

TECHNICAL DATA
DATA SHEET 4197, REV. -

HERMETIC POWER MOSFET N-CHANNEL

FEATURES:

- 200 Volt, 80A, 36 milliohm
- Isolated Hermetic Metal Package
- Fast intrinsic Rectifier
- Low package inductance-easy to drive and protect
- Add suffix S for S-100 screening

MAXIMUM RATINGS

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

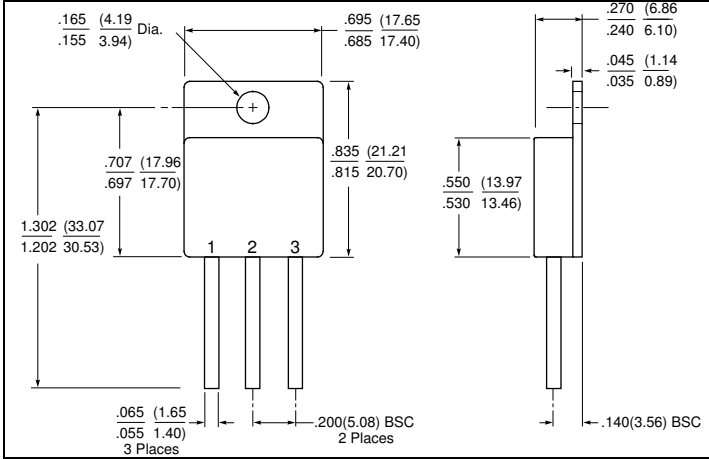
RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	V_{GS}	-	-	± 20	Volts
ON-STATE DRAIN CURRENT @ $T_C = 25^\circ\text{C}$	$I_{D(on)}$	-	-	80	Amps
PULSED DRAIN CURRENT @ $T_C = 25^\circ\text{C}$	I_{DM}	-	-	300	Amps
OPERATING AND STORAGE TEMPERATURE	T_{OP}/T_{STG}	-55	-	+150	$^\circ\text{C}$
THERMAL RESISTANCE, JUNCTION TO CASE	R_{thJC}	-	-	0.25	$^\circ\text{C}/\text{W}$
TOTAL DEVICE DISSIPATION @ $T_C = 25^\circ\text{C}$	P_D	-	-	500	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}	200	-	-	Volts
STATIC DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 10\text{V}, I_D = 40\text{A}$	$R_{DS(ON)}$	-	-	0.036	Ω
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = 250\ \mu\text{A}$	$V_{GS(th)}$	2.0	-	4.0	Volts
FORWARD TRANSCONDUCTANCE $V_{DS} = 10\text{V}, I_D = 40\text{A}$	g_{fs}	35	45	-	$\text{S}(1/\Omega)$
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}	-	-	50 1.0	μA mA
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 $V_{DS} = 100\text{V}, I_D = 40\text{A},$	$t_{d(ON)}$	-	26	-	nsec
RISE TIME	t_r		50		
TURN OFF DELAY TIME $R_G = 2.0\ \Omega,$	$t_{d(OFF)}$		75		
FALL TIME $V_{GS} = 10\text{V}$	t_f		20		
DIODE FORWARD VOLTAGE $T_C = 25^\circ\text{C}, I_S = 80\text{A}, V_{GS} = 0\text{V}$	V_{SD}	-	-	1.5	Volts
REVERSE RECOVERY TIME $T_J = 25^\circ\text{C}$ $I_F = 80\text{A}, -di/dt = 100\text{A}/\mu\text{sec}, V_R = 100\text{V}$	t_{rr}	-	-	200	nsec
INPUT CAPACITANCE $V_{GS} = 0\text{V}$	C_{iss}	-	4600	-	pF
OUTPUT CAPACITANCE $V_{DS} = 25\text{V}$	C_{oss}		1100		
REVERSE TRANSFER CAPACITANCE $f = 1.0\text{MHz}$	C_{rss}		500		

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

TECHNICAL DATA

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