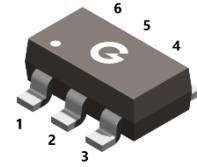
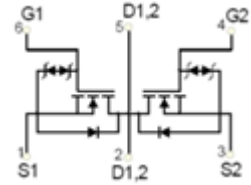


Features

- Low on-resistance
- Low threshold
- Fast switching speed
- Low gate drive
- RoHS compliant with Halogen-free

HF



SOT-23-6L

Mechanical Data

- Case: SOT-23-6L
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BL8810-6L	SOT-23-6L	3000 pcs / Tape & Reel	8810

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

Parameter	Symbol	Value	Unit
Drain-to-Source Voltage	V _{DSS}	20	V
Gate-to-Source Voltage	V _{GSS}	±10	V
Continuous Drain Current	I _D	7	A
Pulsed Drain Current	I _{DM}	25	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P _D	1	W
Thermal Resistance Junction-to-Air	R _{θJA}	125	°C/W
Operating Junction Temperature Range	T _J	+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	$V_{GS} = 0V, I_D = 250\mu A$	20	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = 20V, V_{GS} = 0V$	-	-	1	μA
I_{GSS}	Gate-Body Leakage Current	$V_{GS} = \pm 10V, V_{DS} = 0V$	-	-	± 10	μA
On Characteristics						
$R_{DS(ON)}$	Static Drain-Source On-resistance	$V_{GS} = 4.5V, I_D = 6A$	-	-	24	m Ω
		$V_{GS} = 2.5V, I_D = 5A$	-	-	30	m Ω
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.45	-	1	V
g_{FS}	Forward Transconductance	$V_{DS} = 5V, I_D = 7A$	-	29	-	S
R_G	Gate Resistance	$V_{DS} = V_{GS} = 0V, f = 1MHz$	-	3.7	-	Ω
Dynamic Characteristics						
C_{ISS}	Input Capacitance	$V_{GS} = 0V$ $V_{DS} = 10V$ $f = 1.0MHz$	-	697	-	pF
C_{OSS}	Output Capacitance		-	110	-	
C_{RSS}	Reverse Transfer Capacitance		-	101	-	
Switching Characteristics						
$t_{d(ON)}$	Turn-on Delay Time	$V_{DD} = 10V$ $V_{GS} = 5V$ $R_G = 3\Omega$ $I_D = 7A$	-	6.2	-	ns
t_r	Turn-on Rise Time		-	12.7	-	
$t_{d(OFF)}$	Turn-Off Delay Time		-	51.7	-	
t_f	Turn-Off Fall Time		-	16	-	
Q_G	Total Gate-Charge	$V_{DD} = 10V$ $V_{GS} = 4.5V$ $I_D = 7A$	-	11.2	-	nC
Q_{GS}	Gate to Source Charge		-	1.6	-	
Q_{GD}	Gate to Drain (Miller) Charge		-	3.2	-	
Source-Drain Diode Characteristics						
V_{SD}	Diode Forward Voltage	$I_{SD} = 1A, V_{GS} = 0V$	-	0.76	1	V

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

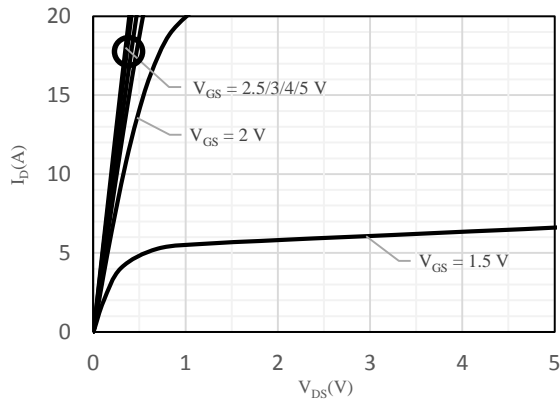


Fig 1 Typical Output Characteristics

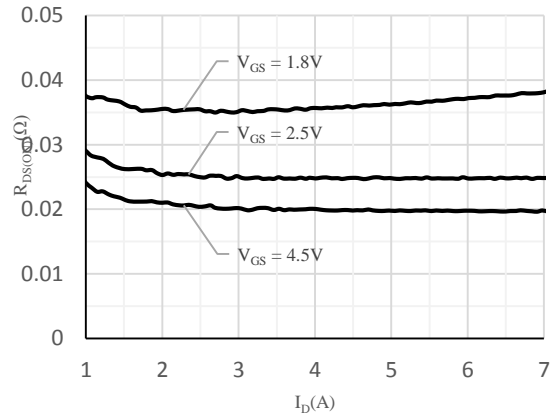


Fig 2 On-Resistance vs. Drain Current and Gate Voltage

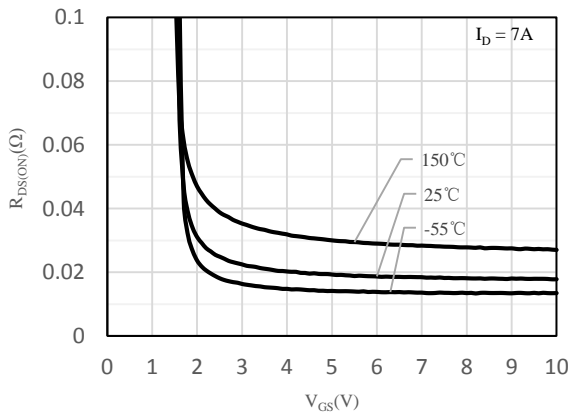


Fig 3 On-Resistance vs. Gate-Source Voltage

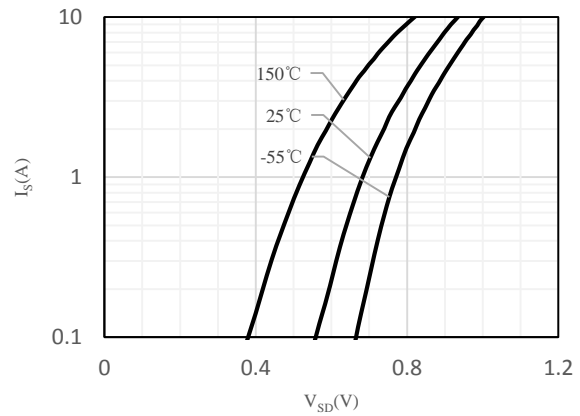


Fig 4 Body-Diode Characteristics

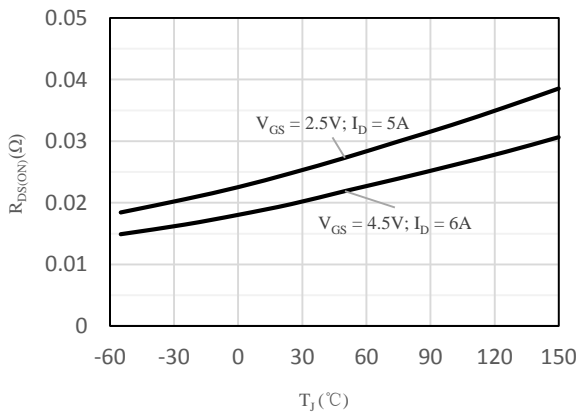


Fig 5 On-Resistance vs. Junction Temperature

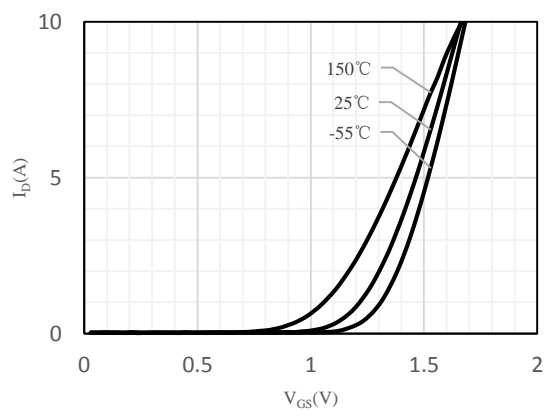


Fig 6 Transfer Characteristics

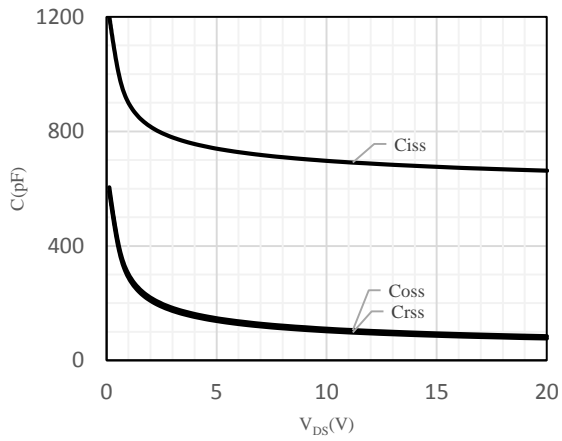


Fig 7 Capacitance Characteristics

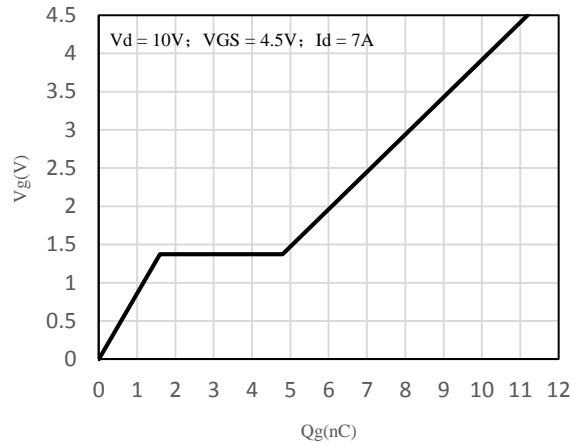


Fig 8 Gate-Charge Characteristics

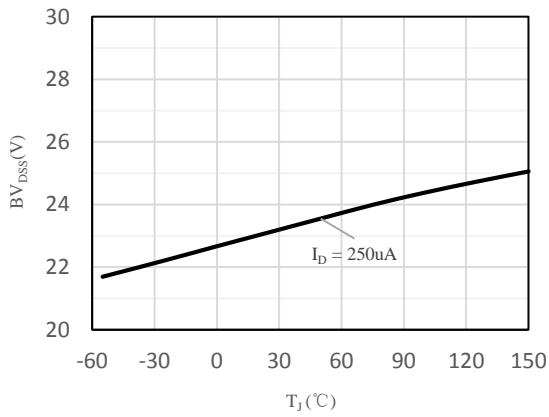


Fig 9 Breakdown Voltage vs. Junction Temperature

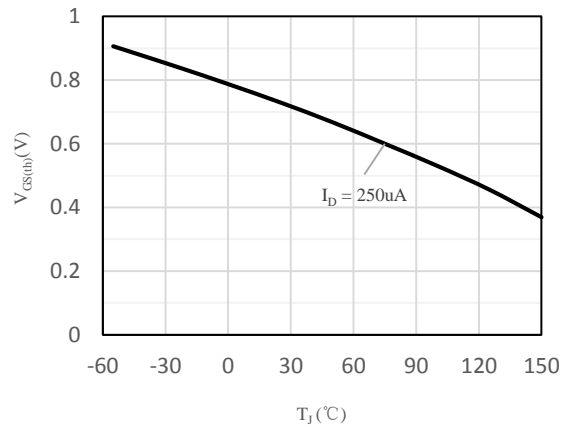
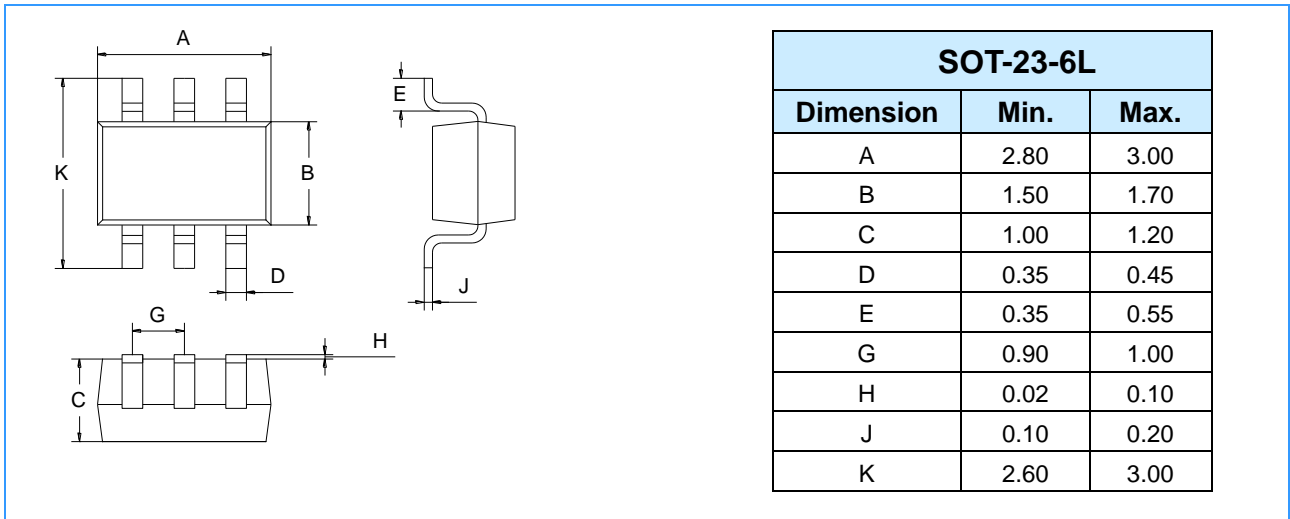


Fig 10 V_{GS(th)} vs. Junction Temperature

Package Outline Dimensions (Unit: mm)



Package Outline Dimensions (Unit: mm)

