

TECHNICAL DATA
DATA SHEET 4103, REV. -

HERMETIC POWER MOSFET N-CHANNEL

FEATURES:

- 100 Volt, 0.03 Ohm, 35A MOSFET
- Fast Switching
- Low $R_{DS(on)}$
- Electrically Equivalent to IRF3710
- Add an "S" to the end of the part number for S-100 screening, SHD225456S
- Add a "C" to the part number for ceramic seals, SHDC225456

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}	-	-	± 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	-	-	35 29	Amps
OPERATING AND STORAGE TEMPERATURE	T_{OP}/T_{STG}	-55	-	+150	$^\circ\text{C}$
THERMAL RESISTANCE, JUNCTION TO CASE	R_{thJC}	-	-	1.0	$^\circ\text{C/W}$
TOTAL DEVICE DISSIPATION @ $T_C = 25^\circ\text{C}$	P_D	-	-	125	Watts

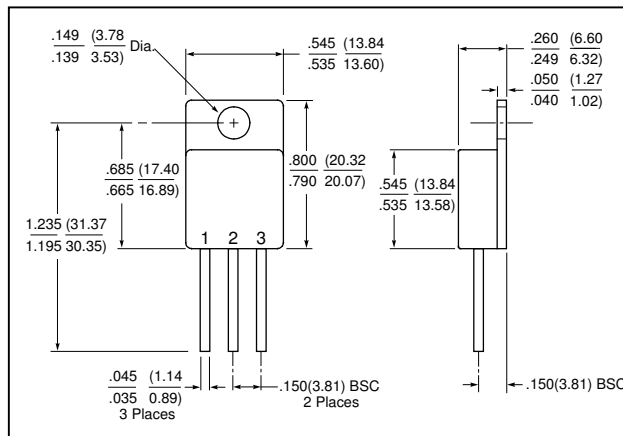
ELECTRICAL CHARACTERISTICS

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 $V_{GS} = 10\text{V}, I_D = 28\text{A}$	$R_{DS(ON)}$	-	-	0.03	Ω
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	$V_{GS(th)}$	2.0	-	4.0	Volts
FORWARD TRANSCONDUCTANCE $V_{DS} = 15\text{V}, I_{DS} = 28\text{A}$	g_{fs}	20	-	-	$\text{S}(1/\Omega)$
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	μA
GATE TO SOURCE LEAKAGE FORWARD $V_{GS} = 20\text{V}$	I_{GSS}	-	-	100	nA
GATE TO SOURCE LEAKAGE REVERSE $V_{GS} = -20\text{V}$				-100	
TOTAL GATE CHARGE $V_{GS} = 10\text{V},$	Q_g	-	-	200	nC
GATE TO SOURCE CHARGE $V_{DS} = 80\text{V},$	Q_{gs}			28	
GATE TO DRAIN CHARGE $I_D = 28\text{A}$	Q_{gd}			94	
TURN ON DELAY TIME $V_{DD} = 50\text{V},$	$t_{d(ON)}$	-	-	22	nsec
RISE TIME $I_D = 28\text{A}$	t_r			105	
TURN OFF DELAY TIME $R_G = 2.5\Omega$	$t_{d(OFF)}$			75	
FALL TIME	t_f			60	
DIODE FORWARD VOLTAGE $T_J = 25^\circ\text{C}, I_S = 28\text{A}$ $V_{GS} = 0\text{V}$	V_{SD}	-	-	1.3	Volts
REVERSE RECOVERY TIME $T_J = 25^\circ\text{C},$ $I_f = 28\text{A}$ $di_f/ds = 100\text{A}/\mu\text{sec}$	t_{rr}	-	-	280	nsec
	Q_{rr}			2.0	μC
INPUT CAPACITANCE $V_{GS} = 0\text{V}$	C_{iss}	-	2920	-	pF
OUTPUT CAPACITANCE $V_{DS} = 25\text{V}$	C_{oss}		670		
REVERSE TRANSFER CAPACITANCE $f = 1.0\text{MHz}$	C_{rss}		340		

SENSITRON

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MECHANICAL DIMENSIONS: in Inches / mm



TO-254

PINOUT TABLE

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

TECHNICAL DATA

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