

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	$V_{GS}$	-	-	$\pm 20$	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	$\Omega$
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	$V_{GS(th)}$	2.0	-	4.0	Volts
FORWARD TRANSCONDUCTANCE $V_{DS} \geq 15\text{V}, I_{DS} = 21\text{A}$	$g_{fs}$	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	$\mu\text{A}$
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

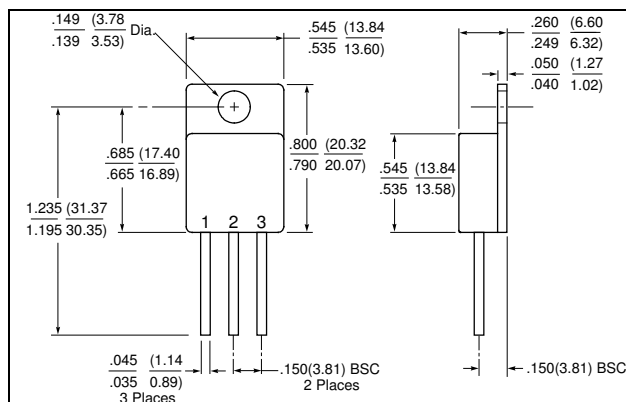
## DATA SHEET 223

## 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 $\mu C$
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 TO-254 PACKAGE	DRAIN	SOURCE	GATE

**TECHNICAL DATA**

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