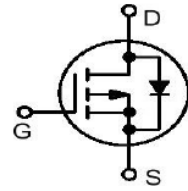


Features

- $R_{DS(ON)} \leq 150m\Omega @ V_{GS} = -4.5V$.
- $R_{DS(ON)} \leq 200m\Omega @ V_{GS} = -2.5V$.
- High-speed switching.
- Drive circuits can be simple.
- Parallel use is easy.

HF

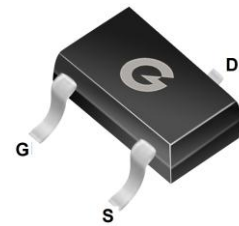


Typical Applications

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

Mechanical Data

- Case: SOT-323.
- Molding Compound, UL Flammability Classification Rating 94V-0.
- Terminals: Matte Tin Plated Leads, Solderable Per MIL-STD-202, Method 208.



SOT-323

Ordering Information

Part Number	Package	Shipping	Marking Code
BL2301W	SOT-323	3000 pcs / Tape & Reel	2301

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

Parameter	Symbol	Value	Units
Drain-Source Voltage	V_{DS}	-20	V
Gate -Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	-1.5	A
Pulsed Drain Current	I_{DM}	-6	A
Power Dissipation ^(NOTE4)	P_D	0.25	W

Thermal Characteristics

Parameter	Symbol	Limits	Unit
Thermal Resistance Junction to Ambient Air ^(NOTE4)	$R_{\theta JA}$	500	$^\circ C/W$
Thermal Resistance Junction to Lead	$R_{\theta JL}$	343	$^\circ C/W$
Thermal Resistance Junction to Case	$R_{\theta JC}$	280	$^\circ C/W$
Operating Junction Temperature Range	T_J	-55 to +150	$^\circ C$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ C$

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	μA
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 =-2A	-	-	150	mΩ
		V _{GS} =-2.5V, I _D =-1.5A	-	-	200	
V _{GS(TH)}	Gate Threshold Voltage	V _{DS} = V _{GS} , I _D =-250μA	-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 =-1.5A, V _{GS} =0V	-	-	-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
- 4、 Device mounted on FR-4 substrate PC board, 2oz. Copper, with minimum recommended pad layout

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

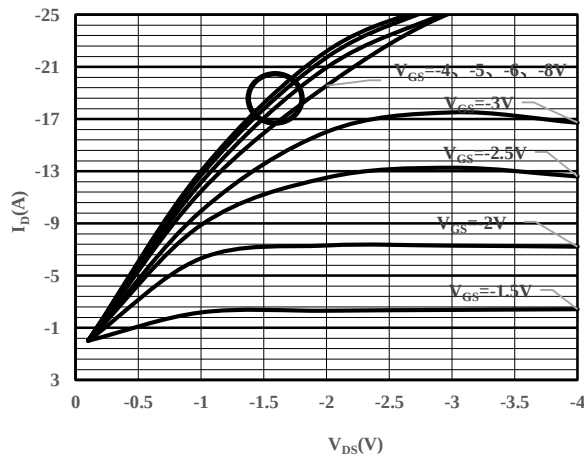


Fig.1- On-Region Characteristics

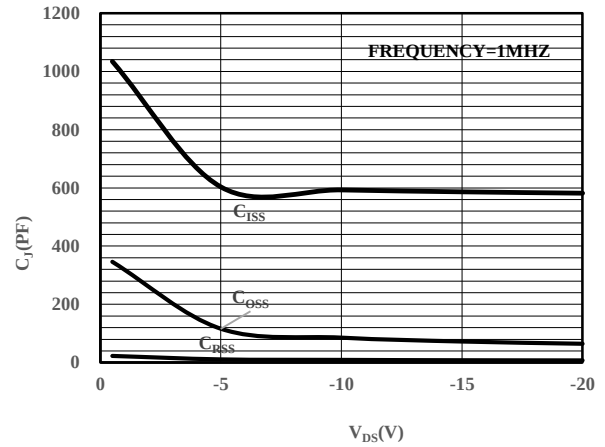


Fig.2-Capacitance Characteristics

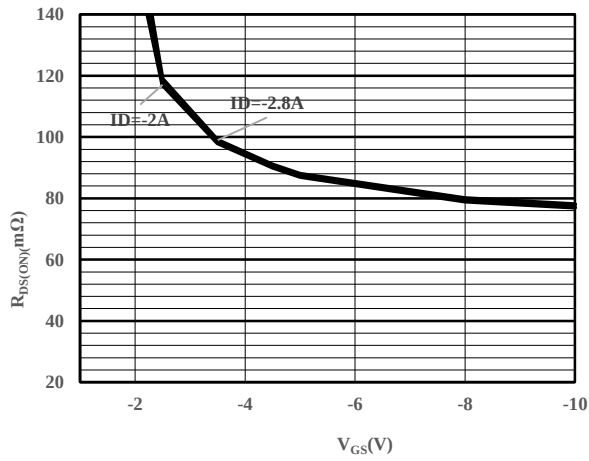


Fig.3-On-Resistance vs. Gate-Source Voltage

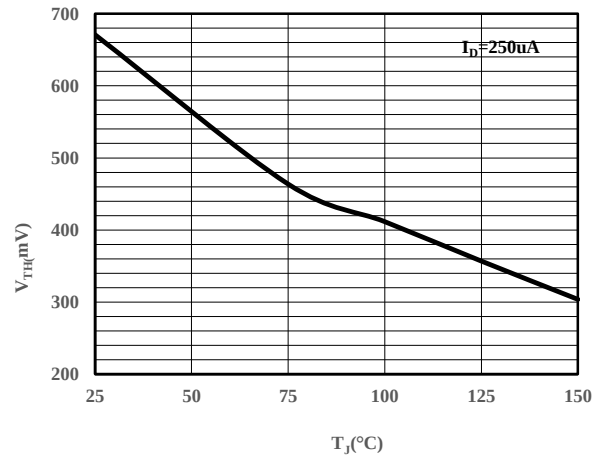
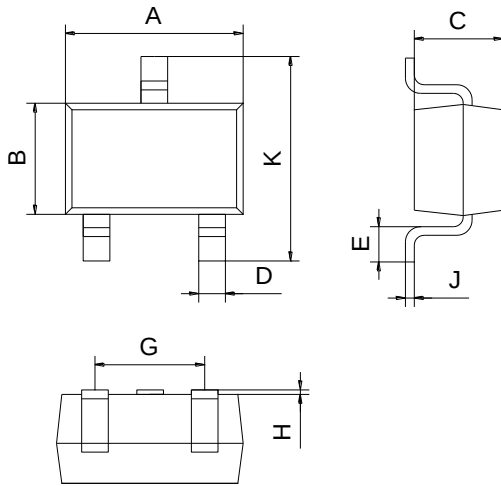


Fig.4 Gate Voltage vs. Junction Temperature

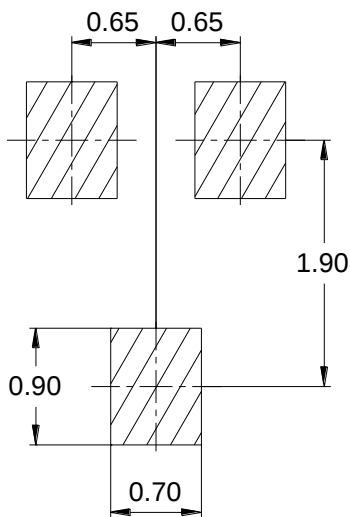
Package Outline Dimensions (Unit: mm)



SOT-323		
Dimension	Min.	Max.
A	2.00	2.20
B	1.15	1.35
C	0.90	1.10
D	0.15	0.35
E	0.25	0.40
G	1.20	1.40
H	0.02	0.10
J	0.05	0.15
K	2.20	2.40

Mounting Pad Layout (Unit: mm)

SOT-323



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Change record

Rev.	Date	Modification
V2.0	2019-11-14	The First Edition 初版