

TECHNICAL DATA
DATA SHEET 871, REV. -

HERMETIC POWER MOSFET
P-CHANNEL

FEATURES:

- -100 Volt, 0.21 Ohm, -13A MOSFET
- Hermetic Metal Package
- Fast Switching
- Electrically Equivalent to IRFY9140 Series

MAXIMUM RATINGS

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

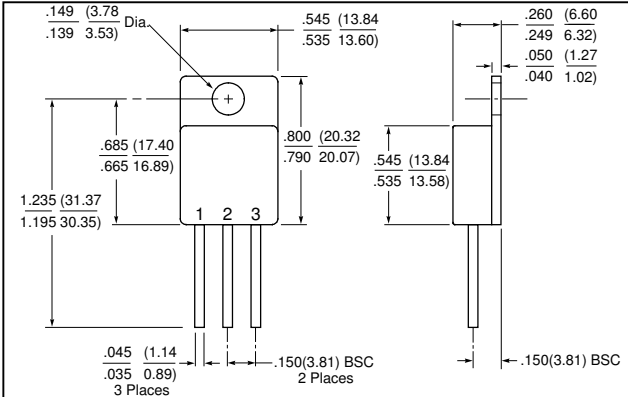
RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	V_{GS}	-	-	± 20	Volts
ON-STATE DRAIN CURRENT @ $T_C = 25^\circ\text{C}$	$I_{D(on)}$	-	-	-13	Amps
PULSED DRAIN CURRENT @ $T_C = 25^\circ\text{C}$	I_{DM}	-	-	-52	Amps
OPERATING AND STORAGE TEMPERATURE	T_{OP}/T_{STG}	-55	-	+150	$^\circ\text{C}$
THERMAL RESISTANCE, JUNCTION TO CASE	R_{thJC}	-	-	0.88	$^\circ\text{C/W}$
TOTAL DEVICE DISSIPATION @ $T_C = 25^\circ\text{C}$	P_D	-	-	140	Watts

ELECTRICAL CHARACTERISTICS

CHARACTERISTICS	SYMBOL	MIN.	TYP.	MAX.	UNITS
DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS} = 0V, I_D = 1.0 \text{ mA}$	BV_{DSS}	-100	-	-	Volts
TOTAL GATE CHARGE $V_{GS} = -10V, I_D = -13A, V_{DS} = 0.5 \times V_{DS} \text{ Max.}$	Q_g	31	-	60	nC
GATE TO SOURCE ON-STATE VOLTAGE $V_{GS} = -10V, I_D = -13A, V_{DS} = 0.5 \times V_{DS} \text{ Max.}$	Q_{gs}	3.7	-	13	nC
GATE DRAIN CHARGE $V_{GS} = -10V, I_D = -13A, V_{DS} = 0.5 \times V_{DS} \text{ Max.}$	Q_{gd}	7.0	-	35.2	nC
STATIC DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 10V, I_D = -8.4A$ $V_{GS} = 10V, I_D = -13A$	$R_{DS(ON)}$	-	-	0.21 0.24	Ω
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = -250\mu A$	$V_{GS(th)}$	-2.0	-	-4.0	Volts
FORWARD TRANSCONDUCTANCE $V_{DS} \geq 15V_{DS(on)}, I_D = -8.2A$	g_{fs}	6.2	-	-	S(1/ Ω)
ZERO GATE VOLTAGE DRAIN CURRENT $V_{DS} = 0.8x \text{ Max. Rating}, V_{GS} = 0V$ $V_{DS} = 0.8x \text{ Max. Rating}, V_{GS} = 0V, T_J = 125^\circ\text{C}$	I_{DSS}	-	-	-25 -250	mA
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 $I_D = -13A,$ TURN OFF DELAY TIME $R_G = 9.1\Omega,$ FALL TIME $V_{GS} = -10V$	$t_{d(ON)}$ t_r $t_{d(OFF)}$ t_f	-	-	35 85 85 65	nsec
DIODE FORWARD VOLTAGE $T_C = 25^\circ\text{C}, I_S = -13A,$ $V_{GS} = 0V$	V_{SD}	-	-	-4.2	Volts
REVERSE RECOVERY TIME $T_J = 25^\circ\text{C},$ $I_S = -13 \text{ A}, di/dt \leq -100A/\mu\text{sec},$ $V_{DD} \leq -50 \text{ V}$	t_{rr}	-	-	280	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}	-	1400 600 200	-	pF

SENSITRON
DATA SHEET 871
REVISION -

MECHANICAL DIMENSIONS: in Inches / mm



TO-254

PINOUT TABLE

DEVICE TYPE	PIN 1	PIN 2	PIN 3
MOSFET TO-254 PACKAGE	DRAIN	SOURCE	GATE

TECHNICAL DATA

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