

TECHNICAL DATA  
DATA SHEET 4322, REV. -

## HERMETIC POWER MOSFET N-CHANNEL

SHD231006S -- S-100 (JANTX level room temp) Screening per Sensitron datasheet

**FEATURES:**

- 60 Volt, 3.0 Ohm, 0.25 A MOSFET
- Isolated Hermetic, Ceramic Package
- Fast Switching
- 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
DRAIN TO SOURCE VOLTAGE	$V_{DS}$	-	-	60	Volts
GATE TO SOURCE VOLTAGE	$V_{GS}$	-	-	$\pm 20$	Volts
ON-STATE DRAIN CURRENT @ $T_C = 25^\circ\text{C}$	$I_{D(on)}$	-	-	0.25	Amps
PULSED DRAIN CURRENT @ $T_C = 25^\circ\text{C}$	$I_{DM}$	-	-	1.3	Amps
OPERATING AND STORAGE TEMPERATURE	$T_{OP}/T_{STG}$	-55	-	+150	$^\circ\text{C}$
TOTAL DEVICE DISSIPATION @ $T_C = 25^\circ\text{C}$	$P_D$	-	-	2.5	W
THERMAL RESISTANCE, JUNCTION TO CASE	$R_{thJC}$	-	-	50	$^\circ\text{C}/\text{W}$

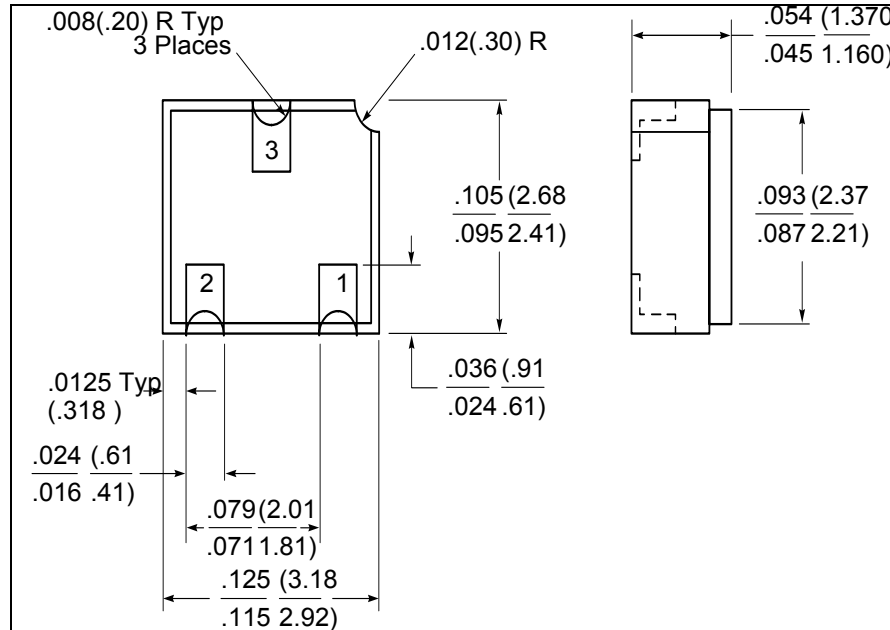
**ELECTRICAL CHARACTERISTICS**

DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS} = 0\text{V}, I_D = 10\mu\text{A}$	$BV_{DSS}$	60	-	-	Volts
ON-STATE DRAIN CURRENT Pulse width = 300 $\mu\text{s}$ , Duty cycle $\leq 2\%$ $V_{DS} = 7.5\text{V}, V_{GS} = 10\text{V}$	$I_{D(on)}$	0.8	-	-	Amp
STATIC DRAIN TO SOURCE ON STATE RESISTANCE Pulse width = 300 $\mu\text{s}$ , Duty cycle $\leq 2\%$ $V_{GS} = 10\text{V}, I_D = 500\text{mA}$ $V_{GS} = 5\text{V}, I_D = 200\text{mA}$	$R_{DS(ON)}$	-	-	3.0 4.0	$\Omega$
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	$V_{GS(th)}$	1.0	-	2.5	Volts
FORWARD TRANSCONDUCTANCE $V_{DS} = 15\text{V}, I_D = 200\text{mA}$	$g_{fs}$	-	250	-	S(1/ $\Omega$ )
ZERO GATE VOLTAGE DRAIN CURRENT $V_{DS} = 60\text{V}, V_{GS} = 0\text{V}$ $V_{DS} = 60\text{V}, V_{GS} = 0\text{V}, T_C = 125^\circ\text{C}$	$I_{DSS}$	-	-	1.0 500	$\mu\text{A}$
GATE TO SOURCE LEAKAGE FORWARD GATE TO SOURCE LEAKAGE REVERSE $V_{GS} = 15\text{V}$ $V_{GS} = -15\text{V}$ $V_{DS} = 0\text{V}$	$I_{GSS}$	-	-	10 -10	nA
TOTAL GATE CHARGE GATE-SOURCE CHARGE GATE-DRAIN CHARGE $V_{DS} = 30\text{V}, V_{GS} = 10\text{V}, I_D = 250\text{mA}$	$Q_g$ $Q_{gs}$ $Q_{gd}$		0.4 0.06 0.06	0.6	nC
TURN ON DELAY TIME RISE TIME TURN OFF DELAY TIME FALL TIME $V_{DD} = 25\text{V}, I_D = 150\text{mA}$	$t_{d(ON)}$ $t_r$ $t_{d(OFF)}$ $t_f$	-	7.5 6.0 7.5 3.0	20	nsec
INPUT CAPACITANCE OUTPUT CAPACITANCE REVERSE TRANSFER CAPACITANCE $V_{GS} = 0\text{V}, V_{DS} = 25\text{V}, f = 1.0\text{MHz}$	$C_{iss}$ $C_{oss}$ $C_{rss}$	-	25 6.0 1.2	-	pF

**SENSITRON**

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**MECHANICAL DIMENSIONS: in Inches / mm**



**LCC-3**

**PINOUT TABLE**

DEVICE TYPE	PIN 1	PIN 2	PIN 3
N Channel FET	Gate	Source	Drain

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