

TECHNICAL DATA
DATA SHEET 1011, REV -
Formerly Part Number SHD2184/A/B

HERMETIC POWER MOSFET N-CHANNEL

FEATURES:

- 400 Volt, 0.3 Ohm, 9.0A MOSFET
- Low $R_{DS(on)}$
- Equivalent to IRF350 Series

MAXIMUM RATINGS

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

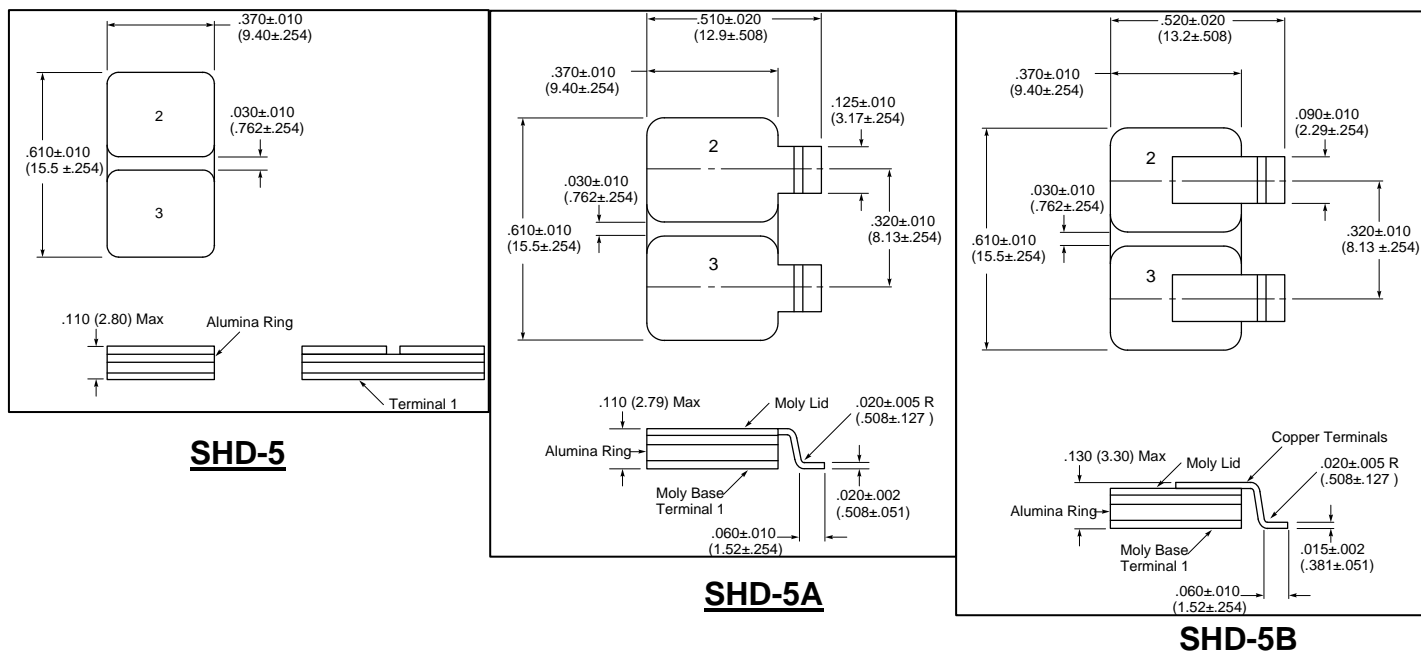
RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	V_{GS}	-	-	± 20	Volts
ON-STATE DRAIN CURRENT @ $T_C = 25^\circ\text{C}$	I_D	-	-	14	Amps
ON-STATE DRAIN CURRENT @ $T_C = 100^\circ\text{C}$	I_D	-	-	9.0	Amps
OPERATING AND STORAGE TEMPERATURE	T_{OP}/T_{STG}	-55	-	+150	$^\circ\text{C}$
TOTAL DEVICE DISSIPATION @ $T_C = 25^\circ\text{C}$	P_D	-	-	200	Watts
THERMAL RESISTANCE, JUNCTION TO CASE	R_{thJC}	-	-	0.6	$^\circ\text{C}/\text{W}$

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}	400	-	-	Volts
STATIC DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 10\text{V}, I_D = 9.0\text{A}$ $V_{GS} = 10\text{V}, I_D = 14\text{A}$	$R_{DS(ON)}$	-	-	0.3 0.4	Ω
GATE THRESHOLD VOLTAGE $V_{DS} \geq 15\text{V}, I_{DS} = 9.0\text{A}$	$V_{GS(th)}$	6.0	-	-	Volts
FORWARD TRANSCONDUCTANCE $V_{DS} \geq 15\text{V}, I_{DS} = 9.0\text{A}$	g_{fs}	6.0	-	-	$\text{S}(1/\Omega)$
ZERO GATE VOLTAGE DRAIN CURRENT $V_{DS} = \text{Max. Rating}, V_{GS} = 0\text{V}$ $V_{DS} = 0.8 \times \text{Max. Rating}, V_{GS} = 0\text{V}, T_J = 125^\circ\text{C}$	I_{DSS}	-	-	250 1000	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 $V_{DD} = 200\text{V},$ RISE TIME $I_D = 14\text{A},$ TURN OFF DELAY TIME $R_G = 2.35\Omega$ FALL TIME	$t_{d(ON)}$ t_r $t_{d(OFF)}$ t_f	-	-	35 190 170 130	nsec
TOTAL GATE CHARGE $I_D = 14\text{A},$	Q_g	52	-	110	nC
GATE TO SOURCE CHARGE $V_{GS} = 10\text{V},$	Q_{gs}	5.0	-	18	nC
GATE TO DRAIN CHARGE $V_{DS} = 0.5 \times \text{Max. Rating}$	Q_{gd}	25	-	65	nC
DIODE FORWARD VOLTAGE $T_C = 25^\circ\text{C}, I_S = 14\text{A},$ $V_{GS} = 0\text{V}$	V_{SD}	-	-	1.7	Volts
REVERSE RECOVERY CHARGE $T_J = 25^\circ\text{C},$ $di/dt \leq 100\text{A}/\mu\text{sec}, V_{DD} \leq 50\text{V}$	Q_{RR}	-	-	11	μC
REVERSE RECOVERY TIME $T_J = 25^\circ\text{C},$ $I_F = 14\text{A},$ $di/dt \leq 100\text{A}/\mu\text{sec}, V_{DD} \leq 50\text{V}$	t_{rr}	-	-	1200	nsec
INPUT CAPACITANCE $V_{GS} = 0\text{V}$	C_{iss}	-	2600	-	pF
OUTPUT CAPACITANCE $V_{DS} = 25\text{V}$	C_{oss}	-	680	-	pF
REVERSE TRANSFER CAPACITANCE $f = 1.0\text{MHz}$	C_{riss}	-	250	-	pF

SENSITRON
DATA SHEET 1011
REVISION -

MECHANICAL DIMENSIONS: in Inches / mm



PINOUT TABLE

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

DISCLAIMER:

- 1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the Sensitron Semiconductor sales department for the latest version of the datasheet(s).
- 2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment, and safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement.
- 3- In no event shall Sensitron Semiconductor be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). Sensitron Semiconductor assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.
- 4- In no event shall Sensitron Semiconductor be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.
- 5- No license is granted by the datasheet(s) under any patents or other rights of any third party or Sensitron Semiconductor.
- 6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of Sensitron Semiconductor.
- 7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations.