SENSITRON SEMICONDUCTOR

TECHNICAL DATA DATA SHEET 4102, REV. -

HERMETIC POWER MOSFET P-CHANNEL

FEATURES:

- -100 Volt, 0.07 Ohm, -34A 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, SHD225452S
- Add a "C" to the part number for ceramic seals, SHDC225452

MAXIMUM RATINGS

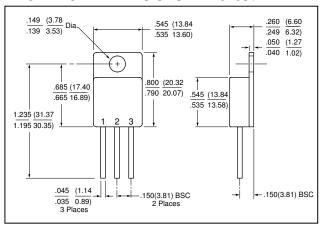
ALL RATINGS ARE AT $T_c = 25^{\circ}C$ UNLESS OTHERWISE SPECIFIED.

RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	V _{GS}	-	-	±20	Volts
CONTINUOUS DRAIN CURRENT V_{GS} =-10V, T _C = 25°C	I _D	-	-	-34	Amps
V_{GS} =-10V, T_{C} = 100°C				-21	
OPERATING AND STORAGE TEMPERATURE	T _{OP} /T _{STG}	-55	-	+150	°C
THERMAL RESISTANCE, JUNCTION TO CASE	R _{thJC}	-	-	1.0	°C/W
TOTAL DEVICE DISSIPATION @ T _C = 25°C	PD	-	-	125	Watts

ELECTRICAL CHARACTERISTICS

DRAIN TO SOURCE BREAKDOWN VOLTAGE	BV_{DSS}	-100	-	-	Volts
$V_{GS} = 0V, I_D = -250 \mu A$					
STATIC DRAIN TO SOURCE ON STATE RESISTANCE	R _{DS(ON)}	-	-	0.07	Ω
$V_{GS} = -10V, I_D = -21A$					
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}$, $I_D = -250 \mu A$	$V_{GS(th)}$	-2.0	-	-4.0	Volts
FORWARD TRANSCONDUCTANCE	g _{fs}	10	-	-	S(1/Ω)
$V_{\rm DS} = -15V, I_{\rm DS} = -21A$. ,
ZERO GATE VOLTAGE DRAIN CURRENT		-	-		
$V_{DS} = Max. Rating, V_{GS} = 0V$	I _{DSS}			-25	μA
$V_{DS} = 0.8$ xMax. Rating, $V_{GS} = 0$ V, $T_{J} = 125$ °C				-250	
GATE TO SOURCE LEAKAGE FORWARD $V_{GS} = 20V$	I _{GSS}	-	-	100	nA
GATE TO SOURCE LEAKAGE REVERSE V _{GS} = -20V				-100	
TOTAL GATE CHARGE $V_{GS} = -10 V$,	Q_{g}	-	-	180	nC
GATE TO SOURCE CHARGE $V_{DS} = -80 V$,	Q_{gs}			25	
GATE TO DRAIN CHARGE $I_D = -21A$	Q_{gd}			100	
TURN ON DELAY TIME $V_{DD} = -50V$,	t _{d(ON)}	-	-	28	
RISE TIME $I_D = -21A$	tr			150	nsec
TURN OFF DELAY TIME $R_G = 2.5\Omega$	$t_{d(OFF)}$			100	
FALL TIME	t _f			120	
DIODE FORWARD VOLTAGE $T_i = 25^{\circ}C, I_s = -21A$	V_{SD}	-	-	-1.6	Volts
$V_{GS} = 0V$					
REVERSE RECOVERY TIME $T_J = 25^{\circ}C$,	t _{rr}	-	-	260	nsec
$I_f = -21A$					
di _F /ds = 100A/µsec	Q _{rr}		-	1.8	μC
INPUT CAPACITANCE $V_{GS} = 0 V$	C _{iss}	-	2730	-	
OUTPUT CAPACITANCE V _{DS} = -25 V	C _{oss}		824		pF
REVERSE TRANSFER CAPACITANCE f = 1.0MHz	C _{rss}		465		

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MECHANICAL DIMENSIONS: in Inches / mm



PINOUT TABLE			
DEVICE TYPE	PIN 1	PIN 2	PIN 3
MOSFET, TO-254 PACKAGE	DRAIN	SOURCE	GATE



TECHNICAL DATA

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