

TECHNICAL DATA
DATA SHEET 704, REV. A

N-Channel Enhancement Mode Vertical DMOS FET

- Free From Secondary Breakdown
- Low Power Drive Requirement
- Ease of Paralleling
- Low C_{ISS} and Fast Switching Speeds
- Excellent Thermal Stability
- Integral Source-Drain Diode
- High Input Impedance and High Gain

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 @ $T_C = 25^\circ\text{C}$ LIMITED BY MAXIMUM RATED T_J	I_D	-	-	100	mA
PULSED DRAIN CURRENT @ $T_C = 25^\circ\text{C}$	I_{DM}	-	-	300	mA (pk)
OPERATING AND STORAGE TEMPERATURE	T_{OP}/T_{STG}	-55	-	+150	$^\circ\text{C}$
TERMAL RESISTANCE JUNCTION TO CASE	$R_{\theta JC}$	-	-	23.5	$^\circ\text{C}/\text{W}$
TOTAL DEVICE DISSIPATION @ $T_C = 25^\circ\text{C}$	P_D	-	-	5.3	Watts

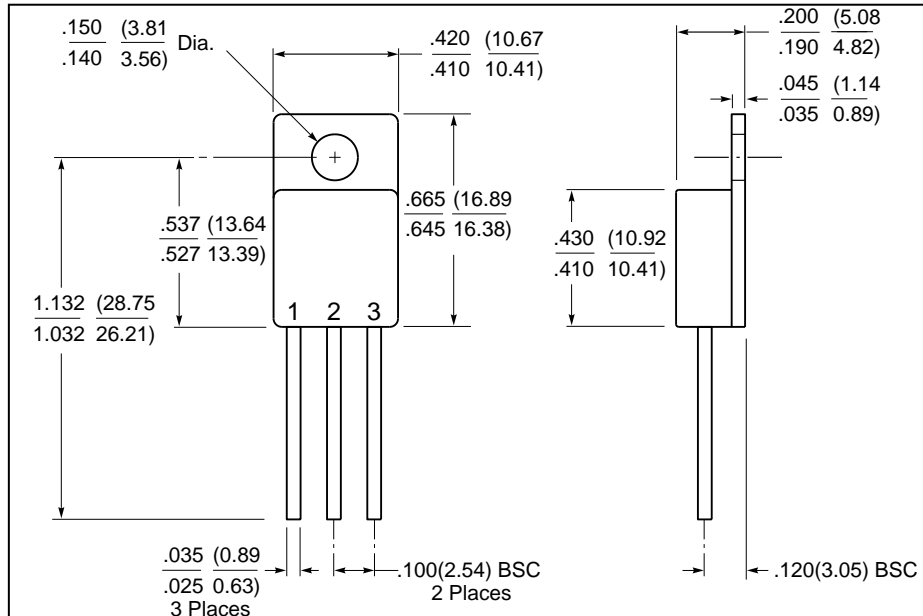
ELECTRICAL CHARACTERISTICS

DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS} = 0\text{V}, I_D = 1.0\text{mA}$	BV_{DSS}	500	-	-	Volts
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = 1.0\text{mA}$	$V_{GS(th)}$	2.0	-	4.0	Volts
DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 5\text{Vdc}, I_D = 50\text{mA}$ $V_{GS} = 10\text{Vdc}, I_D = 50\text{mA}$	$R_{DS(ON)}$	-	45 40	60	Ω
ZERO GATE VOLTAGE DRAIN CURRENT $V_{DS} = \text{Max. Rating}, V_{GS} = 0\text{Vdc}$ $V_{DS} = 0.8 \times \text{Max. Rating}$ $V_{GS} = 0\text{Vdc}, T_A = 125^\circ\text{C}$	I_{DSS}	-	-	10 1.0	μA mA
GATE TO BODY LEAKAGE CURRENT $V_{GS} = \pm 20\text{Vdc}, V_{DS} = 0$	I_{GSS}	-	-	± 100	nA
TURN ON DELAY TIME RISE TIME TURN OFF DELAY TIME FALL TIME $V_{DD} = 25\text{V}, I_D = 150\text{mA}, R_G = 25\Omega$	$t_{d(ON)}$ t_r $t_{d(OFF)}$ t_f	-	-	10 15 10 10	nsec
FORWARD TRANSCONDUCTANCE $V_{DS} = 25\text{V}, I_D = 50\text{mA}$	g_{fs}	50	100	-	mS (1/ Ω)
REVERSE RECOVERY TIME REVERSE RECOVERY CHARGE $I_S = 0.5\text{A}, V_{GS} = 0$	t_{rr}	-	300	-	nsec
INPUT CAPACITANCE OUTPUT CAPACITANCE REVERSE TRANSFER CAPACITANCE $V_{DS} = 25\text{V dc}, V_{GS} = 0\text{V dc}, f = 1\text{MHz}$	C_{iss} C_{oss} C_{rss}	-	45 8.0 2.0	55 10 5.0	pF

SENSITRON

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MECHANICAL DIMENSIONS: in Inches / mm

**TO-257**

PINOUT TABLE

DEVICE TYPE	PIN 1	PIN 2	PIN 3
N CHANNEL MOSFET IN A TO-257 PACKAGE	DRAIN	SOURCE	GATE

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