

SENSITRON

SEMICONDUCTOR

TECHNICAL DATA
DATA SHEET 4307, REV -

HERMETIC POWER MOSFET N-CHANNEL

FEATURES:

- 100 Volt, 0.035 Ohm MOSFET
- Hermetically Sealed
- TO-257 Hermetic Package

MAXIMUM RATINGS

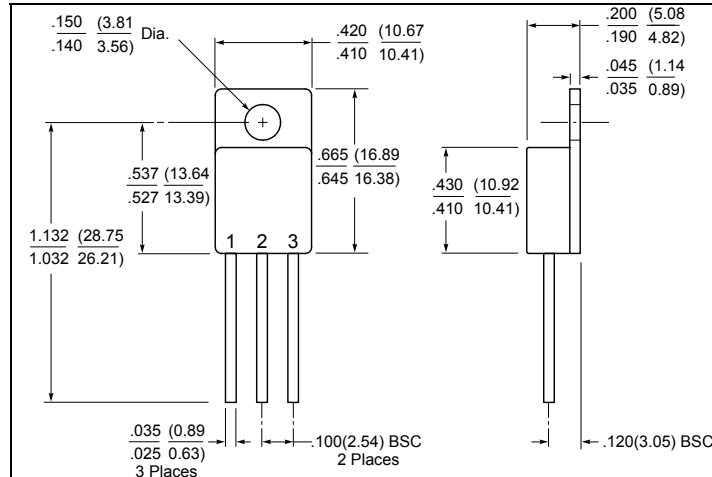
ALL RATINGS ARE AT $T_A = 25^\circ\text{C}$ UNLESS OTHERWISE SPECIFIED.

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	-	-	30 18	Amps
PULSED DRAIN CURRENT @ $T_C = 25^\circ\text{C}$	I_{DM}	-	-	55	Amps
OPERATING AND STORAGE TEMPERATURE	T_{OP}/T_{STG}	-55	-	+175	$^\circ\text{C}$
TERMAL RESISTANCE JUNCTION TO CASE	$R_{\theta JC}$	-	-	1.4	$^\circ\text{C}/\text{W}$
TOTAL DEVICE DISSIPATION @ $T_C = 25^\circ\text{C}$	P_D	-	-	107	Watts

ELECTRICAL CHARACTERISTICS

DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS} = 0\text{V}$, $I_D = 250\ \mu\text{A}$	BV_{DSS}	100	-	-	Volts
DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 10\text{V}$, $I_D = 30\text{A}$ $V_{GS} = 10\text{V}$, $I_D = 18\text{A}$, $T_A = 125^\circ\text{C}$	$R_{DS(ON)}$	-	-	0.049 0.080	Ω
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}$, $I_D = 250\ \mu\text{A}$	$V_{GS(th)}$	2.0	-	4.0	Volts
FORWARD TRANSCONDUCTANCE $V_{DS} = 15\text{V}$, $I_D = 30\text{A}$	g_{fs}	-	23	-	$\text{S}(1/\Omega)$
ZERO GATE VOLTAGE DRAIN CURRENT, $T_J = 25^\circ\text{C}$ ($V_{DS} = 100\text{V}$, $V_{GS} = 0\text{V}$), $T_J = 125^\circ\text{C}$	I_{DSS}	-	-	10 100	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 $V_{DS} = 50\text{V}$, GATE TO DRAIN CHARGE $I_D = 30\text{A}$	Q_g Q_{gs} Q_{gd}	-	29 10 11	-	nC
TURN ON DELAY TIME $V_{DD} = 50\text{V}$, RISE TIME $I_D = 30\text{A}$, TURN OFF DELAY TIME $R_G = 2.5\Omega$, FALL TIME $V_{GS} = 10\text{V}$	$t_{d(ON)}$ t_r $t_{d(OFF)}$ t_f	-	-	26 20 54 40	nsec
DIODE FORWARD VOLTAGE $T_J = 25^\circ\text{C}$, $I_S = 30\text{A}$ $V_{GS} = 0\text{V}$	V_{SD}	-	-	1.35	Volts
REVERSE RECOVERY TIME $T_J = 25^\circ\text{C}$, $I_S = 30\text{A}$, $di/dt \leq 100\text{A}/\mu\text{sec}$	t_{rr}	-	-	80	nsec

MECHANICAL DIMENSIONS: in Inches / mm



TO-257

PINOUT TABLE

DEVICE TYPE	PIN 1	PIN 2	PIN 3
MOSFET, TO-257 PACKAGE	DRAIN	SOURCE	GATE

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