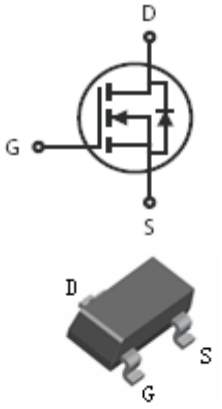
N-Channel Enhancement Mode Field Effect Transistor **BL2300**

FEATURES

- VDS=20V,RDS(ON)=40m @VGS=4.5V,ID=5.0A
- VDS=20V,RDS(ON)=60m @VGS=2.5V,ID=4.0A
- VDS=20V,,RDS(ON)=75m @VGS=1.8V,ID=1.0A
- Electrostatic Sensitive Devices.

Pb Lead-free



SOT-23

APPLICATIONS

- Power Management in Note book.
- Portable Equipment.
- Battery Powered System.
- Load Switch.
- DSC.

ORDERING INFORMATION

Type No.	Marking	Package Code
BL2300	2300	SOT-23

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	**Parameter**	**Value**	**Units**
V_{DSS}	Drain-Source voltage	20	V
V_{GSS}	Gate -Source voltage	±10	V
I_D	Maximum Drain current T_A=25℃	3.8	A
I_{DM}	Pulsed Drain current	15	A
P_D	Power Dissipation	1.25	W
$R_{\theta JA}$	Thermal resistance,Junction-to-Ambient	100	℃/W
T_J,T_{stg}	Operating Junction and StorageTemperature	-55 to 150	℃

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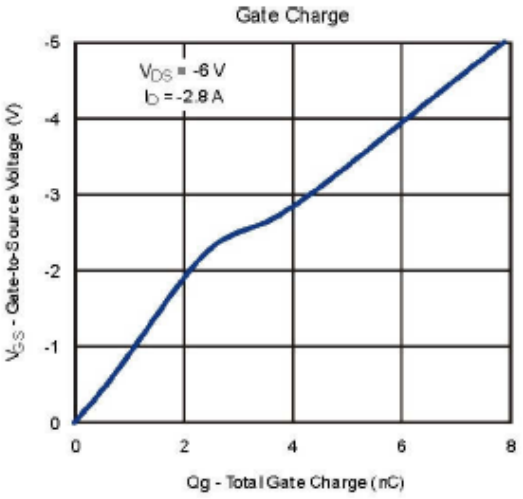
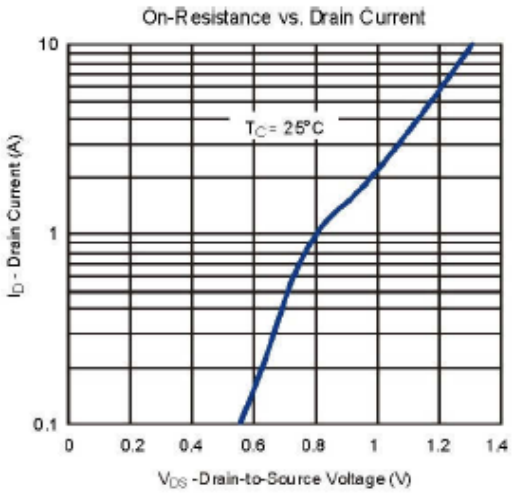
ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V,I_D=250μA	20	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	0.6	0.78	1.5	
Gate-body Leakage	I_{GSS}	V_{DS}=0V, V_{GS}=10V	-	-	100	nA
		V_{DS}=0V, V_{GS}=-10V	-	-	-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	-	32	40	mΩ
		V_{GS}=2.5V,I_D=4.0A		50	60	
		V_{GS}=1.8V,I_D=1.0A		62	75	
Diode forward voltage	V_{SD}	V_{GS}=0V,I_S=1.25A	-	0.825	1.2	V
On-State Drain Current	$I_{D(ON)}$	V_{DS}=5V, V_{GS}=4.5V	18	-	-	A
Forward Transconductance	gF	V_{DS}=5V, ,I_D=5A	5	-	-	S
Total Gate Charge	Qg	V_{DS}=10V,V_{GS}=4.5V,I_D=3.5A	-	16.8	-	nC
Gate-Source Charge	Qgs		-	2.5	-	
Gate-Drain Charge	Qgd		-	5.4	-	
Gate Resistance	R_g	V_{DS}=0V,V_{GS}=0V,f=1MHz	-	7.5	-	Ω
Input capacitance	C_{ISS}	V_{DS}=15V,V_{GS}=0V,f=1.0MHz	-	888	-	pF
Output capacitance	C_{OSS}		-	144	-	
Reverse transfer capacitance	C_{RSS}		-	115	-	
Turn-On Delay Time	$t_{D(ON)}$	V_{DD} =10V,R_L = 10Ω, ,I_D=1A, V_{GS}=4.5V,R_{GEN}= 6Ω	-	31.8	-	ns
Rise Time	t_R		-	14.5	-	
Turn-Off Delay Time	$t_{D(OFF)}$		-	50.3	-	
Fall Time	t_R		-	31.9	-	





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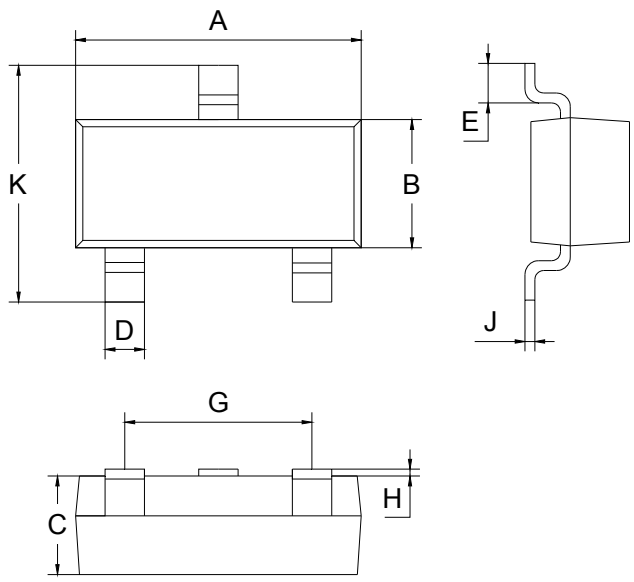
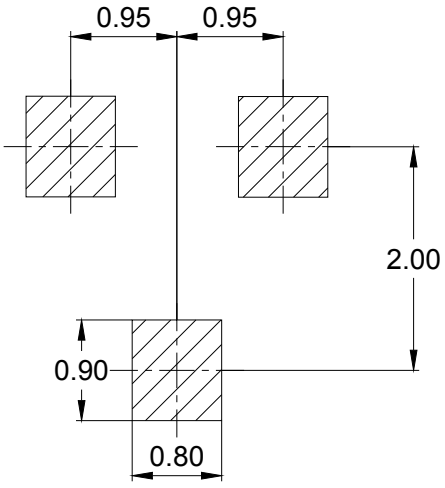
PACKAGE OUTLINE

Plastic surface mounted package SOT-23



SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	1.0 Typical	
D	0.4 Typical	
E	0.35	0.48
G	1.80	2.00
H	0.02	0.1
J	0.1 Typical	
K	2.20	2.60
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
BL2300	SOT-23	3000/Tape&Reel