

TECHNICAL DATA
DATA SHEET 602, REV -

HERMETIC POWER MOSFET
N-CHANNEL

FEATURES:

- 100 Volt, 0.18 Ohm, 7.4A MOSFET
- Fast Switching
- Low $R_{DS(on)}$
- Equivalent to IRFE130

MAXIMUM RATINGS

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

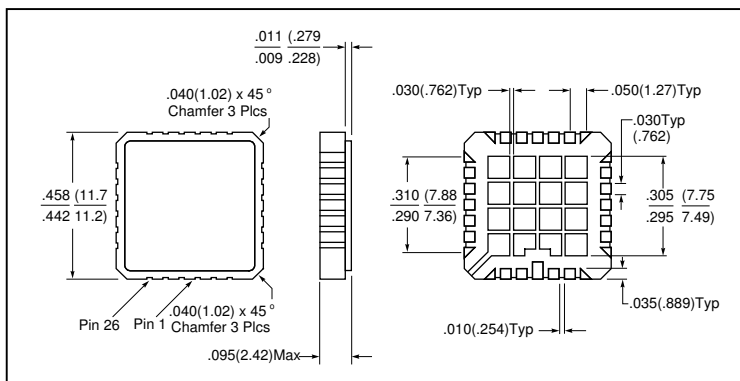
RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	V_{GS}	-	-	± 20	Volts
ON-STATE DRAIN CURRENT @ $T_C = 25^\circ\text{C}$	I_D	-	-	10.8	Amps
ON-STATE DRAIN CURRENT @ $T_C = 100^\circ\text{C}$	I_D	-	-	6.8	Amps
OPERATING AND STORAGE TEMPERATURE	T_{OP}/T_{STG}	-55	-	+150	$^\circ\text{C}$
TOTAL DEVICE DISSIPATION @ $T_C = 25^\circ\text{C}$	P_D	-	-	42	Watts
THERMAL RESISTANCE, JUNCTION TO CASE	R_{thJC}	-	-	3.0	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS

DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS} = 0\text{V}, I_D = 1.0\text{mA}$	BV_{DSS}	100	-	-	Volts
STATIC DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 10\text{V}, I_D = 5.4\text{A}$	$R_{DS(ON)}$	-	-	0.18	Ω
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	$V_{GS(th)}$	2.0	-	4.0	Volts
FORWARD TRANSCONDUCTANCE $V_{DS} = 15\text{V}, I_{DS} = 6.8\text{A}$	g_{fs}	3.0	-	-	$\text{S}(1/\Omega)$
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
TURN ON DELAY TIME RISE TIME TURN OFF DELAY TIME FALL TIME $V_{DD} = 50\text{V}, I_D = 10.8\text{A}, R_G = 7.5\Omega$	$t_{d(ON)}$ t_r $t_{d(OFF)}$ t_f	-	-	30 75 40 45	nsec
TOTAL GATE CHARGE $I_D = 10.8\text{A},$ 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}	12.8	-	28.5 6.3 16.6	nC
DIODE FORWARD VOLTAGE $T_C = 25^\circ\text{C}, I_S = 10.8\text{A}, V_{GS} = 0\text{V}$	V_{SD}	-	-	1.5	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}	-	-	3.0	μC
REVERSE RECOVERY TIME $T_J = 25^\circ\text{C}, I_F = 10.8\text{A}, di/dt \leq 100\text{A}/\mu\text{sec}, V_{DD} \leq 50\text{V}$	t_{rr}	-	-	300	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 602
REVISION -

MECHANICAL DIMENSIONS: in Inches / m



LCC-28T

PINOUT TABLE

Device Type	PIN(S) 1 & 15-28	PINS 5-11	PINS 2,3,13,14
Single MOSFET in a LCC-28T Package	SOURCE	DRAIN	GATE

TECHNICAL DATA

DISCLAIMER:

- 1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the Sensitron Semiconductor sales department for the latest version of the datasheet(s).
- 2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment, and safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement.
- 3- In no event shall Sensitron Semiconductor be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). Sensitron Semiconductor assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.
- 4- In no event shall Sensitron Semiconductor be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.
- 5- No license is granted by the datasheet(s) under any patents or other rights of any third party or Sensitron Semiconductor.
- 6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of Sensitron Semiconductor.
- 7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations.