

TECHNICAL DATA  
DATASHEET 6018, REV. A

## HERMETIC POWER MOSFET N-CHANNEL

DESCRIPTION: A 1000 VOLT, 3.5 AMP, 5.4 OHM MOSFET IN A HERMETIC TO-257 PACKAGE.

Part ordering information:

- For Ceramic Seals, use part number SHDC226308
- For lead bend, use part number SHD226308B

### MAXIMUM RATINGS

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

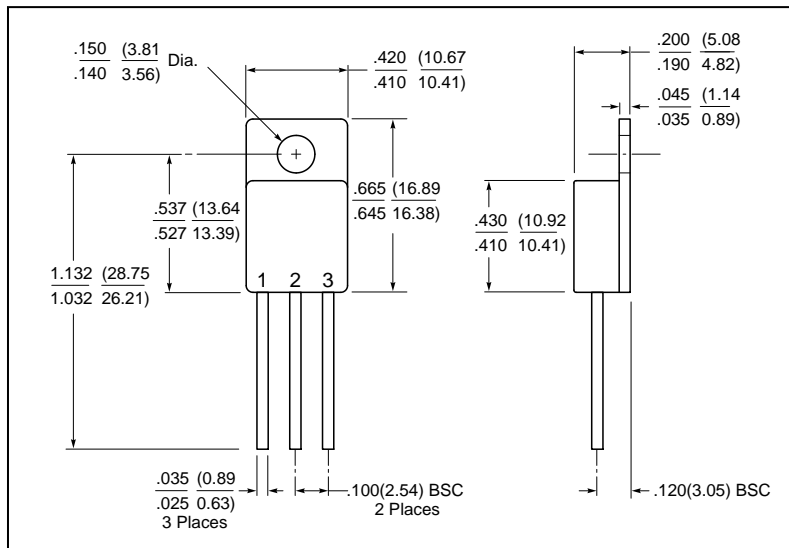
RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	$V_{GS}$	-	-	$\pm 20$	Volts
CONTINUOUS DRAIN CURRENT $V_{GS}=10\text{V}, T_C=25^\circ\text{C}$ $V_{GS}=10\text{V}, T_C=100^\circ\text{C}$	$I_D$	-	-	3.5 2.0	Amps
PULSED DRAIN CURRENT @ $T_C=25^\circ\text{C}$	$I_{DM}$	-	-	10	Amps(pk)
OPERATING AND STORAGE TEMPERATURE	$T_{OP}/T_{STG}$	-55	-	+150	$^\circ\text{C}$
TERMAL RESISTANCE JUNCTION TO CASE	$R_{\theta JC}$	-	-	1.9	$^\circ\text{C}/\text{W}$
TOTAL DEVICE DISSIPATION @ $T_C=25^\circ\text{C}$	$P_D$	-	-	66	Watts

### ELECTRICAL CHARACTERISTICS

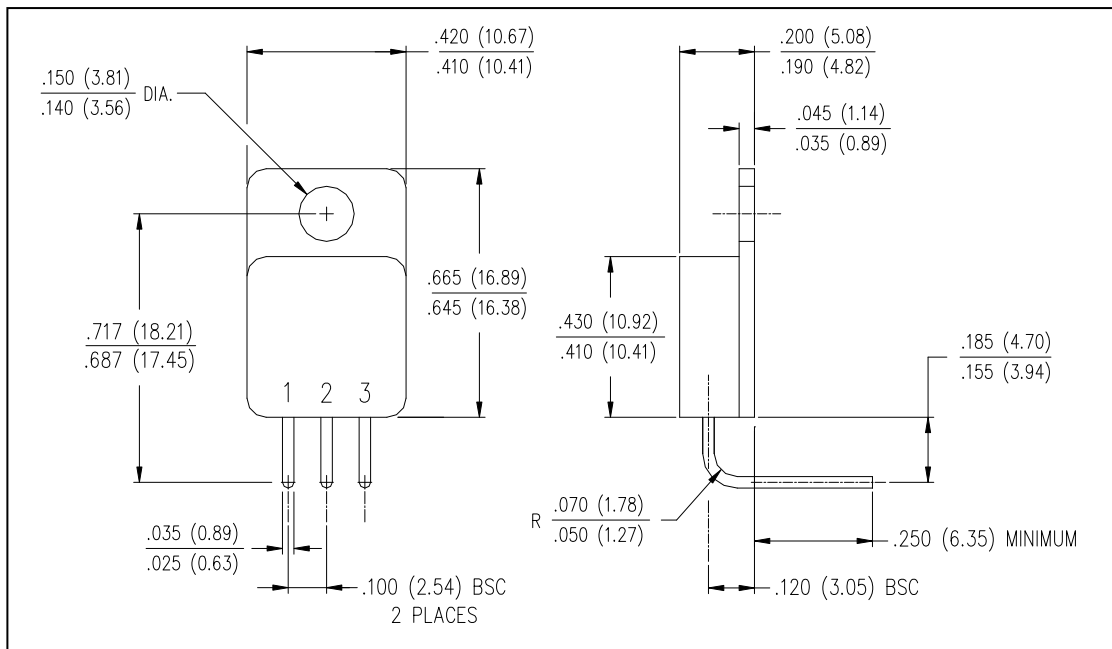
DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS}=0\text{V}, I_D=250\mu\text{A}$	$BV_{DSS}$	1000	-	-	Volts
DRAIN TO SOURCE ON STATE RESISTANCE $I_D=0.5\text{A}, V_{GS}=10\text{V}@T_J=25^\circ\text{C}$ $I_D=0.5\text{A}, V_{GS}=10\text{V}@T_J=100^\circ\text{C}$	$R_{DS(ON)}$	-	-	5.4 10.4	$\Omega$
GATE THRESHOLD VOLTAGE $V_{DS}=V_{GS}, I_D=250\mu\text{A}$	$V_{GS(th)}$	2.0	-	4.0	Volts
FORWARD TRANSCONDUCTANCE $V_{DS}=10\text{Vdc}, I_{DS}=1.5\text{A}$	$g_{fs}$	1.0	-	-	S(1/ $\Omega$ )
ZERO GATE VOLTAGE DRAIN CURRENT $V_{DS}=1000\text{Vdc}, V_{GS}=0\text{Vdc}$ $V_{DS}=800\text{Vdc}, V_{GS}=0\text{Vdc}, T_J=125^\circ\text{C}$	$I_{DSS}$	-	-	250 1000	$\mu\text{A}$
GATE TO BODY LEAKAGE CURRENT $V_{GS}=\pm 20\text{Vdc}, V_{DS}=0\text{Vdc}$	$I_{GSS}$	-	-	+100 -100	nA
TOTAL GATE CHARGE GATE TO SOURCE CHARGE GATE TO DRAIN CHARGE $(V_{GS}=10\text{Vdc}, V_{DS}=400\text{Vdc}, I_D=3.5\text{Adc})$	$Q_g$ $Q_{gs}$ $Q_{gd}$	-	80 10 42	-	nC
TURN ON DELAY TIME RISE TIME TURN OFF DELAY TIME FALL TIME $(V_{DS}=600\text{V}, I_D=3.5\text{Adc}, V_{GS}=10\text{Vdc}, R_G=50\Omega)$	$t_{d(ON)}$ $t_r$ $t_{d(OFF)}$ $t_f$	-	90 90 115 75	-	nsec
FORWARD VOLTAGE, $(I_S=3.5\text{Adc}, V_{GS}=0\text{V})$	$V_{SD}$	-	-	2.5	Volts
REVERSE RECOVERY TIME REVERSE RECOVERY CHARGE $(I_F=3.5\text{Adc}, V_{GS}=0\text{Vdc}, di/dt=100\text{A}/\mu\text{sec})$	$t_{rr}$ $Q_{rr}$	-	410 1.3	-	nsec $\mu\text{C}$
INPUT CAPACITANCE OUTPUT CAPACITANCE REVERSE TRANSFER CAPACITANCE $(V_{DS}=25\text{Vdc}, V_{GS}=0\text{Vdc}, f=1\text{MHz})$	$C_{iss}$ $C_{oss}$ $C_{riss}$	-	980 140 50	-	pF

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TECHNICAL DATA  
DATASHEET 6018, REV. A

**MECHANICAL DIMENSIONS: in Inches / mm**



**TO-257**



**TO-257 Lead Bend, Option "B"**

**PINOUT TABLE**

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

**SENSITRON**

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**PART ORDERING INFORMATION:**

**SHDC226308BXX X**

Part Number

**Screening Level (blank is no screening):**

Suffix	Screened in Accordance with:
blank	No screening level
SX	MIL-PRF-19500, TX Level
SV	MIL-PRF-19500, TXV Level
SS	MIL-PRF-19500, S Level

**QCI (blank is no QCI):**

Suffix	Inspection in Accordance with:
blank	No QCI
Q*	MIL-PRF-19500 QCI

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