

N-Channel Enhancement Mode Power Mosfet

BL2312

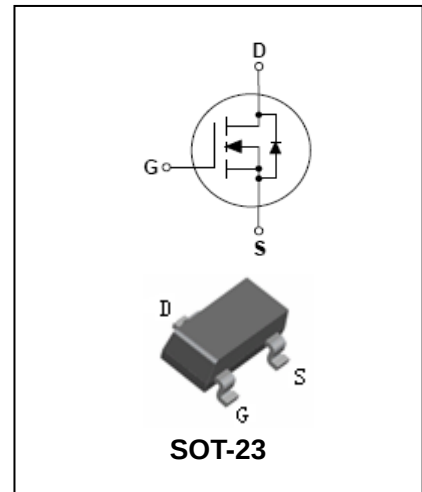
FEATURES

- Advanced trench process technology
- Lower on-resistance
- Reliable and Rugged
- Electrostatic Sensitive Devices.



APPLICATIONS

- Power Management in Notebook.
- Portable Equipment.
- Battery Powered System.



ORDERING INFORMATION

Type No.	Marking	Package Code
BL2312	2312	SOT-23

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Units
V _{DSS}	Drain-Source voltage	20	V
V _{GSS}	Gate -Source voltage	± 8	V
I _D	Maximum Drain current	4.9	A
I _{DM}	Pulsed Drain current	15	A
P _D	Power Dissipation	0.75	W
R _{θJA}	Thermal resistance,Junction-to-Ambient (PCB mounted)	140	°C/W
T _J , T _{stg}	Operating Junction and Storage Temperature Range	-55~+150	°C

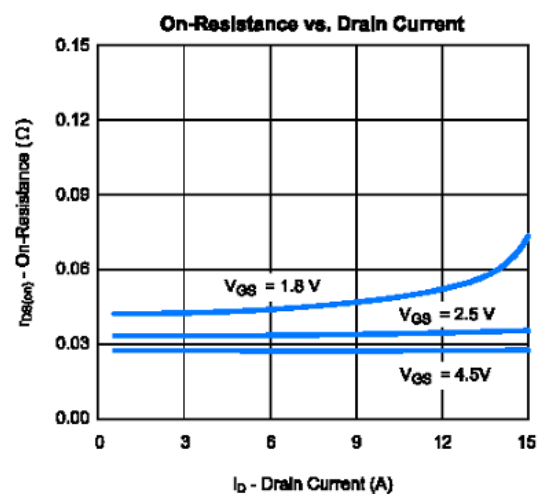
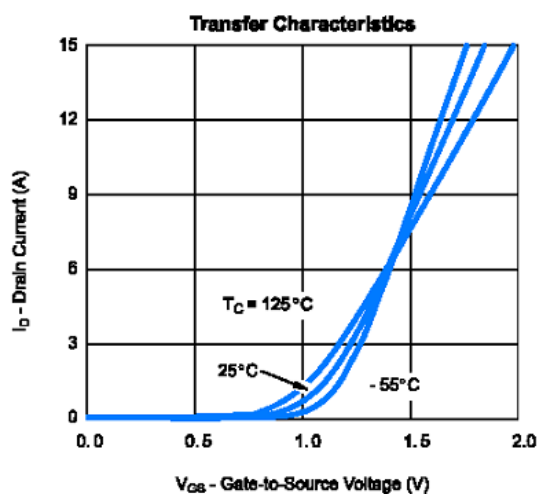
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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

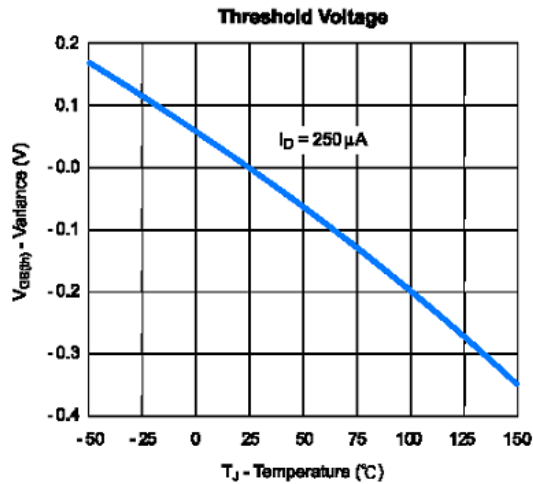
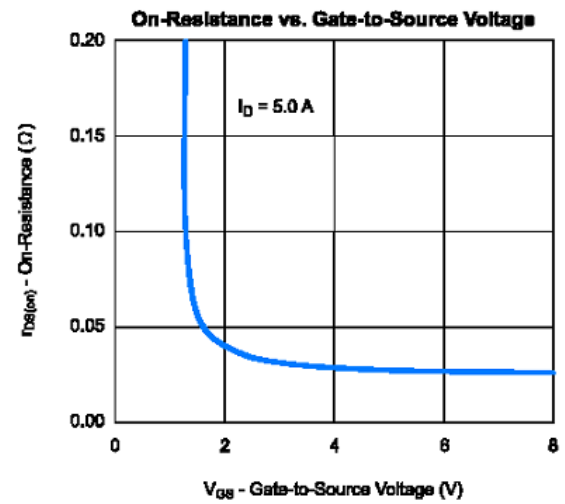
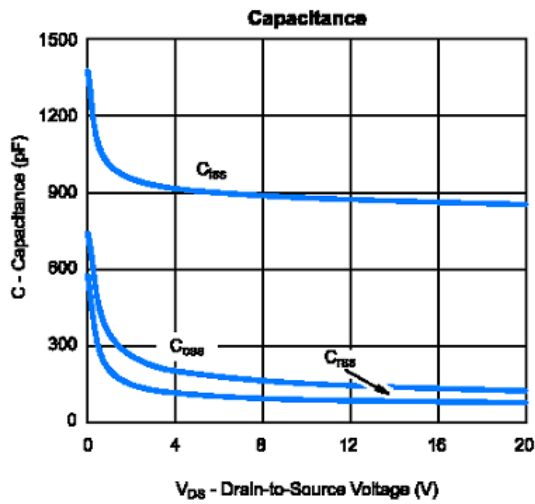
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	20	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.4	-	1.2	
Forward Transconductance	gfs	$V_{DS}=15V, I_D=5.0A$	-	40	-	S
Gate-body Leakage	I_{GSS}	$V_{DS}=0V, V_{GS}=8V$	-	-	100	nA
		$V_{DS}=0V, V_{GS}=-8V$	-	-	-100	
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=20V, V_{GS}=0V$	-	-	1	μA
Drain-Source on-resistance	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=5.0A$	-	21	31	m Ω
		$V_{GS}=2.5V, I_D=4.5A$	-	24	37	
		$V_{GS}=1.8V, I_D=4.0A$	-	50	85	
Diode forward voltage	V_{SD}	$V_{GS}=0V, I_S=1.8A$	-	-	1.2	V
Total Gate Charge	Qg	$V_{DS}=10V, V_{GS}=4.5V,$ $I_D=5.0A$	-	11.2	14	nC
Gate-Source Charge	Qgs		-	1.4	-	
Gate-Drain Charge	Qgd		-	2.2	-	
Input capacitance	C_{ISS}	$V_{DS}=8V, V_{GS}=0V, f=1.0MHz$	-	500	-	pF
Output capacitance	C_{OSS}		-	300	-	
Reverse transfer capacitance	C_{RSS}		-	140	-	
Turn-On Delay Time	$t_{D(ON)}$	$V_{DD} = 10V, I_D=1A,$ $R_G = 6\Omega, V_{GEN} = 4.5V,$ $R_L = 10\Omega$	-	15	25	ns
Rise Time	t_R		-	40	60	
Turn-Off Delay Time	$t_{D(OFF)}$		-	48	70	
Fall Time	t_f		-	31	45	
Max. Diode Forward Current	I_S		-	-	1.7	A

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified



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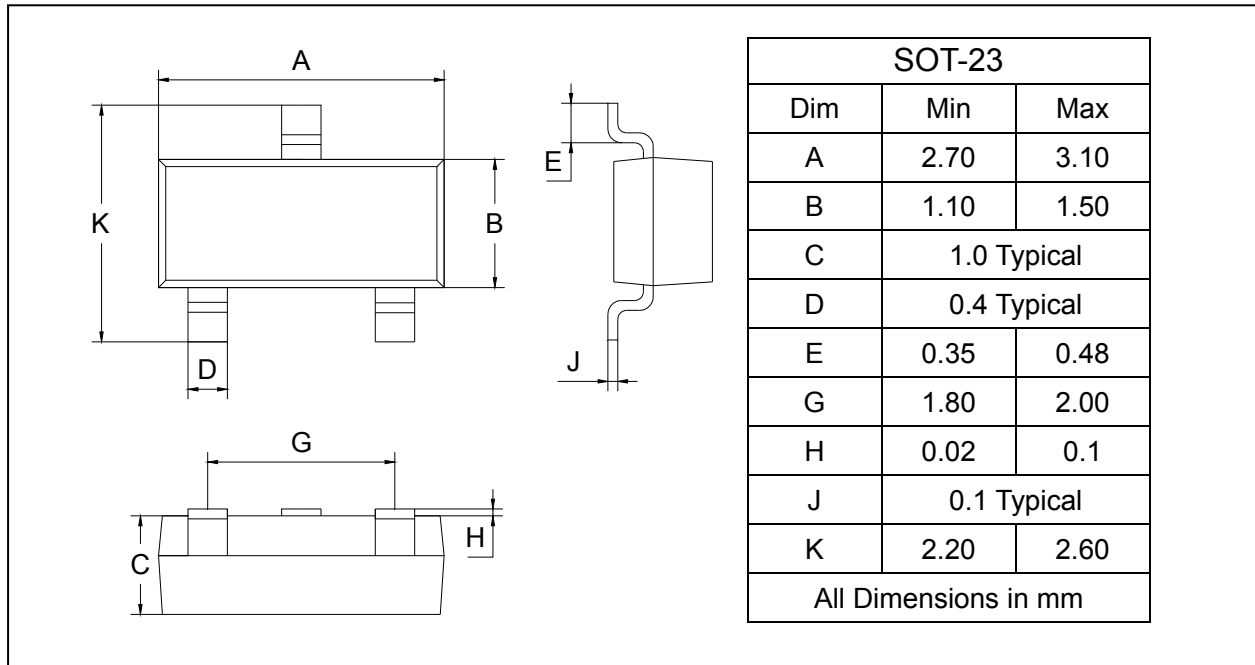
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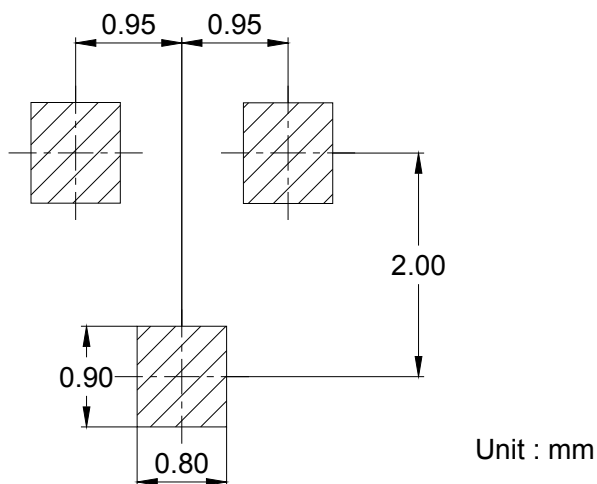
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
BL2312	SOT-23	3000/Tape&Reel