

TECHNICAL DATA
DATA SHEET 5159, REV. -

HERMETIC POWER MOSFET N-CHANNEL

FEATURES:

- 600 Volt, 60A, 55 milli-Ohm
- Isolated Hermetic Metal Package
- Very low Gate Charge
- Very Low $R_{DS(on)}$
- Low package inductance-easy to drive and protect

MAXIMUM RATINGS

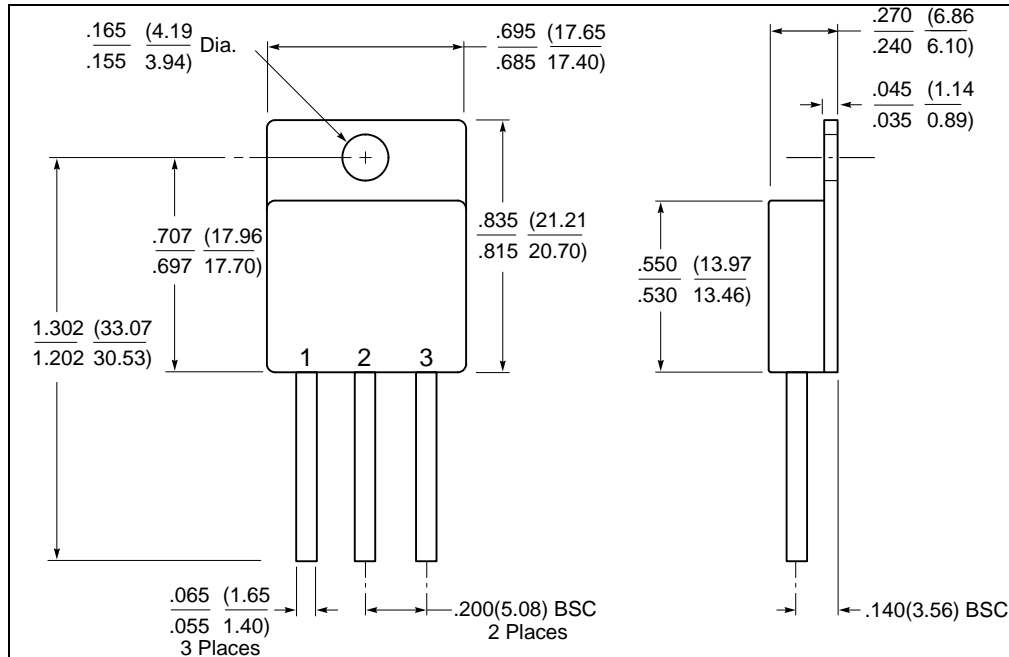
ALL RATINGS ARE AT $T_C = 25^\circ\text{C}$ UNLESS OTHERWISE SPECIFIED.

RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	V_{GS}	-	-	± 20	Volts
ON-STATE DRAIN CURRENT @ $T_C = 25^\circ\text{C}$	$I_{D(on)}$	-	-	60	Amps
PULSED DRAIN CURRENT @ $T_C = 25^\circ\text{C}$	I_{DM}	-	-	220	Amps
OPERATING AND STORAGE TEMPERATURE	T_{OP}/T_{STG}	-55	-	+150	$^\circ\text{C}$
THERMAL RESISTANCE, JUNCTION TO CASE	R_{thJC}	-	-	0.36	$^\circ\text{C}/\text{W}$
TOTAL DEVICE DISSIPATION @ $T_C = 25^\circ\text{C}$	P_D	-	-	350	Watts

ELECTRICAL CHARACTERISTICS

RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS} = 0\text{V}, I_D = 250 \mu\text{A}$	BV_{DSS}	600	-	-	Volts
STATIC DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 10\text{V}, I_D = 44\text{A}$	$R_{DS(ON)}$	-	-	0.055	Ω
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = 3\text{mA}$	$V_{GS(th)}$	2.0	-	4.0	Volts
ZERO GATE VOLTAGE DRAIN CURRENT $V_{DS} = 600\text{V}, V_{GS} = 0\text{V}$ $V_{DS} = 0.8 \times \text{Max. Rating}, V_{GS} = 0\text{V}, T_J = 125^\circ\text{C}$	I_{DSS}	-	-	20 500	μA μA
GATE TO SOURCE LEAKAGE FORWARD $V_{GS} = 20\text{V}$	I_{GSS}	-	-	100	nA
GATE TO SOURCE LEAKAGE REVERSE $V_{GS} = -20\text{V}$				-100	
TURN ON DELAY TIME RISE TIME TURN OFF DELAY TIME FALL TIME $V_{DS} = 400\text{V}, I_D = 44\text{A}, R_G = 3.3\Omega, V_{GS} = 10\text{V}$	$t_{d(ON)}$ t_r $t_{d(OFF)}$ t_f	-	40 30 130 20	-	nsec
DIODE FORWARD VOLTAGE $I_S = 44\text{A}, V_{GS} = 0\text{V}$	V_{SD}	-	-	1.35	Volts
REVERSE RECOVERY TIME $I_F = 44\text{A}, -di/dt = 100\text{A}/\mu\text{sec}, V_R = 100\text{V}$	t_{rr}	-	600	-	nsec
INPUT CAPACITANCE OUTPUT CAPACITANCE $V_{GS} = 0\text{V}, V_{DS} = 100\text{V}, f = 1\text{MHz}$	C_{iss} C_{oss}	-	6800 320	-	pF
GATE CHARGE $I_F = 44\text{A}, V_{DS} = 400\text{V}, V_{GS} = 10\text{V}, R_G = 3.3\Omega$	Q_{gs} Q_{gd} Q_g	-	34 51 150	- - 190	nC

SENSITRON

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MECHANICAL DIMENSIONS: in Inches / mm

TO-258
PINOUT TABLE

DEVICE TYPE	PIN 1	PIN 2	PIN 3
MOSFET IN A TO-258 PACKAGE	DRAIN	SOURCE	GATE

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