

P-Channel Enhancement Mode Field Effect Transistor

BL2301

FEATURES

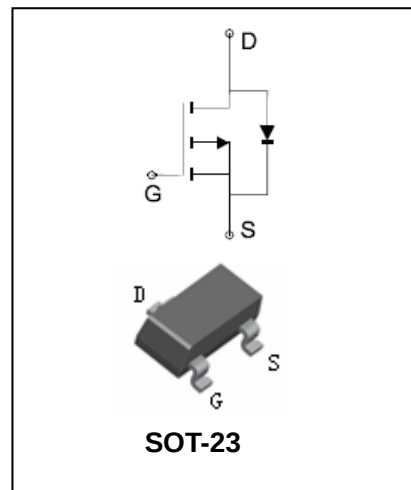
- $R_{DS(ON)} \leq 110m\Omega @ V_{GS} = -4.5V$.
- $R_{DS(ON)} \leq 150m\Omega @ V_{GS} = -2.5V$.
- Super high density cell design for extremely low $R_{DS(ON)}$.



Lead-free

APPLICATIONS

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



ORDERING INFORMATION

Type No.	Marking	Package Code
BL2301	A1T	SOT-23

MAXIMUM RATING @ $T_a = 25^\circ\text{C}$ 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 $T_A = 25^\circ\text{C}$ $T_A = 70^\circ\text{C}$	-2.0 -1.6	A
I_{DM}	Pulsed Drain current	-10	A
P_D	Power Dissipation $T_A = 25^\circ\text{C}$ $T_A = 70^\circ\text{C}$	0.7 0.45	W
$R_{\theta JA}$	Thermal resistance, Junction-to-Ambient	175	$^\circ\text{C/W}$
T_J, T_{stg}	Operating Junction and Storage Temperature	175	$^\circ\text{C}$



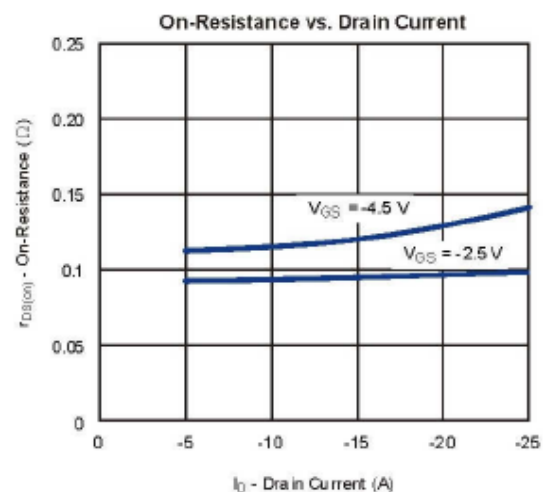
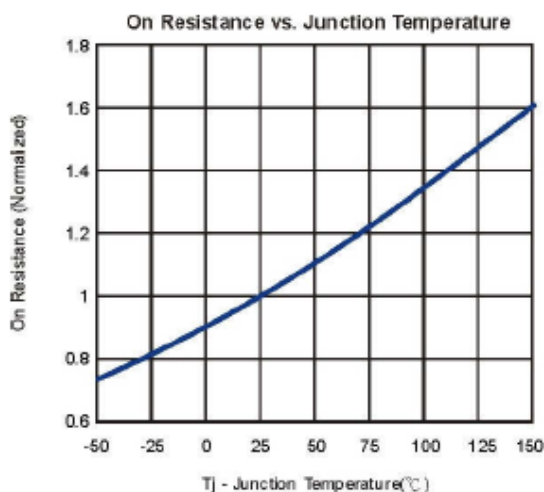
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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

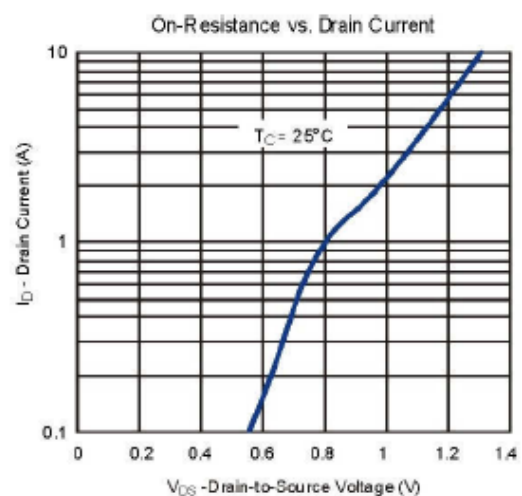
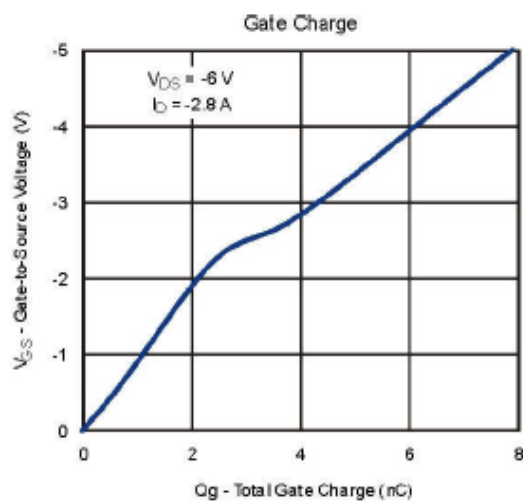
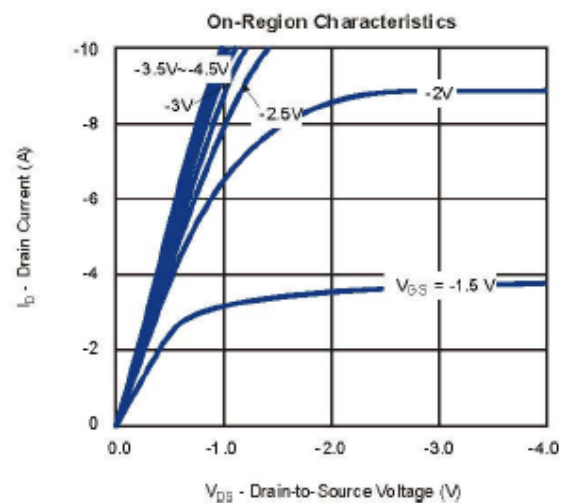
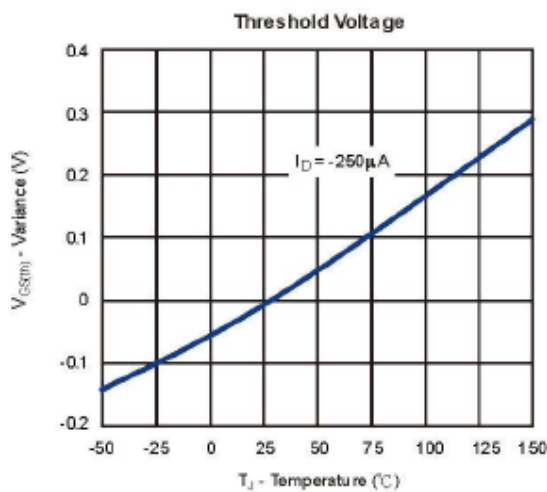
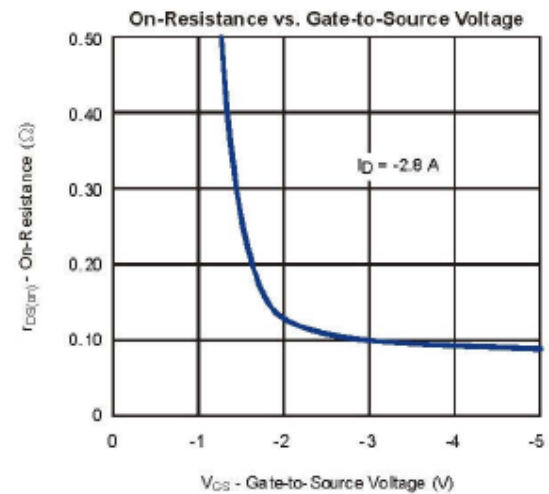
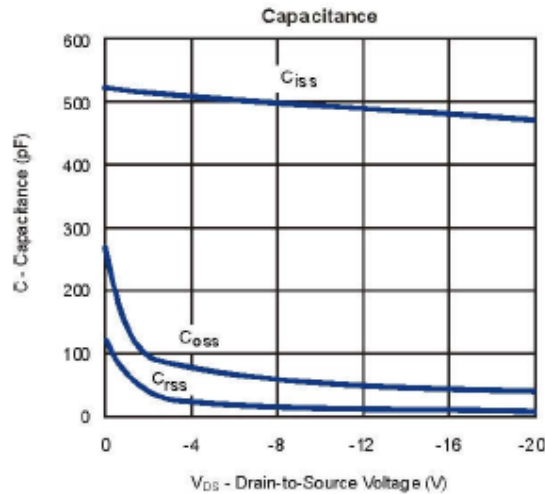
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-20	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.4	-0.6	-1	
Gate-body Leakage	I_{GSS}	$V_{DS}=0V, V_{GS}=8V$	-	-	100	nA
		$V_{DS}=0V, V_{GS}=-8V$	-	-	-100	
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-20V, V_{GS}=0V$	-	-	-1	μA
Drain-Source on-resistance	$R_{DS(ON)}$	$V_{GS}=-4.5V, I_D=-2.8A$	-	90	110	m Ω
		$V_{GS}=-2.5V, I_D=-2.0A$	-	110	150	
Diode forward voltage	V_{SD}	$V_{GS}=0V, I_S=1A$	-	-0.7	-1.4	V
Total Gate Charge	Q_g	$V_{DS}=-6V, V_{GS}=-4.5V, I_D=-2.8A$	-	7.2	-	nC
Gate-Source Charge	Q_{gs}		-	2.2	-	
Gate-Drain Charge	Q_{gd}		-	1.2	-	
Gate Resistance	R_g	$V_{DS}=0V, V_{GS}=0V, f=1MHz$	-	7.5	-	Ω
Input capacitance	C_{ISS}	$V_{DS}=-15V, V_{GS}=0V, f=1MHz$	-	480	-	pF
Output capacitance	C_{OSS}		-	46	-	
Reverse transfer capacitance	C_{RSS}		-	10	-	
Turn-On Delay Time	$t_{D(ON)}$	$V_{DD}=-6V, R_L=6\Omega,$ $V_{GEN}=-4.5V, R_{GEN}=6\Omega$	-	38	-	ns
Rise Time	t_R		-	25	-	
Turn-Off Delay Time	$t_{D(OFF)}$		-	43	-	
Fall Time	t_F		-	5	-	

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified



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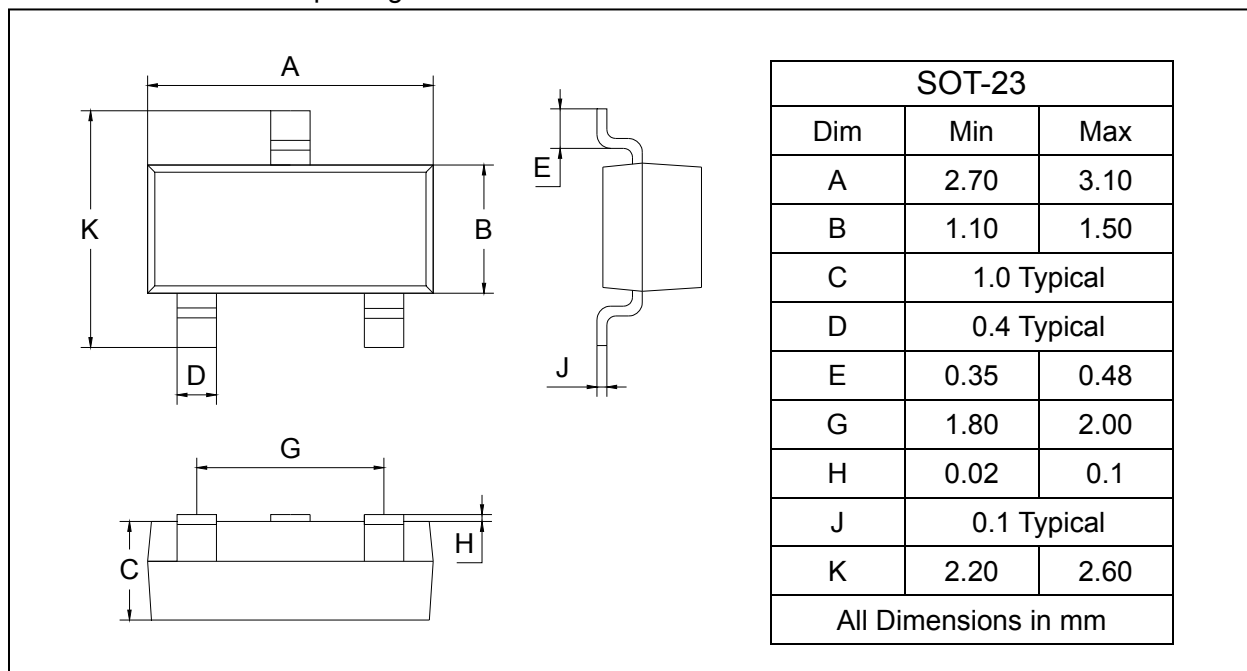
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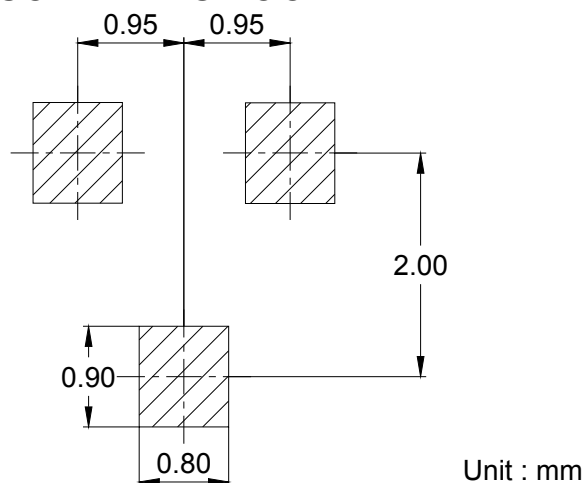
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
BL2301	SOT-23	3000/Tape&Reel