

Features

- High-speed switching
- Drive circuits can be simple
- Parallel use is easy

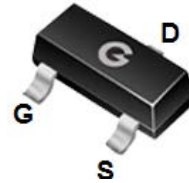
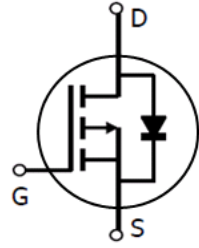
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Typical Applications

- 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; solderability-per MIL-STD-202, Method 208



SOT-23

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BL3401	SOT-23	3000 pcs / Tape & Reel	R1

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-to-Source Voltage	V _{DSS}	-30	V
Gate-to-Source Voltage	V _{GSS}	±12	V
Continuous Drain Current	I _D	-4.2	A
Pulsed Drain Current *1	I _{DM}	-16	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P _D	1.25	W
Thermal Resistance Junction-to-Air	R _{θJA}	100	°C/W
Thermal Resistance Junction-to-Lead	R _{θJL}	60	°C/W
Thermal Resistance Junction-to-Case	R _{θJC}	50	°C/W
Operating Junction Temperature Range	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

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

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
V _{DSS}	Drain-Source Breakdown Voltage	V _{GS} = 0V, I _D = -250μA	-30	-	-	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = -20V, V _{GS} = 0V	-	-	-1000	nA
I _{GSS}	Gate-Body Leakage Current	V _{GS} = ±12V, V _{DS} = 0V	-	-	±100	nA
On Characteristics *1						
R _{DS(ON)}	Static Drain-Source On-resistance	V _{GS} = -10V, I _D = -4.2A	-	39	50	mΩ
		V _{GS} = -4.5V, I _D = -4A	-	54	65	
		V _{GS} = -2.5V, I _D = -1A	-	73	90	mΩ
V _{GS(TH)}	Gate Threshold Voltage	V _{DS} = V _{GS} , I _D = -250uA	-0.7	-1.0	-1.3	V
Dynamic Characteristics						
C _{ISS}	Input Capacitance	V _{GS} = 0V V _{DS} = -15V f = 1.0MHz	-	870	-	pF
C _{OSS}	Output Capacitance		-	74	-	
C _{RSS}	Reverse Transfer Capacitance		-	10	-	
Source-Drain Diode Characteristics						
V _{SD}	Diode Forward Voltage *1	I _D = -1A, V _{GS} = 0V	-	-0.8	-1	V

Note 1: Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$

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

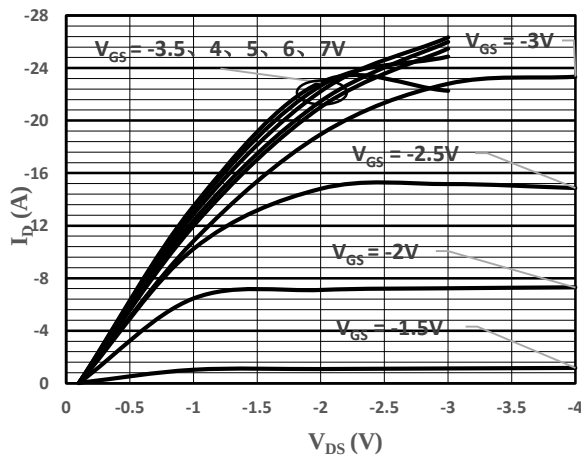


Fig 1 On-Region Characteristics

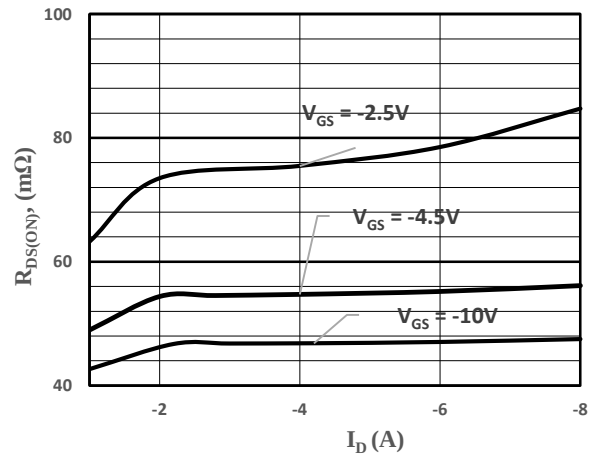


Fig 2 On-Resistance vs. Drain Current and Gate Voltage

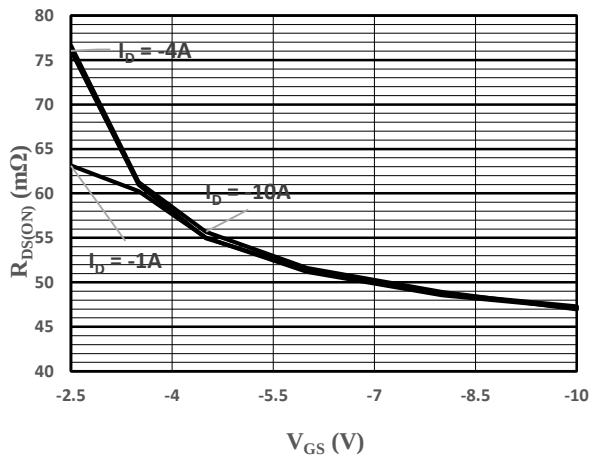


Fig 3 On-Resistance vs. Gate-Source Voltage

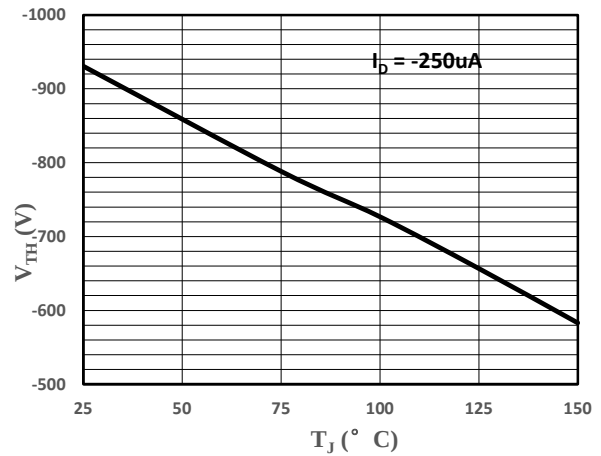


Fig 4 Gate Voltage vs. Junction Temperature

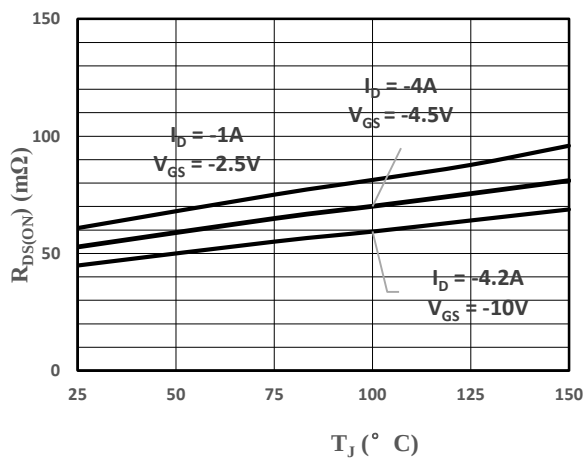


Fig 5 On-Resistance vs. Junction Temperature

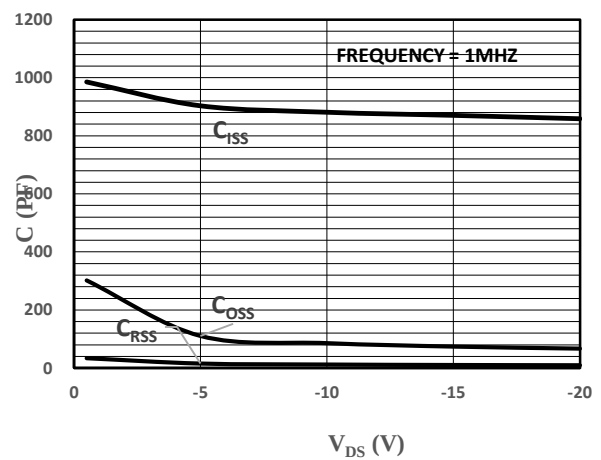
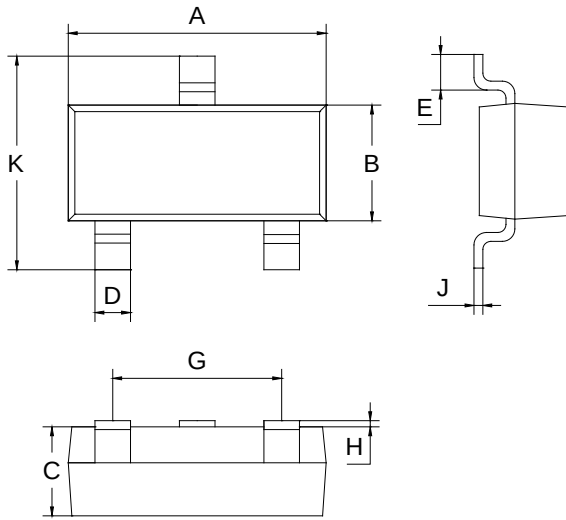


Fig 6 Capacitance Characteristics

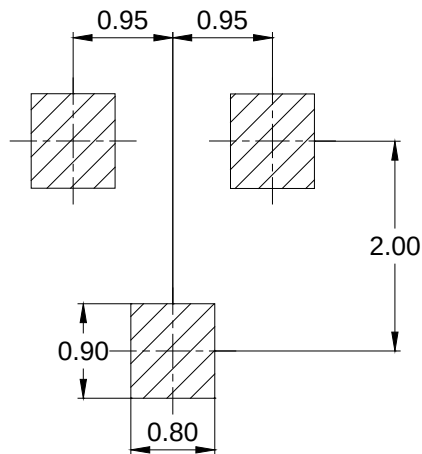
Package Outline Dimensions (Unit: mm)



SOT-23		
Dimension	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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