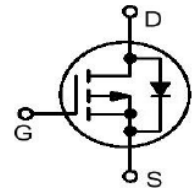


Features

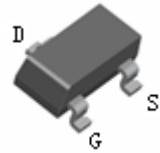
- $R_{DS(ON)} \leq 110m\Omega$ @ $V_{GS} = -4.5V$
- $R_{DS(ON)} \leq 140m\Omega$ @ $V_{GS} = -2.5V$
- High-speed switching
- Drive circuits can be simple
- Parallel use is easy

HF



Typical Applications

- Power management in note book.
- Switching application.
- Battery powered system
- Load switch



Mechanical Data

- Case: SOT-23
- Molding Compound, UL Flammability Classification Rating 94V-0.
- Terminals: Matte Tin Plated Leads, Solderable Per MIL-STD-202, Method 208.

BL2301

SOT-23

Ordering Information

Part Number	Package	Shipping	Marking Code
BL2301	SOT-23	3000 pcs / Tape & Reel	S1

Maximum Ratings (@ $T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Units
Drain-Source Voltage	V_{DS}	-20	V
Gate -Source Voltage	V_{GS}	± 12	V
Continuous Drain Current $T_C = 25^\circ\text{C}$	I_D	-3	A
Pulsed Drain Current	I_{DM}	-10	A
Power Dissipation $T_C = 25^\circ\text{C}$	P_D	1	W

Thermal Characteristics

Parameter	Symbol	Limits	Unit
Thermal Resistance Junction to Ambient Air ^(NOTE1)	$R_{\theta JA}$	145	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$

Electrical Characteristics (@T_A=25°C unless otherwise specified)

Symbol	Parameter	Test conditions	MIN	TYP	MAX	UNIT
OFF Characteristics						
V _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =-250μA	-20	-	-	V
I _{DSS}	Drain to Source Leakage Current	V _{DS} =-20V, V _{GS} =0V	-	-	-1	uA
I _{GSS}	Gate-body Leakage	V _{GS} =±12V, V _{DS} =0V	-	-	±100	nA
ON Characteristics (NOTE2)						
R _{DS(ON)}	Static Drain-Source On-resistance	V _{GS} =-4.5V, I _D =-2.8A	-	63	110	mΩ
		V _{GS} =-2.5V, I _D =-2A	-	90	140	
V _{GS(TH)}	Gate Threshold Voltage	V _{DS} = V _{GS} , I _D =-250uA	-0.4	-0.7	-1	V
Dynamic Characteristics (NOTE3)						
C _{iss}	Input Capacitance	V _{GS} = 0V ,V _{DS} = -15V f = 1.0MHz	-	586	-	pF
C _{oss}	Output Capacitance		-	72	-	
C _{rss}	Reverse Transfer Capacitance		-	8	-	
R _g	Gate Resistance	f = 1.0MHz	-	6.2	-	Ω
Source-Drain Diode Characteristics						
V _{SD}	Diode Forward Voltage(NOTE1)	I _S =-0.3A,V _{GS} =0V	-	-0.85	-1.2	V

NOTE:

- 1、 Surface Mounted on FR4 Board, t ≤ 10 sec
- 2、 Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.
- 3、 Guaranteed by design, not subject to production.

Ratings and Characteristic Curves ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

FIG 1.OUTPUT CHARACTERISTICS

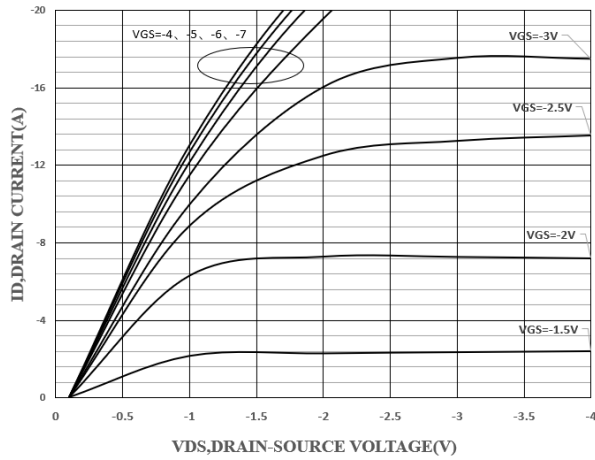


FIG 2.DRAIN-SOURCE ON RESISTANCE

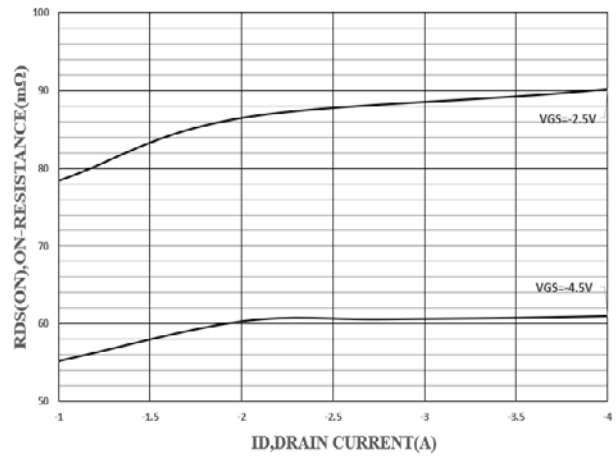


FIG 3.DRAIN-SOURCE ON RESISTANCE

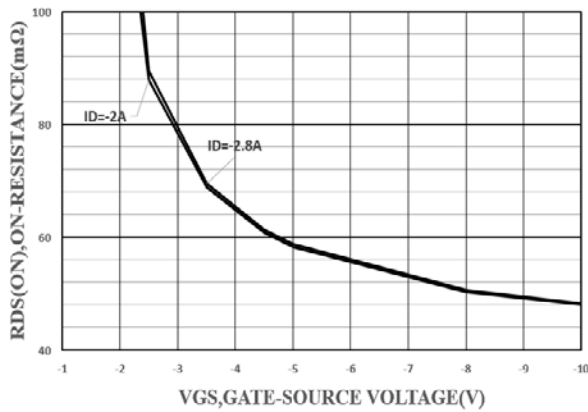


FIG 4.GATE THRESHOLD VOLTAGE

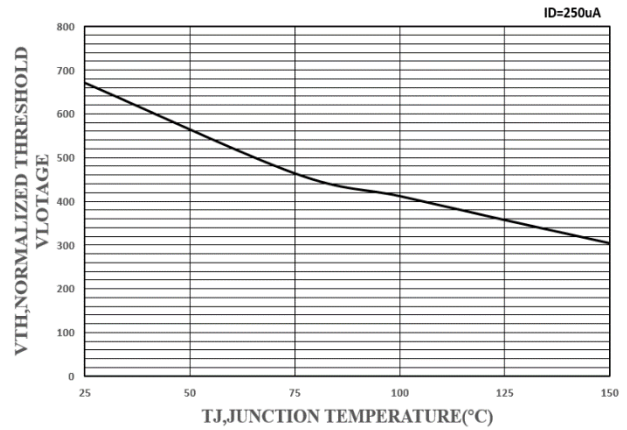


FIG 5.DRAIN-SOURCE ON RESISTANCE

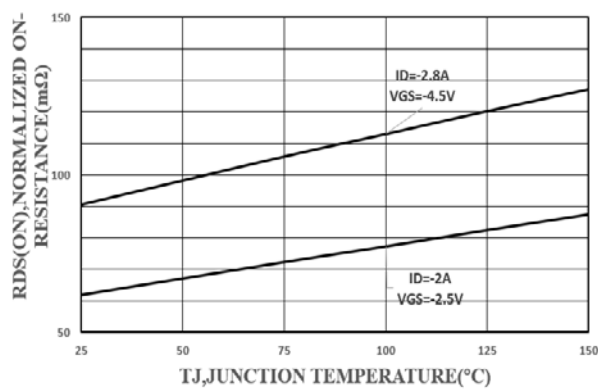
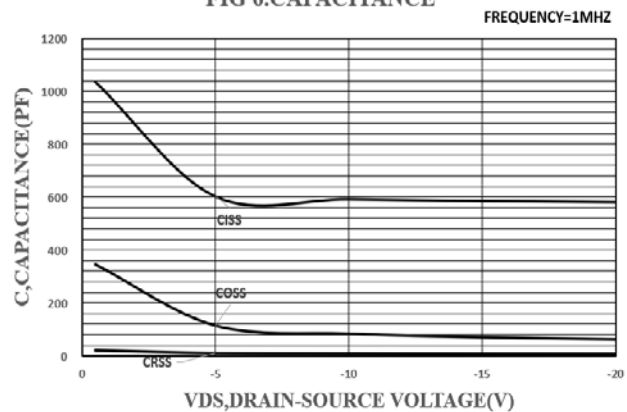
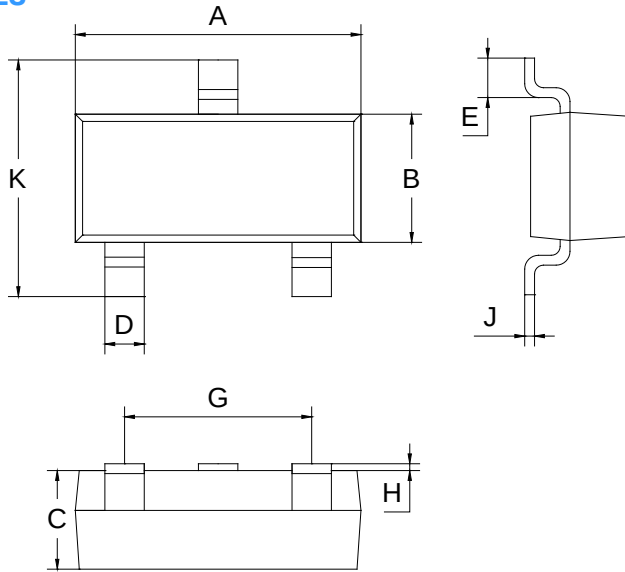


FIG 6.CAPACITANCE



Package Outline Dimensions (unit: mm)

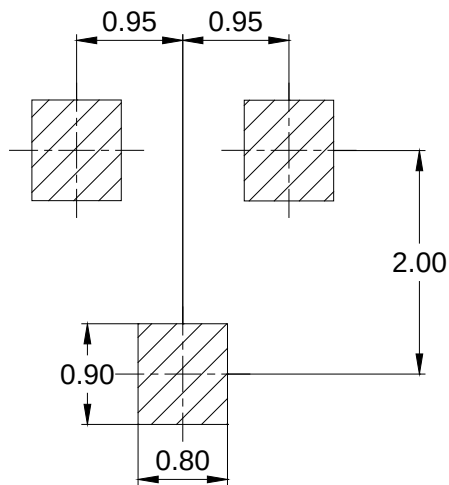
SOT-23



SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	0.90	1.10
D	0.30	0.50
E	0.35	0.48
G	1.80	2.00
H	0.02	0.10
J	0.05	0.15
K	2.20	2.60

Mounting Pad Layout (unit: mm)

SOT-23



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