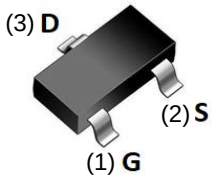
SOT-23

RoHS COMPLIANT

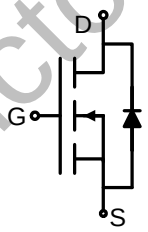


WG2302A

Features:

- ☐ Low Intrinsic Capacitances.
- ☐ Excellent Switching Characteristics.
- ☐ Extended Safe Operating Area.
- ☐ Unrivalled Gate Charge :Qg= 10nC (Typ.).
- ☐ BVDSS=20V,I_D=4.0A
- ☐ R_{DS}(on) : 24mΩ (Typ) @V_G=4.5V
- ☐ 100% Avalanche Tested

1:Gate (G)
2:Source (S)
3:Drain (D)



MARKING:**A2SHB** **Schematic diagram**

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Absolute Maximum Ratings (T_A=25℃unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	±12	V
Drain Current-Continuous	I_D	4.0	A
Drain Current-Pulsed	I_{DM}	10	A
Maximum Power Dissipation	P_D	1.0	W
Operating Junction and Storage Temperature Range	T_J,T_{STG}	-55 To 150	℃

Thermal Characteristic

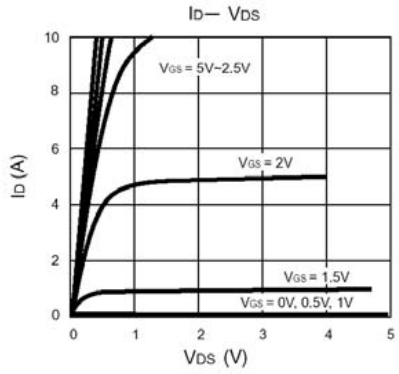
Thermal Resistance,Junction-to-Ambient	$R_{\theta JA}$	125	℃/W

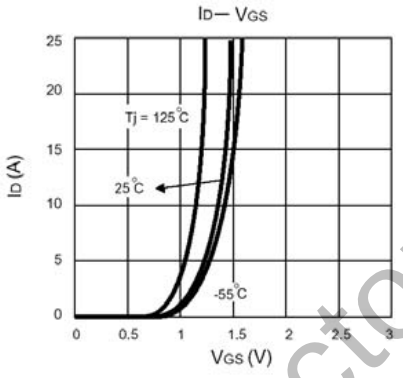
Electrical Characteristics (T_A=25℃unless otherwise noted)

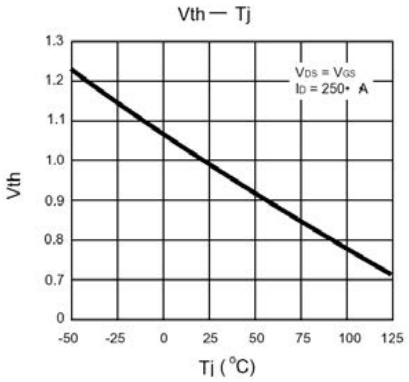
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Off Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250μA	20	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=20V,V_{GS}=0V	-	-	1	μA
Gate-Body Leakage Current	I_{GSS}	V_{GS}=±12V,V_{DS}=0V	-	-	±100	nA
On Characteristics						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS},I_D=250μA	0.5	0.71	1.0	V
Drain-Source On-State Resistance	$R_{DS(ON)}$	V_{GS} =4.5V, I_D=4.5A	-	24	29	mΩ
		V_{GS}=2.5V, I_D=3.0A	-	33	44	mΩ
Dynamic Characteristics						
Input Capacitance	C_{lss}	V_{DS}=10V,V_{GS}=0V, F=1.0MHz	-	405	-	PF
Output Capacitance	C_{oss}		-	75	-	PF
Reverse Transfer Capacitance	C_{rss}		-	55	-	PF
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	V_{DD}=10V, R_L=2.7Ω V_{GS}=4.5V,R_{GEN}=3Ω	-	11	-	nS
Turn-on Rise Time	t_r		-	35	-	nS
Turn-Off Delay Time	$t_{d(off)}$		-	30	-	nS
Turn-Off Fall Time	t_f		-	10	-	nS
Total Gate Charge	Q_g	V_{DS}=10V,I_D=3.0A, V_{GS}=2.5V	-	10	-	nC
Gate-Source Charge	Q_{gs}		-	0.7	-	nC
Gate-Drain Charge	Q_{gd}		-	1.3	-	nC
Drain-Source Diode Characteristics						
Diode Forward Voltage	V_{SD}	V_{GS}=0V,I_S=4.0A	-	-	1.2	V
Diode Forward Current	I_S		-		4.0	A

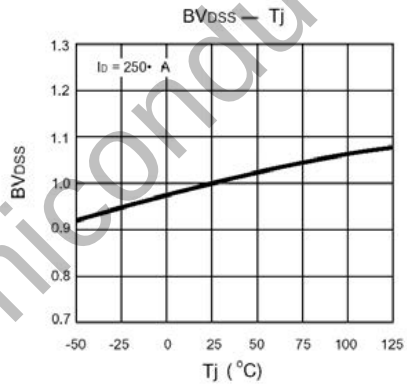
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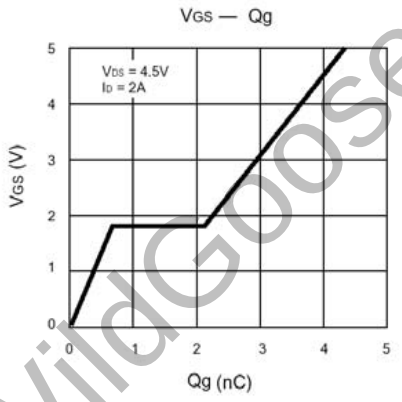
Typical Characteristics

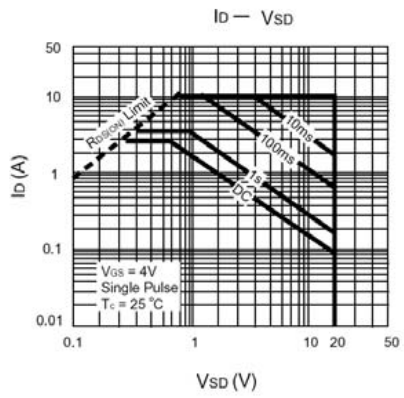


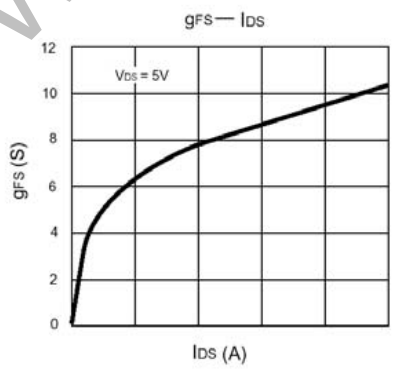


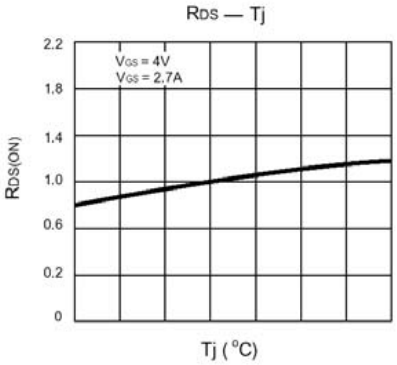










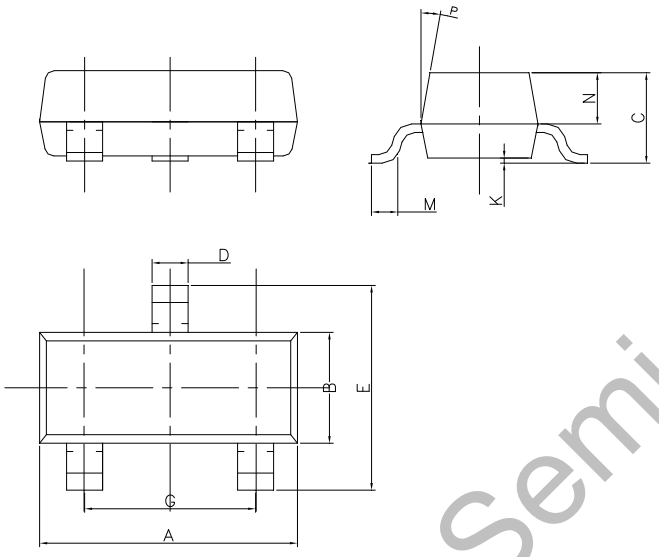


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Package Dimension

SOT-23

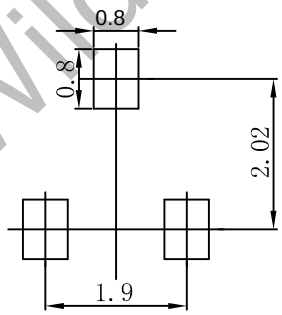
Unit: mm



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°

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SOT-23 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.