

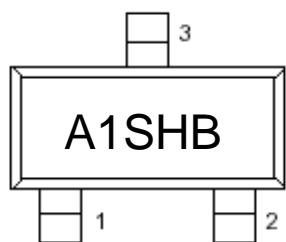
## MOSFET

Marking: A1SHB

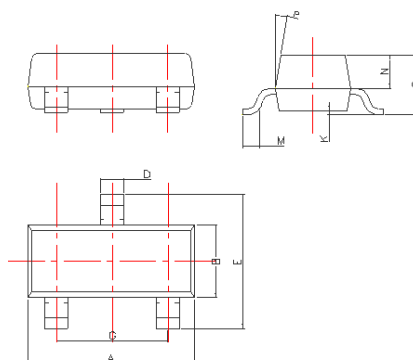
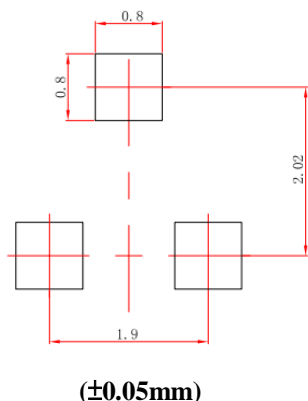
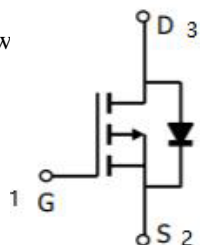
Suggested Layout

SOT-23

Dimension



Top view



DIM	Millimeters
A	2.85~3.04
B	1.30±0.10
C	1.00±0.10
D	0.45±0.05
E	2.25~2.55
G	1.90±0.1
K	0.00-0.10
M	0.20 min
N	0.60±0.10
P	7±2°

### MAXIMUM RATINGS (Ta=25°C)

Characteristic	Symbol	Rating	Unit
Drain-Source Voltage	V <sub>DSS</sub>	-20	Vdc
Gate-Source Voltage	V <sub>GS</sub>	±8	Vdc
Drain Current—Continuous	I <sub>D</sub>	-2	Adc
Peak Drain Current	I <sub>DM</sub>	-10	Adc

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation TA=25°C	P <sub>D</sub>	350	mW
Thermal Resistance from Junction to Ambient	R <sub>θJA</sub>	357	°C/W
Junction and Storage Temperature	T <sub>J</sub> , T <sub>stg</sub>	150 , -55 to +150	°C

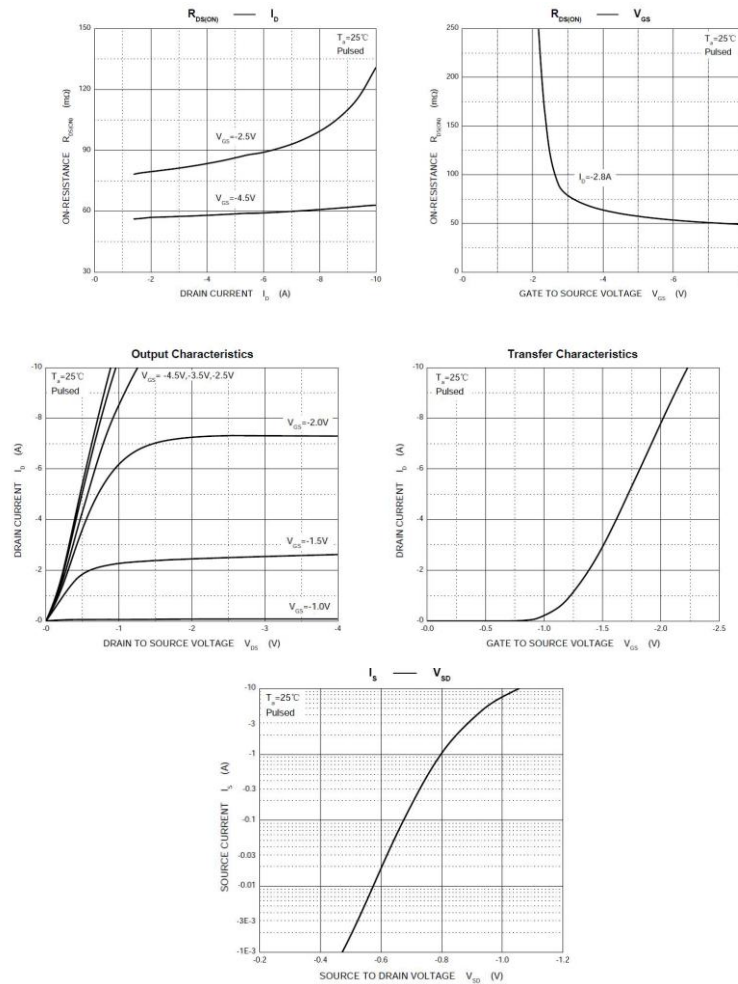
Repetitive Rating : Pulse width limited by maximum junction temperature

### ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

Characteristic	Symbol	Test Condition	Min	Type	Max	Unit
Drain-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> =0V, I <sub>D</sub> = -250 μA	-20	—	—	V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = -20V, V <sub>GS</sub> = 0V	—	—	-1.0	μA
Gate-Body Leakage Current, Forward	I <sub>GSS</sub>	V <sub>GS</sub> = ±8V	—	—	±100	nA
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -250 μA	-0.50	-	-1.0	V
Static Drain-Source On-State Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> = -4.5V, I <sub>D</sub> = -2.0A V <sub>GS</sub> = -2.5V, I <sub>D</sub> = -2.0A	—	95 130	130 175	mΩ
Forward Transconductance	g <sub>fs</sub>	V <sub>DS</sub> = 5V, I <sub>D</sub> = -2A	-	4	—	S
Diode Forward On-Voltage	V <sub>SD</sub>	V <sub>GS</sub> = 0V, I <sub>S</sub> = -0.7A	—	-0.8	-1.2	V

Turn-On Delay Time	$t_{d(on)}$	VDD = -10V, RL = 10 Ω ID = -1A , VGEN = -4.5V, RG = 1Ω	—	11	20	ns
Turn-On Time	tr		-	35	60	
Turn-Off Delay Time	$t_{d(off)}$		-	30	50	
Turn-On Fall Time	$t_f$		-	10	20	
Input Capacitance	Ciss	VDS = -10V, VGS = 0V, f = 1.0 MHz	-	405	-	pF
Output Capacitance	Coss		-	75	-	
Reverse Transfer Capacitance	Crss		-	55	-	
Total Gate Charge	$Q_G$	VDS = -10V, ID = -2A, VGS = -2.5V	-	5.5	-	nC
Gate.to source charge	$Q_{GS}$		-	3.3	-	
Gate.to drain charge	$Q_{GD}$		-	1.3	-	

## Typical Performance Characteristics



Note: Specifications are subject to change without notice.