

TECHNICAL DATA  
DATA SHEET 6196, REV. Preliminary

## HERMETIC POWER MOSFET P-CHANNEL

### FEATURES:

- -100 Volt, 0.07 Ohm, -21A MOSFET
- Fast Switching
- Low  $R_{DS(on)}$
- Electrically Equivalent to IRF5210
- Add an "S" to the end of the part number for S-100 screening, SHD226452S
- Add a "C" to the part number for ceramic seals, SHDC226452
- Add '-620' to the part number for different pin-out option

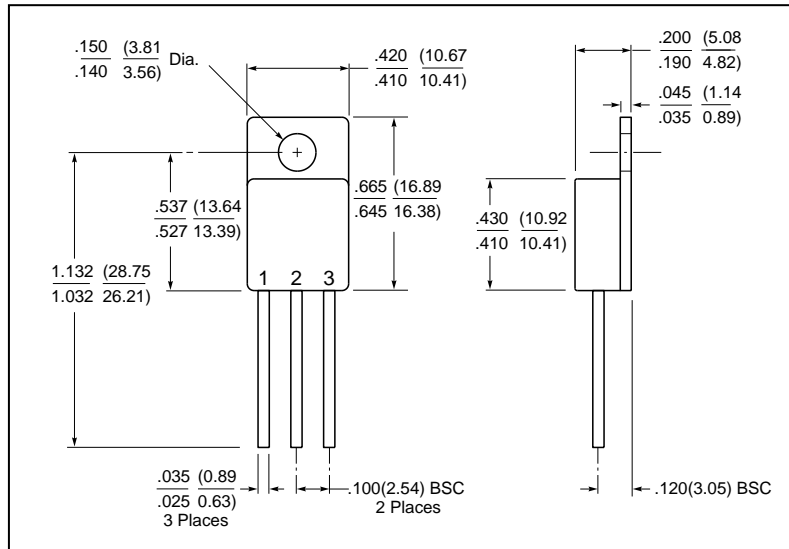
### MAXIMUM RATINGS

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

RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	$V_{GS}$	-	-	$\pm 20$	Volts
CONTINUOUS DRAIN CURRENT $V_{GS} = -10\text{V}, T_C = 25^\circ\text{C}$ $V_{GS} = -10\text{V}, T_C = 100^\circ\text{C}$	$I_D$	-	-	-34 -21	Amps
OPERATING AND STORAGE TEMPERATURE	$T_{OP}/T_{STG}$	-55	-	+150	$^\circ\text{C}$
THERMAL RESISTANCE, JUNCTION TO CASE	$R_{\theta JC}$	-	-	1.4	$^\circ\text{C}/\text{W}$
TOTAL DEVICE DISSIPATION @ $T_C = 25^\circ\text{C}$	$P_D$	-	-	125	Watts

### ELECTRICAL CHARACTERISTICS

DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS} = 0\text{V}, I_D = -250\mu\text{A}$	$BV_{DSS}$	-100	-	-	Volts
STATIC DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = -10\text{V}, I_D = -21\text{A}$	$R_{DS(ON)}$	-	-	0.07	$\Omega$
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = -250\mu\text{A}$	$V_{GS(th)}$	-2.0	-	-4.0	Volts
FORWARD TRANSCONDUCTANCE $V_{DS} = -15\text{V}, I_{DS} = -21\text{A}$	$g_{fs}$	10	-	-	S ( $1/\Omega$ )
ZERO GATE VOLTAGE DRAIN CURRENT $V_{DS} = \text{Max. Rating}, V_{GS} = 0\text{V}$ $V_{DS} = 0.8 \times \text{Max. Rating}, V_{GS} = 0\text{V}, T_J = 125^\circ\text{C}$	$I_{DSS}$	-	-	-25 -250	$\mu\text{A}$
GATE TO SOURCE LEAKAGE FORWARD $V_{GS} = 20\text{V}$ GATE TO SOURCE LEAKAGE REVERSE $V_{GS} = -20\text{V}$	$I_{GSS}$	-	-	100 -100	nA
TOTAL GATE CHARGE $V_{GS} = -10\text{V},$ GATE TO SOURCE CHARGE $V_{DS} = -80\text{V},$ GATE TO DRAIN CHARGE $I_D = -21\text{A}$	$Q_g$ $Q_{gs}$ $Q_{gd}$	-	-	180 25 100	nC
TURN ON DELAY TIME $V_{DD} = -50\text{V},$ RISE TIME $I_D = -21\text{A}$ TURN OFF DELAY TIME $R_G = 2.5\Omega$ FALL TIME	$t_{d(ON)}$ $t_r$ $t_{d(OFF)}$ $t_f$	-	28 150 100 120	-	nsec
DIODE FORWARD VOLTAGE $T_J = 25^\circ\text{C}, I_S = -21\text{A}$ $V_{GS} = 0\text{V}$	$V_{SD}$	-	-	-1.6	Volts
REVERSE RECOVERY TIME $T_J = 25^\circ\text{C},$ $I_f = -21\text{A}$ $di_f/ds = 100\text{A}/\mu\text{sec}$	$t_{rr}$ $Q_{rr}$	-	-	260 1.8	nsec $\mu\text{C}$
INPUT CAPACITANCE $V_{GS} = 0\text{V}$ OUTPUT CAPACITANCE $V_{DS} = -25\text{V}$ REVERSE TRANSFER CAPACITANCE $f = 1.0\text{MHz}$	$C_{iss}$ $C_{oss}$ $C_{rss}$	-	2700 790 450	-	pF

**SENSITRON****TECHNICAL DATA****DATA SHEET 6196, REV. Preliminary****MECHANICAL DIMENSIONS: in Inches / mm****TO-257****PINOUT TABLE**

DEVICE TYPE	PIN 1	PIN 2	PIN 3
MOSFET, TO-257 PACKAGE <b>SHD226452</b>	DRAIN	SOURCE	GATE
MOSFET, TO-257 PACKAGE <b>SHD226452-620</b>	GATE	DRAIN	SOURCE

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