

TECHNICAL DATA
DATA SHEET 223, REV A
Former part number SHD2259

HERMETIC POWER MOSFET N-CHANNEL

FEATURES:

- 100 Volt, .07 Ohm, 30A MOSFET
- Isolated Hermetic Metal Package
- Fast Switching
- Low $R_{DS(on)}$
- Equivalent to IRFM150

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
ON-STATE DRAIN CURRENT	I_D	-	-	34	Amps
PULSED DRAIN CURRENT @ $T_C = 25^\circ\text{C}$	I_{DM}	-	-	136	Amps
OPERATING AND STORAGE TEMPERATURE	T_J/T_{STG}	-55	-	+150	$^\circ\text{C}$
TOTAL DEVICE DISSIPATION @ $T_C = 25^\circ\text{C}$	P_D	-	-	150	Watts

ELECTRICAL CHARACTERISTICS

DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS} = 0\text{V}, I_D = 1.0\text{ mA}$	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	Ω
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	$V_{GS(th)}$	2.0	-	4.0	Volts
FORWARD TRANSCONDUCTANCE $V_{DS} \geq 15\text{V}, I_{DS} = 21\text{A}$	g_{fs}	9.0	-	-	$\text{S}(1/\Omega)$
ZERO GATE VOLTAGE DRAIN CURRENT $V_{DS} = 0.8 \times \text{Max. rating}, V_{GS} = 0\text{V}, T_J = 125^\circ\text{C}$	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	

SENSITRON

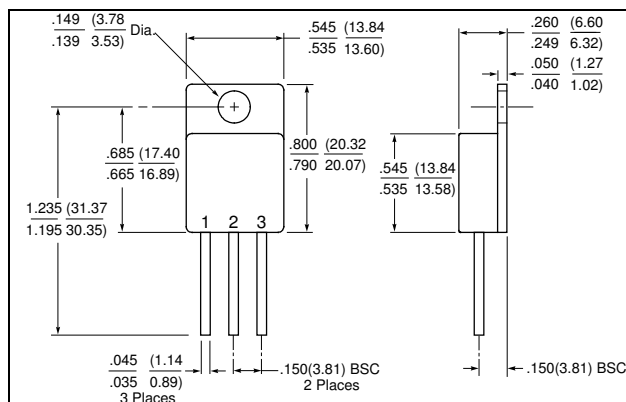
DATA SHEET 223

REVISION A

ELECTRICAL CHARACTERISTICS (Continued)

RATING		SYMBOL	MIN.	TYP.	MAX.	UNITS
TURN ON DELAY TIME	$V_{DD} = 50V,$	$t_{d(ON)}$	-	-	35	nsec
RISE TIME	$I_D = 34A,$	t_r			190	
TURN OFF DELAY TIME	$V_{GS} = 10V$	$t_{d(OFF)}$			170	
FALL TIME		t_f			130	
DIODE FORWARD VOLTAGE	$I_S = 34A, V_{GS} = 0V$ Pulse test, $t \leq 300 \mu s,$ duty cycle $d \leq 2 \%$	V_{SD}	-	-	1.8	Volts
REVERSE RECOVERY TIME	$T_J = 25^\circ C,$ $I_f = 34A$ $di/dt = 100A/\mu sec$	t_{rr} Q_{rr}	-	-	600 2.9	nsec μC
INPUT CAPACITANCE	$V_{GS} = 0V$	C_{iss}	-	3700	-	pF
OUTPUT CAPACITANCE	$V_{DS} = 25V$	C_{oss}		1100		
REVERSE TRANSFER CAPACITANCE	$f = 1.0MHz$	C_{rss}		350		
THERMAL RESISTANCE, JUNCTION TO CASE		R_{thJC}	-	-	0.83	$^\circ C/W$

MECHANICAL DIMENSIONS: in Inches / mm

**TO-254**

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

TECHNICAL DATA

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