

TECHNICAL DATA  
DATA SHEET 816, REV. -

## HERMETIC POWER MOSFET N-CHANNEL, LOGIC LEVEL

- 60 VOLT, 0.05 OHM, 30A MOSFET
- Fast Switching
- Low  $R_{DS(on)}$
- Logic Level Gate Driver

### 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	$V_{GS}$	-	-	$\pm 20$	Volts
CONTINUOUS DRAIN CURRENT @ $T_C = 25^\circ\text{C}$	$I_D$	-	-	20*	Amps
PULSED DRAIN CURRENT @ $T_C = 25^\circ\text{C}$	$I_{DM}$	-	-	110	Amps(pk)
OPERATING AND STORAGE TEMPERATURE	$T_{OP}/T_{STG}$	-55	-	+175	$^\circ\text{C}$
TERMAL RESISTANCE JUNCTION TO CASE	$R_{\theta JC}$	-	-	1.32	$^\circ\text{C}/\text{W}$
TOTAL DEVICE DISSIPATION @ $T_C = 25^\circ\text{C}$	$P_D$	-	-	110	Watts

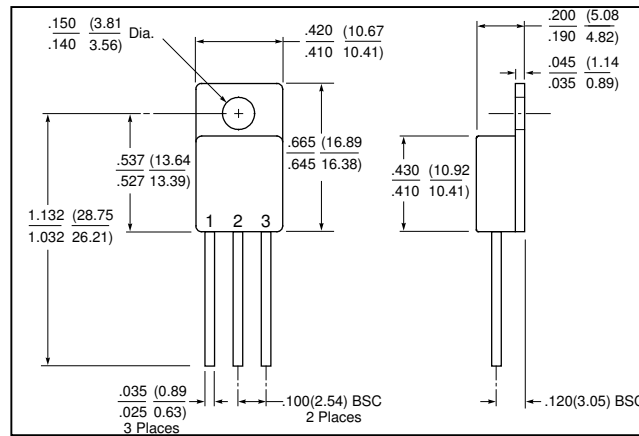
### ELECTRICAL CHARACTERISTICS

DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS} = 0\text{V}, I_D = 250\mu\text{A}$	$BV_{DSS}$	60	-	-	Volts
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	$V_{GS(th)}$	1.0	-	2.0	Volts
DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 5.0\text{Vdc}, I_D = 18\text{A}$ $V_{GS} = 4.0\text{Vdc}, I_D = 15\text{A}$	$R_{DS(ON)}$	-	-	0.055 0.075	$\Omega$
ZERO GATE VOLTAGE DRAIN CURRENT $V_{DS} = \text{Max. Rating}, V_{GS} = 0\text{Vdc}$ $V_{DS} = 0.8 \times \text{Max. Rating}$ $V_{GS} = 0\text{Vdc}, T_J = 150^\circ\text{C}$	$I_{DSS}$	-	-	25 250	$\mu\text{A}$
GATE TO BODY LEAKAGE CURRENT $V_{GS} = \pm 20\text{Vdc}$ ,	$I_{GSS}$	-	-	$\pm 100$	nA
TOTAL GATE CHARGE $V_{GS} = 5.0\text{Vdc}$	$Q_g$	-	-	35	nC
GATE TO SOURCE CHARGE $V_{DS} = 48\text{V}$ ,	$Q_{gs}$	-	-	7.1	
GATE TO DRAIN CHARGE $I_D = 30\text{A}$	$Q_{gd}$	-	-	25	
TURN ON DELAY TIME $V_{DD} = 30\text{V}$ ,	$t_{d(ON)}$	-	14	-	nsec
RISE TIME $I_D = 30\text{A}$ ,	$t_r$	-	170	-	
TURN OFF DELAY TIME $R_G = 6.0\Omega$ ,	$t_{d(OFF)}$	-	30	-	
FALL TIME $V_{GS} = 5.0\text{V}$	$t_f$	-	56	-	
FORWARD VOLTAGE $T_J = 25^\circ\text{C}, I_S = 30\text{A}, V_{GS} = 0\text{V}$	$V_{SD}$	-	-	1.6	Volts
REVERSE RECOVERY TIME $I_F = 30\text{A}$ ,	$t_{rr}$	-	120	180	nsec
REVERSE RECOVERY CHARGE $di/dt \leq 100\text{A}/\mu\text{sec}$ ,					
INPUT CAPACITANCE $V_{DS} = 25\text{Vdc}$ ,	$C_{iss}$	-	1600	-	pF
OUTPUT CAPACITANCE $V_{GS} = 0\text{Vdc}$ ,	$C_{oss}$	-	660	-	
REVERSE TRANSFER CAPACITANCE $f = 1\text{MHz}$	$C_{rss}$	-	170	-	

\* Current is limited by package

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

**TECHNICAL DATA**

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