

TECHNICAL DATA  
DATA SHEET 1015, REV. -

## HERMETIC POWER MOSFET N-CHANNEL

**FEATURES:**

- 200 Volt, 0.045 Ohm, 50A MOSFET
- Hermetic Metal Package
- Low  $R_{DS(on)}$

**MAXIMUM RATINGS**

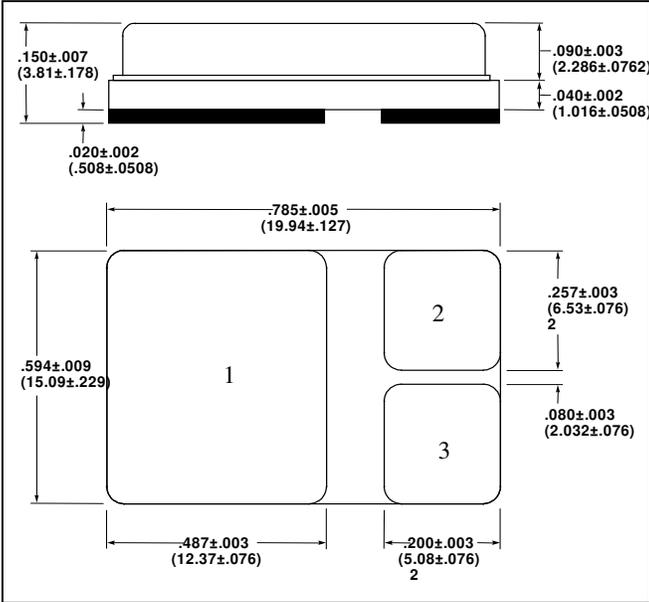
ALL RATINGS ARE AT  $T_C = 25^\circ\text{C}$  UNLESS OTHERWISE SPECIFIED.

RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	$V_{GS}$	-	-	$\pm 20$	Volts
ON-STATE DRAIN CURRENT	$I_{D25}$	-	-	50	Amps
PULSED DRAIN CURRENT	$I_{DM}$	-	-	200	Amps
OPERATING AND STORAGE TEMPERATURE	$T_J/T_{STG}$	-55	-	+150	$^\circ\text{C}$
TOTAL DEVICE DISSIPATION	$P_D$	-	-	460	Watts
THERMAL RESISTANCE, JUNCTION TO CASE	$R_{\theta JC}$	-	-	0.27	$^\circ\text{C/W}$

**ELECTRICAL CHARACTERISTICS**

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNITS
DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS} = 0V, I_D = 250\mu\text{A}$	$BV_{DSS}$	200	-	-	Volts
STATIC DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 10V, I_D = 0.5I_{D25}$	$R_{DS(ON)}$	-	-	0.045	$\Omega$
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = 4.0\text{ mA}$	$V_{GS(th)}$	2.0	-	4.0	Volts
FORWARD TRANSCONDUCTANCE $V_{DS} = 10V, I_D = 0.5I_{D25}$	$g_{fs}$	26	32	-	$S(1/\Omega)$
ZERO GATE VOLTAGE DRAIN CURRENT $V_{DS} = 0.8 \times \text{Max. rating}, V_{GS} = 0V, T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$	$I_{DSS}$	-	-	200 1000	$\mu\text{A}$
GATE TO SOURCE LEAKAGE FORWARD $V_{GS} = 20V$ GATE TO SOURCE LEAKAGE REVERSE $V_{GS} = -20V$	$I_{GSS}$	-	-	100 -100	nA
TURN ON DELAY TIME RISE TIME $V_{DS} = 0.5V \bullet$ $V_{DSS}, I_D = 0.5 \bullet I_{D25}$	$t_{d(ON)}$ $t_r$	-	18 15	25 20	nsec
TURN OFF DELAY TIME FALL TIME $V_{GS} = 10V$ $R_G = 1.0\Omega$	$t_{d(OFF)}$ $t_f$	-	72 16	90 25	
DIODE FORWARD VOLTAGE $I_F = I_S, V_{GS} = 0V$ Pulse test, $t \leq 300\mu\text{s}$ , duty cycle $d \leq 2\%$	$V_{SD}$	-	-	1.5	Volts
REVERSE RECOVERY TIME $T_J = 25^\circ\text{C}$ , $I_F = 25A, V_R = 100V$ $di/dt = 100A/\mu\text{sec}$	$t_{rr}$	-	-	200	nsec
INPUT CAPACITANCE OUTPUT CAPACITANCE REVERSE TRANSFER CAPACITANCE $V_{GS} = 0V$ , $V_{DS} = 25V$ , $f = 1.0\text{MHz}$	$C_{iss}$ $C_{oss}$ $C_{rss}$	-	4400 800 280	-	pF

**MECHANICAL DIMENSIONS: in Inches / mm**



**SHD-6**

**PINOUT TABLE**

DEVICE TYPE	PIN 1	PIN 2	PIN 3
MOSFET SHD-6 PACKAGE	DRAIN	SOURCE	GATE

**TECHNICAL DATA**

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