

TECHNICAL DATA
DATA SHEET 4190, REV. -

LOW R_{DS} HERMETIC POWER MOSFET - P-CHANNEL

FEATURES:

- 60 Volt, 0.015 Ohm, 50A MOSFET
- Isolated Hermetic Metal Package
- Ultra Low $R_{DS(on)}$
- Characterized at V_{GS} of 4.5V

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	I_{D25}	-	-	- 50	Amps
PULSED DRAIN CURRENT	I_{DM}	-	-	- 80	Amps
OPERATING AND STORAGE TEMPERATURE	T_J/T_{STG}	-55	-	+150	$^\circ\text{C}$
TOTAL DEVICE DISSIPATION	P_D	-	-	270	Watts
THERMAL RESISTANCE, JUNCTION TO CASE	$R_{\theta JC}$	-	-	0.50	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS

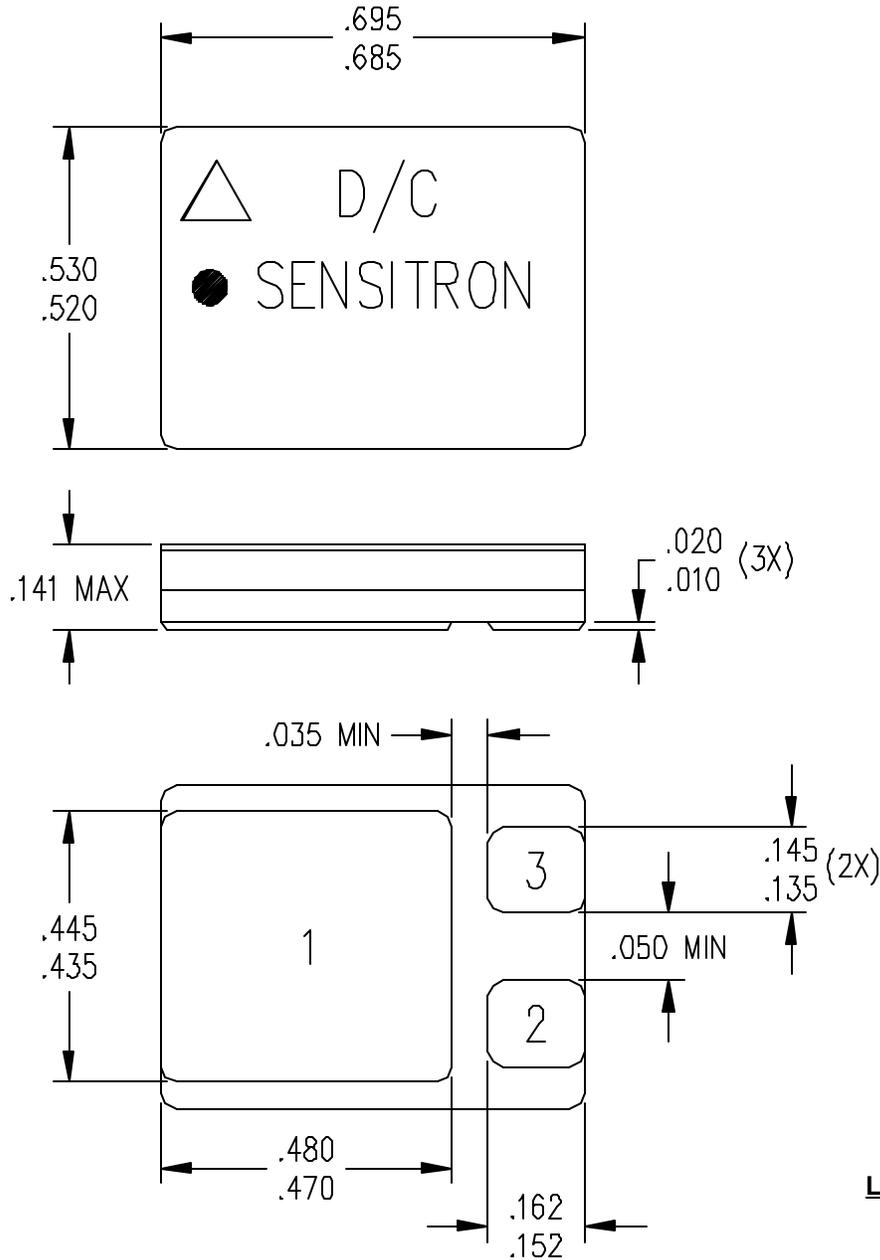
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNITS
DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS} = 0V, I_D = -250\mu A$	BV_{DSS}	-60	-	-	Volts
STATIC DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = -10V, I_D = -17A$ $V_{GS} = -4.5V, I_D = -14A$	-	-	0.012 0.016	0.015 0.020	Ω
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = -250\mu A$	$V_{GS(th)}$	-1	-	-3	Volts
FORWARD TRANSCONDUCTANCE $V_{DS} = -15V, I_D = -17A$	g_{fs}	-	61	-	$S(1/\Omega)$
ZERO GATE VOLTAGE DRAIN CURRENT $V_{DS} = 0.8 \times \text{Max. rating}, V_{GS} = 0V, T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$	I_{DSS}	-	-	-1 -50	μA
GATE TO SOURCE LEAKAGE FORWARD $V_{GS} = 20V$	I_{GSS}	-	-	100	nA
GATE TO SOURCE LEAKAGE REVERSE $V_{GS} = -20V$				-100	
TURN ON DELAY TIME $V_{DD} = -30V$	$t_{d(ON)}$	-	15	23	nsec
RISE TIME $I_D = -50A$	t_r		70	105	
TURN OFF DELAY TIME $V_{GS} = -10V$	$t_{d(OFF)}$		175	260	nsec
FALL TIME $R_G = 6\Omega$	t_f		175	260	
DIODE FORWARD VOLTAGE $I_F = -50A, V_{GS} = 0V$ Pulse test, $t \leq 300 \mu s$, duty cycle $d \leq 2\%$	V_{SD}	-	1.0	1.6	Volts
REVERSE RECOVERY TIME $T_J = 25^\circ\text{C},$ $I_F = -50A, V_R = 100V$ $di/dt = 100A/\mu\text{sec}$	t_{rr}	-	45	70	nsec
INPUT CAPACITANCE $V_{GS} = 0V,$	C_{iss}	-	4950	-	pF
OUTPUT CAPACITANCE $V_{DS} = -25V,$	C_{oss}		480		
REVERSE TRANSFER CAPACITANCE $f = 1.0\text{MHz}$	C_{rss}		405		

SENSITRON

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MECHANICAL DIMENSIONS: in Inches / mm



DEVICE TYPE	PIN-1	PIN-2	PIN-3
P-CHANNEL MOSFET LCC-2 PACKAGE	DRAIN	GATE	SOURCE

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