

TECHNICAL DATA
DATA SHEET 451, REV. A

HERMETIC POWER MOSFET
N-CHANNEL

FEATURES:

- 1000 Volt, 1.2 Ohm, 10A MOSFET
- Isolated Hermetic Metal Package
- Low $R_{DS(on)}$

MAXIMUM RATINGS

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

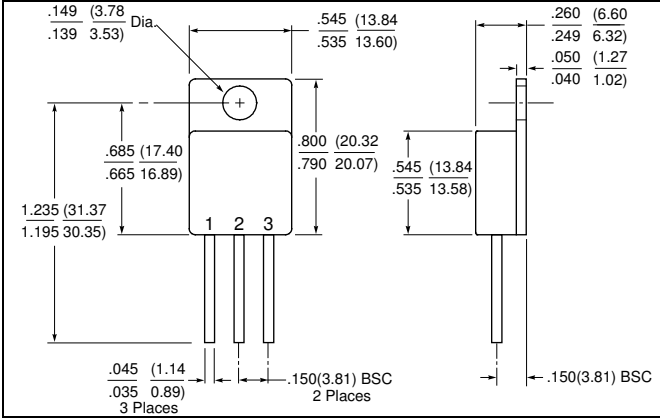
RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	V_{GS}	-	-	± 20	Volts
ON-STATE DRAIN CURRENT	I_{D25}	-	-	10	Amps
PULSED DRAIN CURRENT	I_{DM}	-	-	40	Amps
OPERATING AND STORAGE TEMPERATURE	T_J/T_{STG}	-55	-	+150	$^\circ\text{C}$
TOTAL DEVICE DISSIPATION	P_D	-	-	350	Watts

ELECTRICAL CHARACTERISTICS

DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS} = 0V, I_D = 3.0 \text{ mA}$	BV_{DSS}	1000	-	-	Volts
STATIC DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 10V, I_D = 0.5I_{D25}$	$R_{DS(ON)}$	-	-	1.2	Ω
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = 0.25\text{mA}$	$V_{GS(th)}$	2.0	-	4.5	Volts
FORWARD TRANSCONDUCTANCE $V_{DS} = 10V, I_D = 0.5I_{D25}$	g_{fs}	6.0	12	-	$S(1/\Omega)$
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}	-	-	250 1000	μA
GATE TO SOURCE LEAKAGE FORWARD $V_{GS} = 20V$	I_{GSS}	-	-	100	nA
GATE TO SOURCE LEAKAGE REVERSE $V_{GS} = -20V$					
TURN ON DELAY TIME $V_{DS} = 0.5V$	$t_{d(ON)}$ t_r $t_{d(OFF)}$ t_f	-	21	33	nsec
RISE TIME $V_{DS}, I_D = 0.5 \cdot I_{D25}$					
TURN OFF DELAY TIME $V_{GS} = 10V$					
FALL TIME $R_G = 2.0\Omega$				32	
DIODE FORWARD VOLTAGE $I_S = 12A, V_{GS} = 0V$ Pulse test, $t \leq 300 \mu\text{s}$, duty cycle $d \leq 2\%$	V_{SD}	-	-	1.5	Volts
REVERSE RECOVERY TIME $T_J = 25^\circ\text{C}$, $I_F = I_{D25}, V_R = 100V$ $di/dt = 100A/\mu\text{sec}$	t_{rr}	-	1000	-	nsec
INPUT CAPACITANCE $V_{GS} = 0V$	C_{iss} C_{oss} C_{rss}	-	4000	-	pF
OUTPUT CAPACITANCE $V_{DS} = 25V$					
REVERSE TRANSFER CAPACITANCE $f = 1.0\text{MHz}$					
THERMAL RESISTANCE, JUNCTION TO CASE	R_{thJC}	-	-	0.36	$^\circ\text{C/W}$

SENSITRON
DATA SHEET 451 REV. A

MECHANICAL DIMENSIONS: in Inches / mm



TO-254

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

TECHNICAL DATA

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