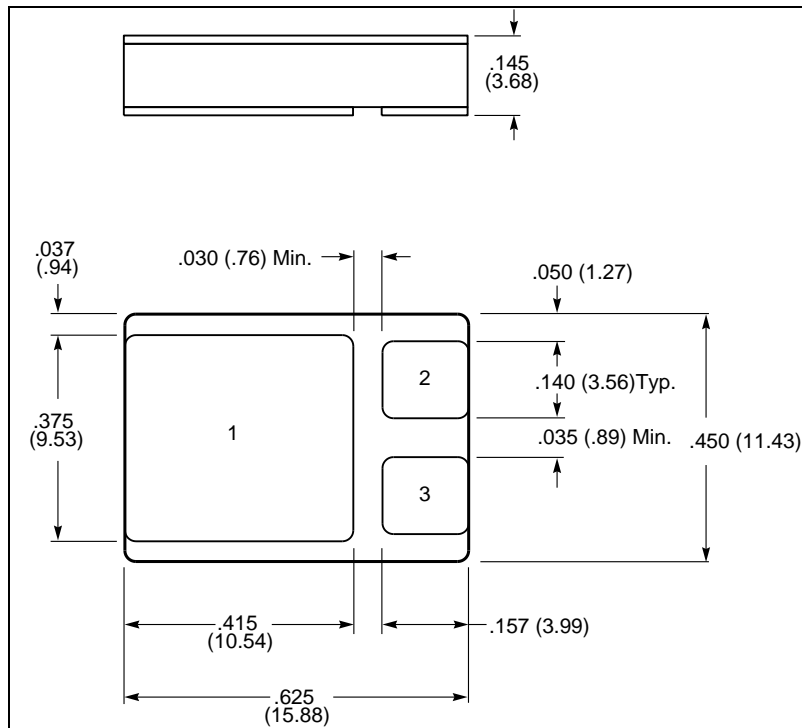
MAXIMUM RATINGS

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	-	-	12	Amps
ON-STATE DRAIN CURRENT @ $T_C = 100^\circ\text{C}$	I_D	-	-	7.75	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	-	-	150	Watts
THERMAL RESISTANCE, JUNCTION TO CASE	R_{thJC}	-	-	0.83	$^\circ\text{C}/\text{W}$

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}	500	-	-	Volts
STATIC DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 10\text{V}, I_D = 7.75\text{A}$ $V_{GS} = 10\text{V}, I_D = 12\text{A}$	$R_{DS(ON)}$	-	-	0.43	Ω
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = 0.25\text{mA}$	$V_{GS(th)}$	2.0	-	4.0	Volts
ZERO GATE VOLTAGE DRAIN CURRENT $V_{DS} = \text{Max. Rating}, V_{GS} = 0\text{V}$ $V_{DS} = \text{Max. Rating}, V_{GS} = 0\text{V}, T_J = 125^\circ\text{C}$	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
TURN ON DELAY TIME $V_{DD} = 250\text{V},$ RISE TIME $I_D = 12\text{A},$ 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	50 240 220 180	nsec
TOTAL GATE CHARGE $I_D = 12\text{A},$ GATE TO SOURCE CHARGE $V_{GS} = 10\text{V},$ GATE TO DRAIN CHARGE $V_{DS} = 0.5 \times \text{Max. Rating}$	Q_g Q_{gs} Q_{gd}	55 5 25	- - -	120 19 70	nC
DIODE FORWARD VOLTAGE $T_C = 25^\circ\text{C}, I_S = 12\text{A},$ $V_{GS} = 0\text{V}$	V_{SD}	-	-	1.7	Volts
REVERSE RECOVERY CHARGE $T_J = 25^\circ\text{C},$ $I_F = 12\text{A},$ $di/dt = 100\text{A}/\mu\text{sec}, V_{DD} = 50\text{V}$	Q_{RR}	-	-	14	μC
REVERSE RECOVERY TIME $T_J = 25^\circ\text{C},$ $I_F = 12\text{A},$ $di/dt = 100\text{A}/\mu\text{sec}, V_{DD} = 50\text{V}$	t_{rr}	-	-	1600	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}	-	2700 600 240	-	pF

SENSITRON**TECHNICAL DATA****DATA SHEET 5575, REV -****MECHANICAL DIMENSIONS: in Inches / mm****SMD-1****PINOUT TABLE**

	PIN 1	PIN 2	PIN 3
N-CHANNEL MOSFET IN A SMD-1 PACKAGE	DRAIN	SOURCE	GATE

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