

TECHNICAL DATA
DATA SHEET 2023, REV. -
Formerly Part Number SHD2188/A/B

HERMETIC POWER MOSFET N-CHANNEL

FEATURES:

- 1000 Volt, 2.0 Ohm, 5.6A MOSFET
- Hermetic Ceramic Package
- Fast Switching
- Low $R_{DS(on)}$
- Similar to Part Type IRFAG50

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	-	-	5.6	Amps
ON-STATE DRAIN CURRENT $T_C = 100^\circ\text{C}$	I_D	-	-	3.5	Amps
PULSED DRAIN CURRENT	I_{DM}	-	-	22	Amps
OPERATING AND STORAGE TEMPERATURE	T_J/T_{STG}	-55	-	+150	$^\circ\text{C}$
THERMAL RESISTANCE, JUNCTION TO CASE	R_{thJC}	-	-	0.6	$^\circ\text{C/W}$
TOTAL DEVICE DISSIPATION	P_D	-	-	200	Watts

ELECTRICAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNITS
DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS} = 0\text{V}, I_D = 1.0\text{mA}$	BV_{DSS}	1000	-	-	Volts
STATIC DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 10\text{V}, I_D = 3.5\text{A}$	$R_{DS(ON)}$	-	-	2.0	Ω
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = 250\text{mA}$	$V_{GS(th)}$	2.0	-	4.0	Volts
FORWARD TRANSCONDUCTANCE $V_{DS} \geq 15\text{V}, I_{DS} = 3.5\text{A}$	g_{fs}	5.2	-	-	$S(1/\Omega)$
ZERO GATE VOLTAGE DRAIN CURRENT $V_{DS} = 0.8 \times \text{Max. rating}, V_{GS} = 0\text{V}, T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$	I_{DSS}	-	-	25 250	μA
GATE TO SOURCE LEAKAGE FORWARD $V_{GS} = 20\text{V}$ GATE TO SOURCE LEAKAGE REVERSE $V_{GS} = -20\text{V}$	I_{GSS}	-	-	100 -100	nA
TURN ON DELAY TIME $V_{DD} = 400\text{V},$ RISE TIME $I_D = 5.6\text{A},$	$t_{d(ON)}$ t_r	-	-	30 44	nsec
TURN OFF DELAY TIME $R_G = 2.35\Omega$ FALL TIME	$t_{d(OFF)}$ t_f	-	-	210 60	nsec
DIODE FORWARD VOLTAGE $I_S = 5.6\text{A}, V_{GS} = 0\text{V}$ Pulse test, $t \leq 300 \mu\text{s}$, duty cycle $d \leq 2\%$	V_{SD}	-	-	1.8	Volts
REVERSE RECOVERY TIME $T_J = 25^\circ\text{C},$ $I_F = 5.6\text{A}, V_{DD} \leq 50\text{V},$ $di/dt = 100\text{A}/\mu\text{sec}$	t_{rr}	-	-	1200	nsec
INPUT CAPACITANCE $V_{GS} = 0\text{V}$ OUTPUT CAPACITANCE $V_{DS} = 25\text{V}$ REVERSE TRANSFER CAPACITANCE $f = 1.0\text{MHz}$	C_{iss} C_{oss} C_{rss}	-	2400 240 80	-	pF

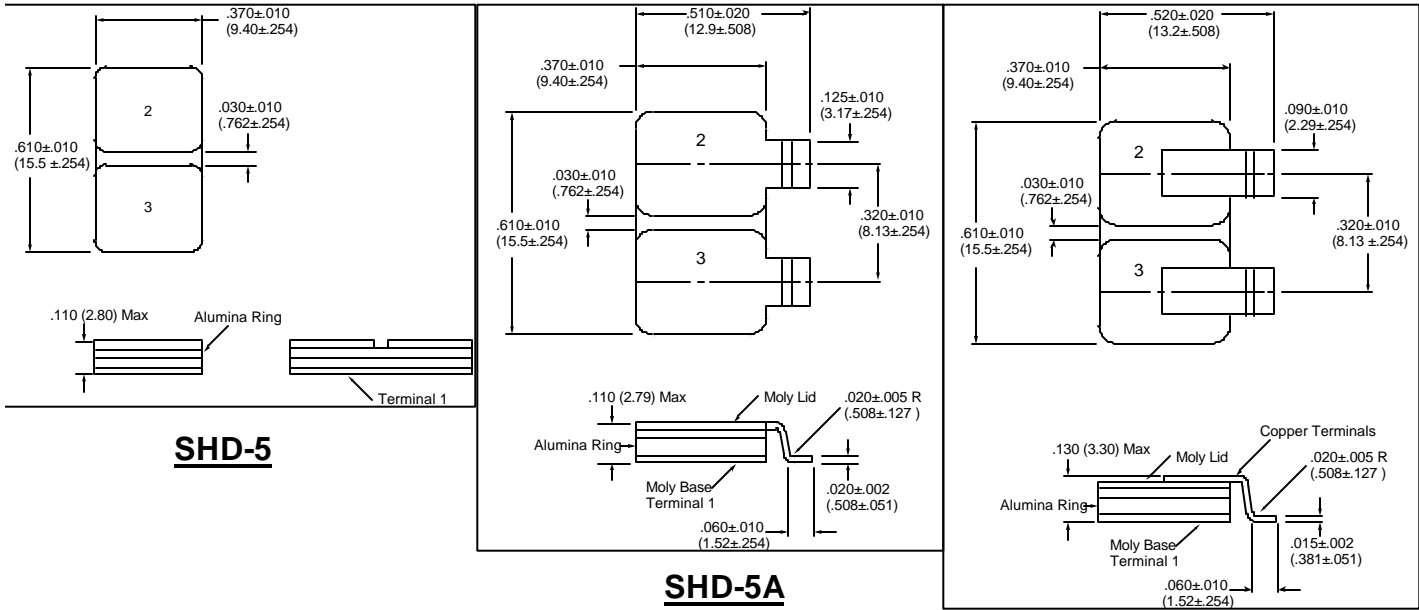
SENSITRON

TECHNICAL DATA

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MECHANICAL DIMENSIONS: in Inches / mm



SHD-5

SHD-5A

SHD-5B

PINOUT TABLE

DEVICE TYPE	PIN 1	PIN 2	PIN 3
MOSFET, SURFACE MOUNT SHD-5, 5A, 5B PACKAGE	DRAIN	SOURCE	GATE

TECHNICAL DATA

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