

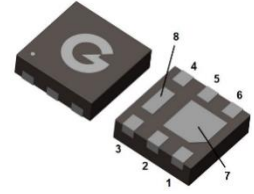
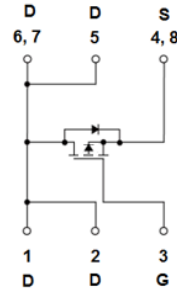
Features

- Super low gate charge
- Ultra low on-resistance

HF

Mechanical Data

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



DFN2020-6L

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BL1216DF1	DFN2020-6L	3000 pcs / Tape & Reel	1216

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

Parameter	Symbol	Value	Unit
Drain-to-Source Voltage	V_{DS}	-15	V
Gate-to-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current ($T_A = 25^\circ\text{C}$)	I_D	-8	A
Continuous Drain Current ($T_C = 25^\circ\text{C}$)		-16	A
Pulsed Drain Current *2	I_{DM}	-32	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation ($T_A = 25^\circ\text{C}$) *1	P_D	2.5	W
Thermal Resistance Junction-to-Air *1	$R_{\theta JA}$	50	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Case	$R_{\theta JC}$	13	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_J	-55 ~ +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$

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	-15	-	-	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = -15V, V _{GS} = 0V	-	-	-1	μA
I _{GSS}	Gate-Body Leakage Current	V _{GS} = ±8V, V _{DS} = 0V	-	-	±100	nA
On Characteristics						
R _{DS(ON)}	Drain-Source On-resistance *3	V _{GS} = -4.5V, I _D = -6.7A	-	15.5	22	mΩ
		V _{GS} = -2.5V, I _D = -6.2A	-	20	28	mΩ
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} , I _D = -250μA	-0.4	0.7	-1	V
g _{FS}	Forward Tranconductance	V _{DS} = -10V, I _D = -6.7A	-	40	-	S
Dynamic Characteristics						
C _{ISS}	Input Capacitance	V _{GS} = 0V	-	2700	-	pF
C _{OSS}	Output Capacitance	V _{DS} = -10V	-	680	-	
C _{RSS}	Reverse Transfer Capacitance	f = 1.0MHz	-	590	-	
Switching Characteristics						
Q _G	Total Gate-Charge	V _{GS} = -4.5V	-	35	-	nC
Q _{GS}	Gate to Source Charge	V _{DD} = -6V	-	5	-	
Q _{GD}	Gate to Drain (Miller) Charge	I _D = -10A	-	10	-	
Source-Drain Diode Characteristics						
V _{SD}	Diode Forward Voltage *3	I _{SD} = -8A, V _{GS} = 0V	-	-	-1.2	V

Notes:

1. The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper
2. Repetitive rating : Pulse width limited by maximum junction temperature
3. The data tested by pulsed, pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$

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

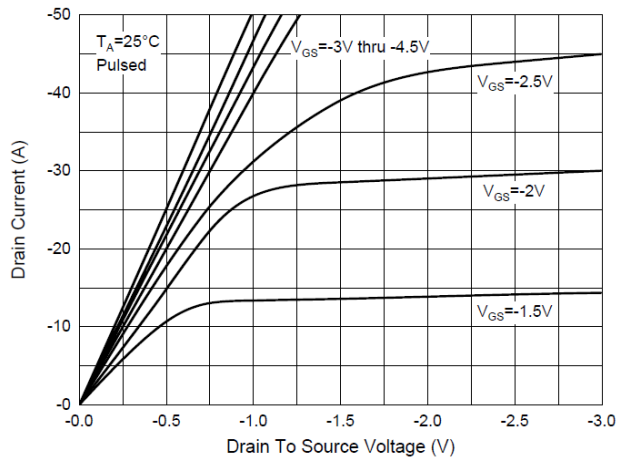


Fig 1 Output Characteristics

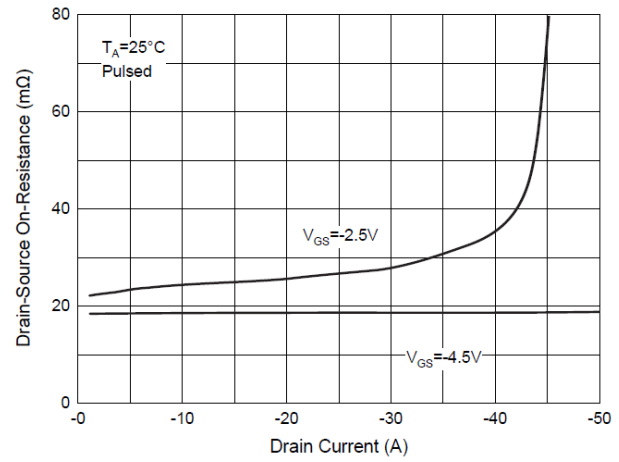


Fig 2 On-Resistance vs. Drain Current and Gate Voltage

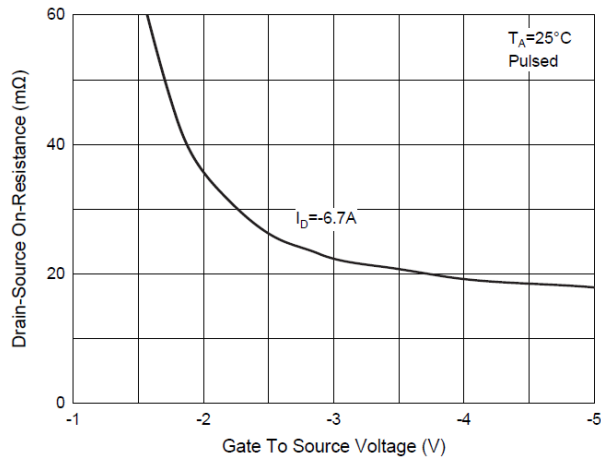


Fig 3 On-Resistance vs. Gate-Source Voltage

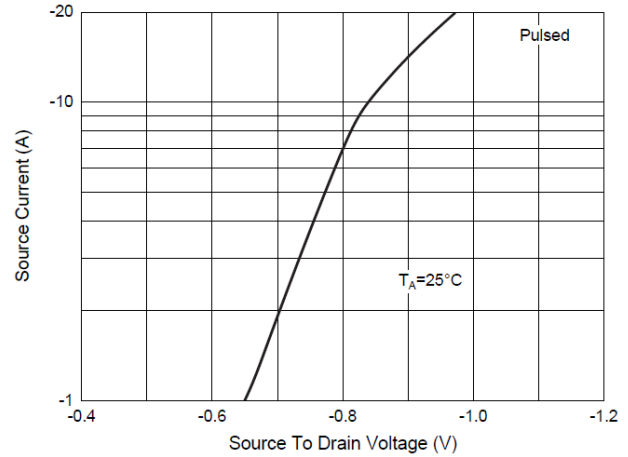


Fig 4 Body-Diode Characteristics

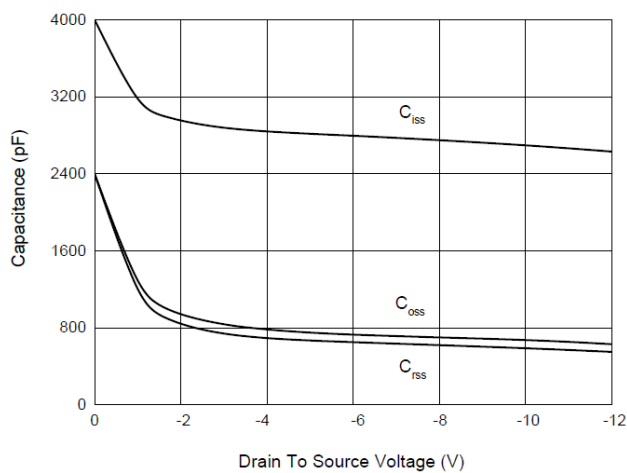


Fig 5 Capacitance Characteristics

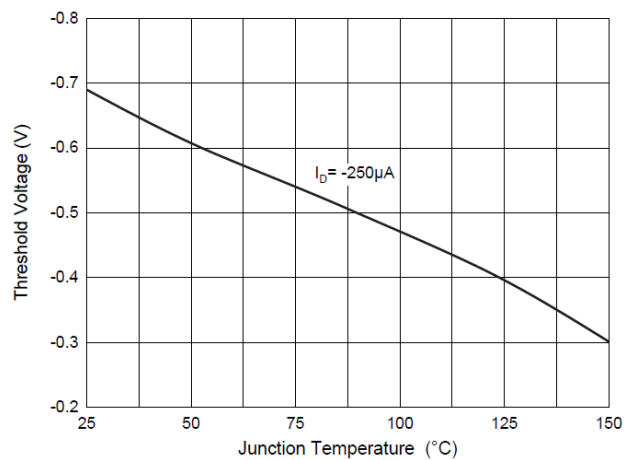
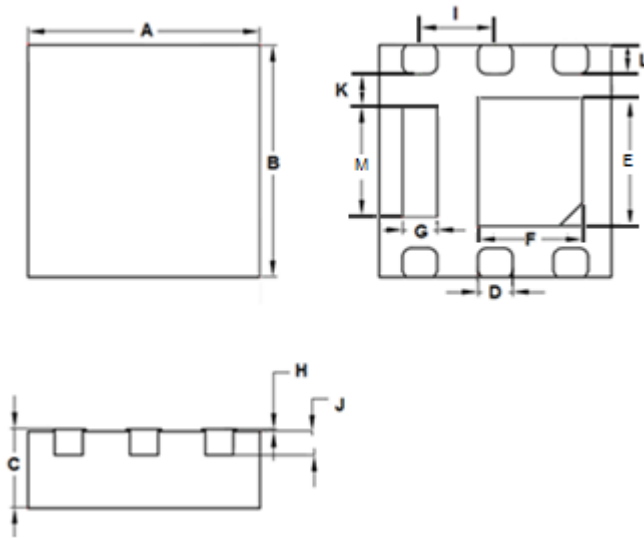


Fig 6 $V_{GS(th)}$ vs. Junction Temperature

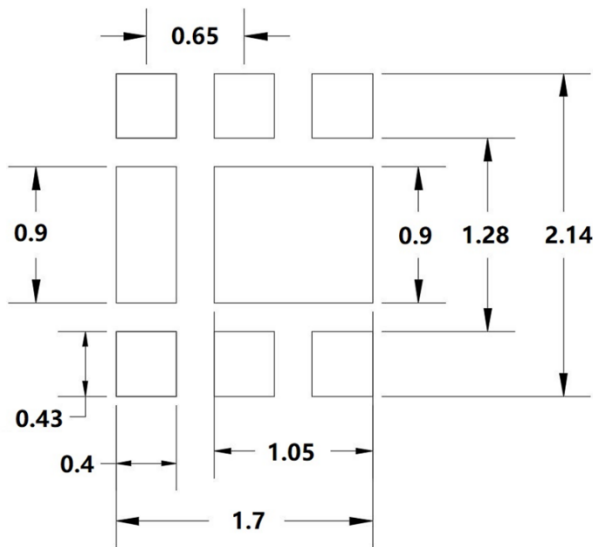
Package Outline Dimensions (Unit: mm)



DFN2020-6L		
Dimension	Min.	Max.
A	1.924	2.076
B	1.924	2.076
C	0.500	0.600
D	0.250	0.350
E	0.900	1.100
F	0.850	1.050
G	0.200	0.400
H	0.000	0.050
I	0.550	0.750
J	0.103	0.303
K	0.150	0.350
L	0.200	0.400
M	0.700	0.900

Mounting Pad Layout (Unit: mm)

DFN2020-6L



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