Dual N-Channel Enhancement Mode MOSFET

BL8810DF2

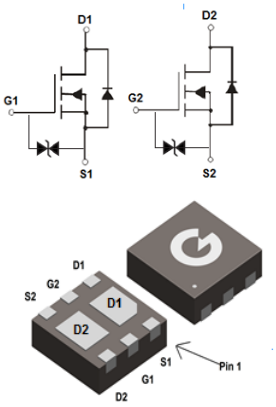
Features

HF

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

Mechanical Data

- Case: DFN2020-6LC
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



DFN2020-6LC

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BL8810DF2	DFN2020-6LC	3000 pcs / Tape & Reel	8810

Maximum Ratings (@ T_A = 25℃ 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	5	A
Pulsed Drain Current	I_{DM}	20	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	1.13	W
Thermal Resistance Junction-to-Air	$R_{\theta JA}$	110	°C/W
Operating Junction Temperature Range	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

Electrical Characteristics (@ T_A = 25℃ 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	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} = ±10V, V_{DS} = 0V	-	-	±10	μA
On Characteristics						
$R_{DS(ON)}$	Static Drain-Source On-resistance	V_{GS} = 4.5V, I_D = 4A	-	-	22	mΩ
		V_{GS} = 2.5V, I_D = 3A	-	-	36	mΩ
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} = V_{GS}, I_D = 250μA	0.45	0.7	1	V
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 = 3Ω R_L = 1.5Ω	-	0.5	-	ns
t_r	Turn-on Rise Time		-	1	-	
$t_{d(OFF)}$	Turn-Off Delay Time		-	12	-	
t_f	Turn-Off Fall Time		-	4	-	
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	-	-	1	V

Ratings and Characteristics Curves (@ T_A = 25°C unless otherwise specified)

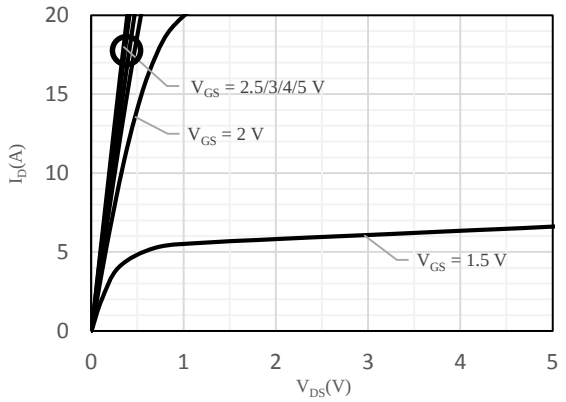


Fig 1 Typical Output Characteristics

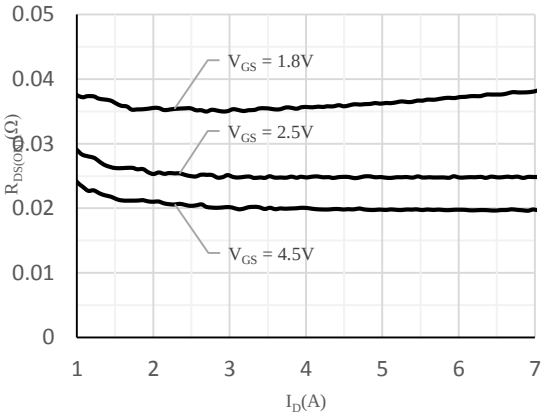


Fig 2 On-Resistance vs. Drain Current and Gate Voltage

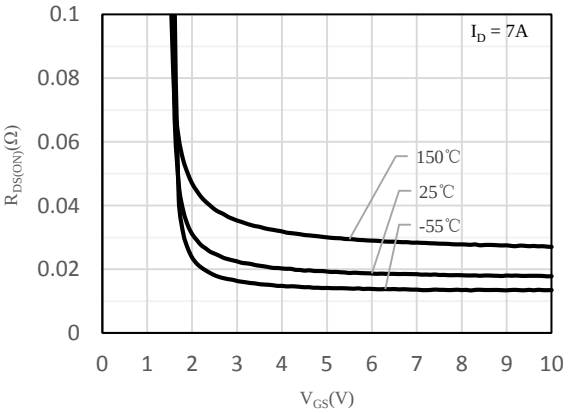


Fig 3 On-Resistance vs. Gate-Source Voltage

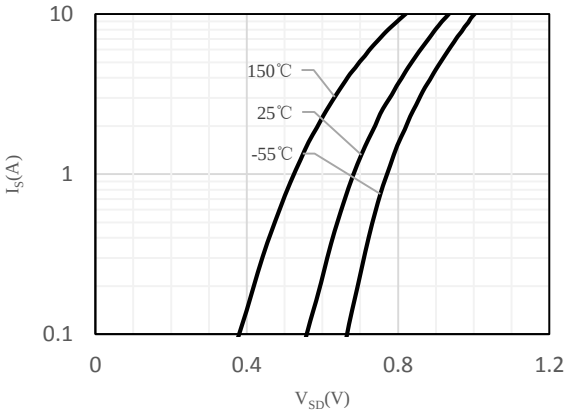


Fig 4 Body-Diode Characteristics

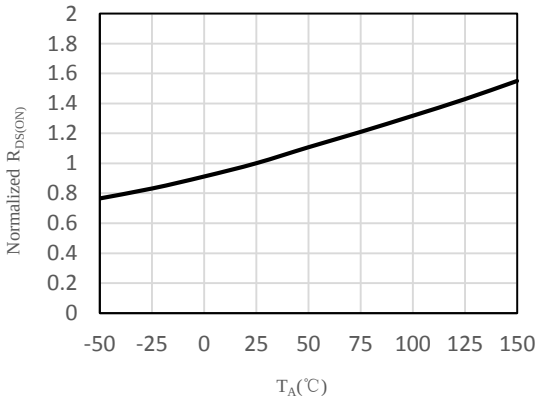


Fig 5 On-Resistance vs. Junction Temperature

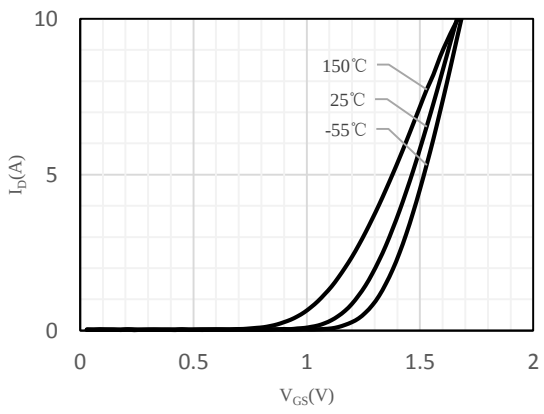


Fig 6 Transfer Characteristics

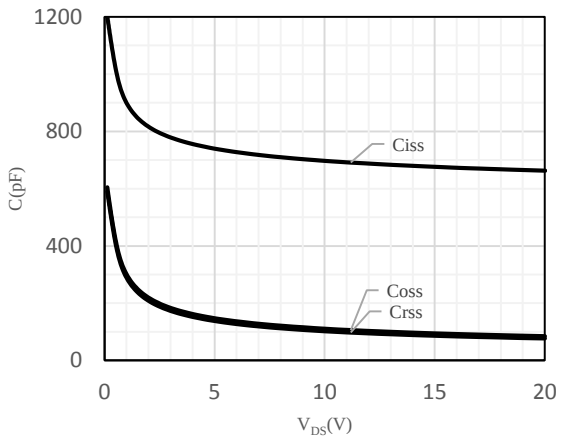


Fig 7 Capacitance Characteristics

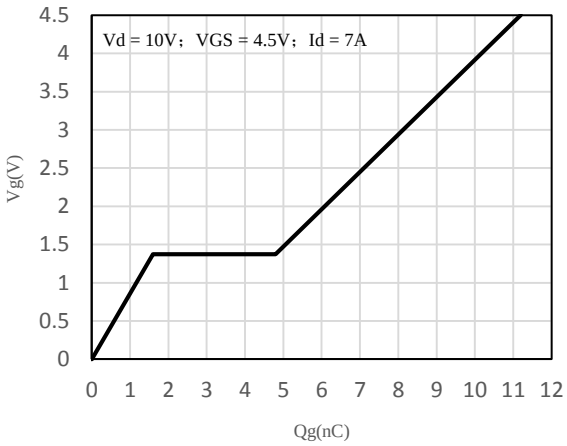


Fig 8 Gate-Charge Characteristics

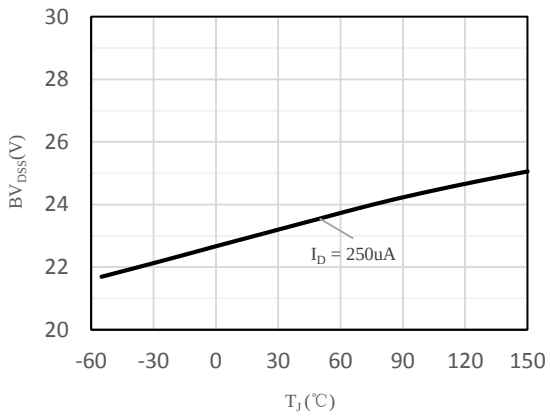


Fig 9 Breakdown Voltage vs. Junction Temperature

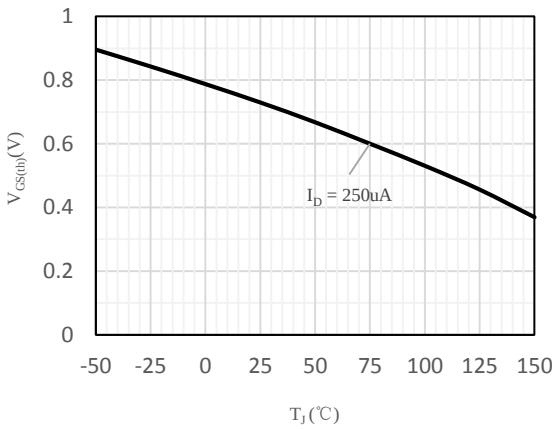
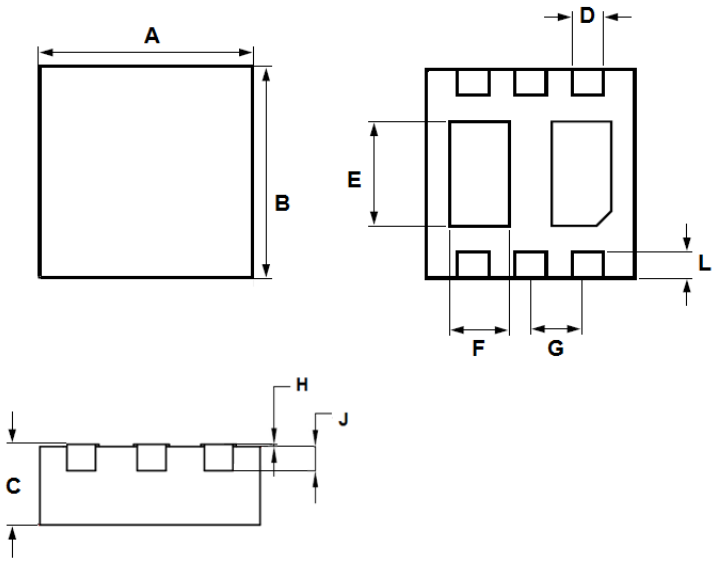


Fig 10 $V_{GS(th)}$ vs. Junction Temperature

Package Outline Dimensions (Unit: mm)



DFN2020-6LC		
Dimension	**Min.**	**Max.**
A	1.900	2.100
B	1.900	2.100
C	0.500	0.600
D	0.250	0.350
E	0.800	1.000
F	0.600	0.800
G	0.550	0.750
H	0.000	0.050
J	0.103	0.303
L	0.174	0.326

Mounting Pad Layout (Unit: mm)

DFN2020-6LC