/ Descriptions

DFN2×2B-6L N MOS

N-Channel Enhancement Mode Field Effect Transistor in a DFN2×2B-6LPlastic Package.

/ Features

V_{DS} (V) =20V I_D =8A (V_{GS} =±12V)

$R_{DS(ON)}$@10V<14mΩ(Typ. 12mΩ)

$R_{DS(ON)}$@4.5V<20mΩ(Typ. 15mΩ)

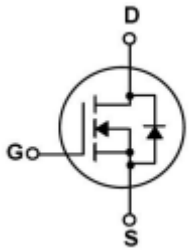
HF Product.

/ Applications

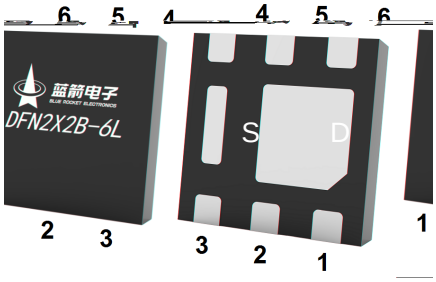
DC/DC

Suited for low voltage applications such as automotive, DC/DC Converters, and high efficiency switching for power management in portable and battery operated products.

/ Equivalent Circuit



/ Pinning



出脚	定义
Pin1	D
Pin2	D
Pin3	G
Pin4	S
Pin5	D
Pin6	D

/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings(Ta=25)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	20	V
Drain Current		I_D	8	A
Gate-Source Voltage		V_{GS}	±12	V
Avalanche Current		I_{AS}	12	A
Single Pulsed Avalanche Energy		E_{AS}	115	mJ
Power Dissipation		P	2.8	W
Junction Temperature Range		T_j	150	
Storage Temperature Range		T_{stg}	-55～150	
Maximum Junction-to-Ambient	t≤10s	$R_{\theta JA}$	45	/W
	Steady-State	$R_{\theta JA}$	80	

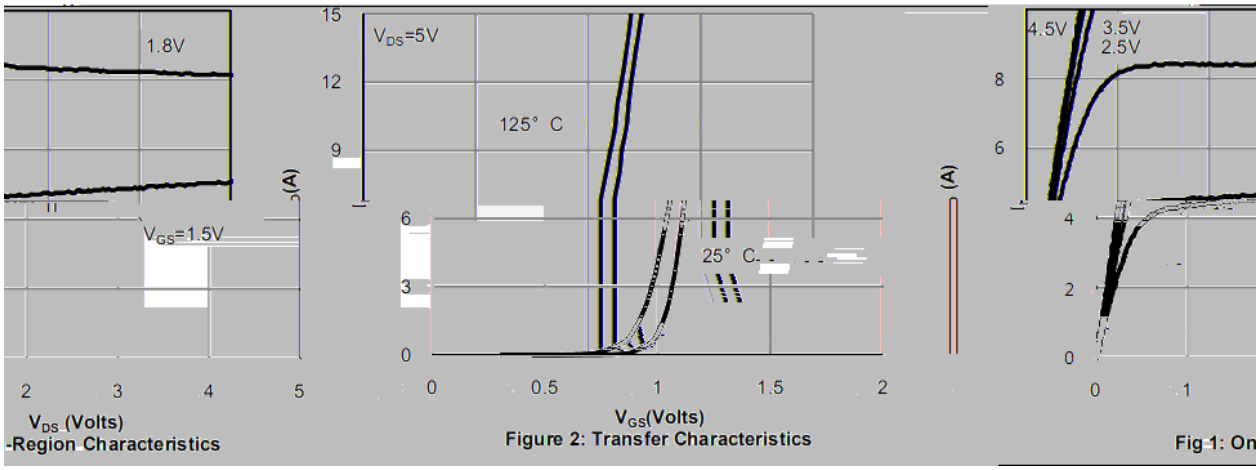
/ Electrical Characteristics(Ta=25)

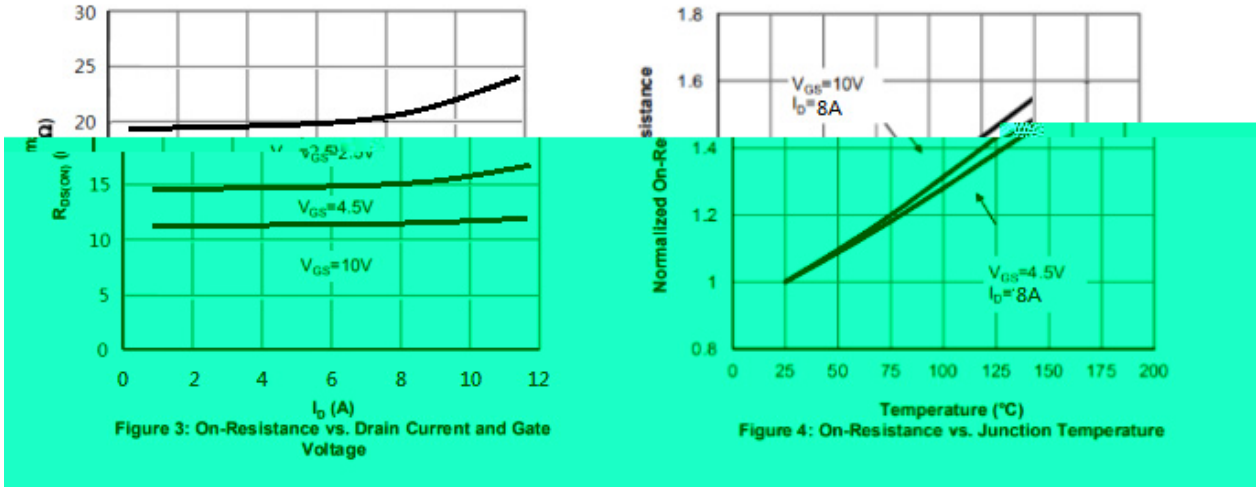
Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V	I_D=250μA	20	22		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=20V	V_{GS}=0V			1.0	μA
Gate-Body Leakage Current Forward	I_{GSS}	V_{GS}=±12V	V_{DS}=0V			±0.1	μA
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V	I_D=8.0A		12	14	mΩ
		V_{GS}=4.5V	I_D=8.0A		15	20	mΩ
		V_{GS}=2.5V	I_D=8.0A		20	35	mΩ
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}	I_D=250μA	0.4	0.6	1.2	V
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V	I_F=1.0A		0.7	1.35	V
Signal Source Resistance	Rg	F=1MHz			3.3		Ω
Input Capacitance	C_{iss}	V_{DS}=10V f=1.0MHz	V_{GS}=0V		865		pF
Output Capacitance	C_{oss}				105		
Reverse Transfer Capacitance	C_{rss}				55		
Turn-On Delay Time	$t_{d(on)}$	V_{DS}=10V R_L=1.25Ω	V_{GS}=4.5V R_{GEN}=3Ω		2.7		ns
Turn-On Rise Time	t_r				3		
Turn-Off Delay Time	$t_{d(off)}$				37		
Turn-Off Fall Time	t_f				7		

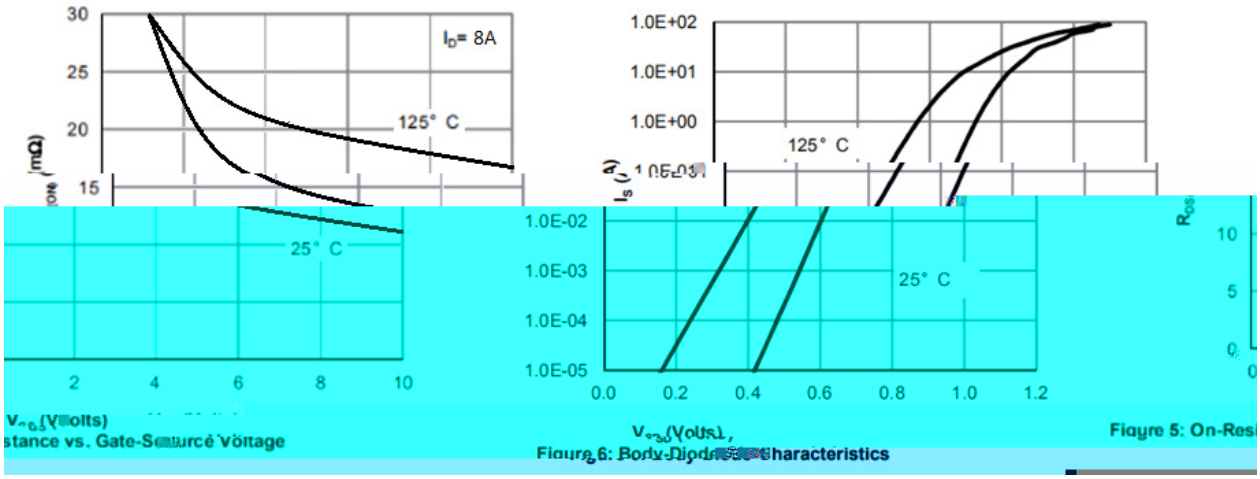
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	Q_g	V_{DS}=10V V_{GS}=4.5V I_D=8A		12.5		nC
Gate-Source Charge	Q_{gs}			1.2		
Gate-Drain Charge	Q_{gd}			2.7		

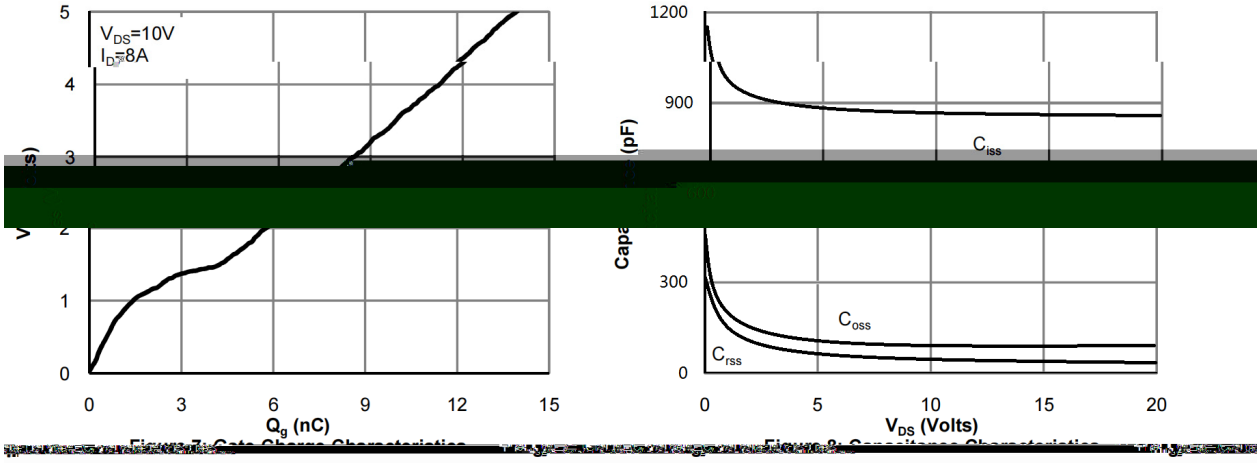
/ Electrical Characteristic Curve

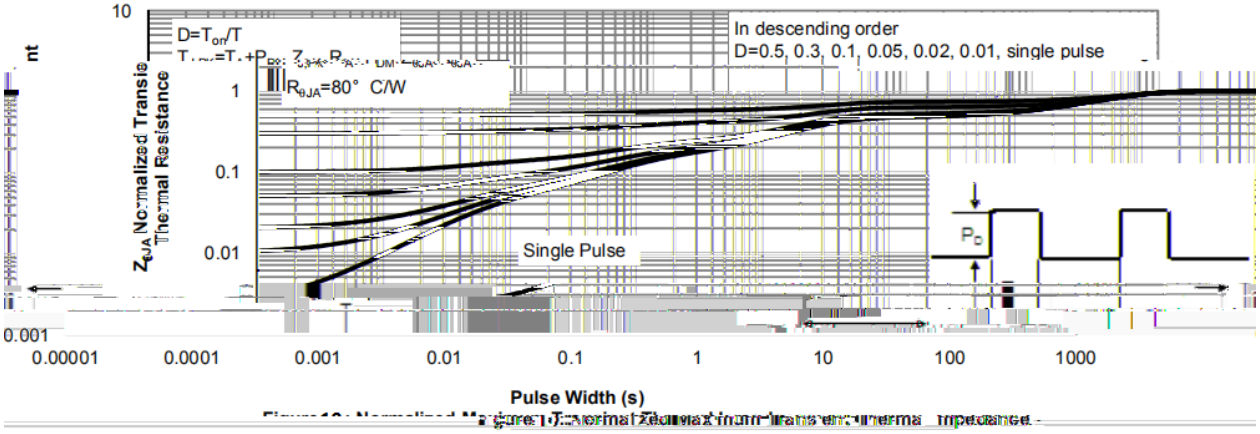






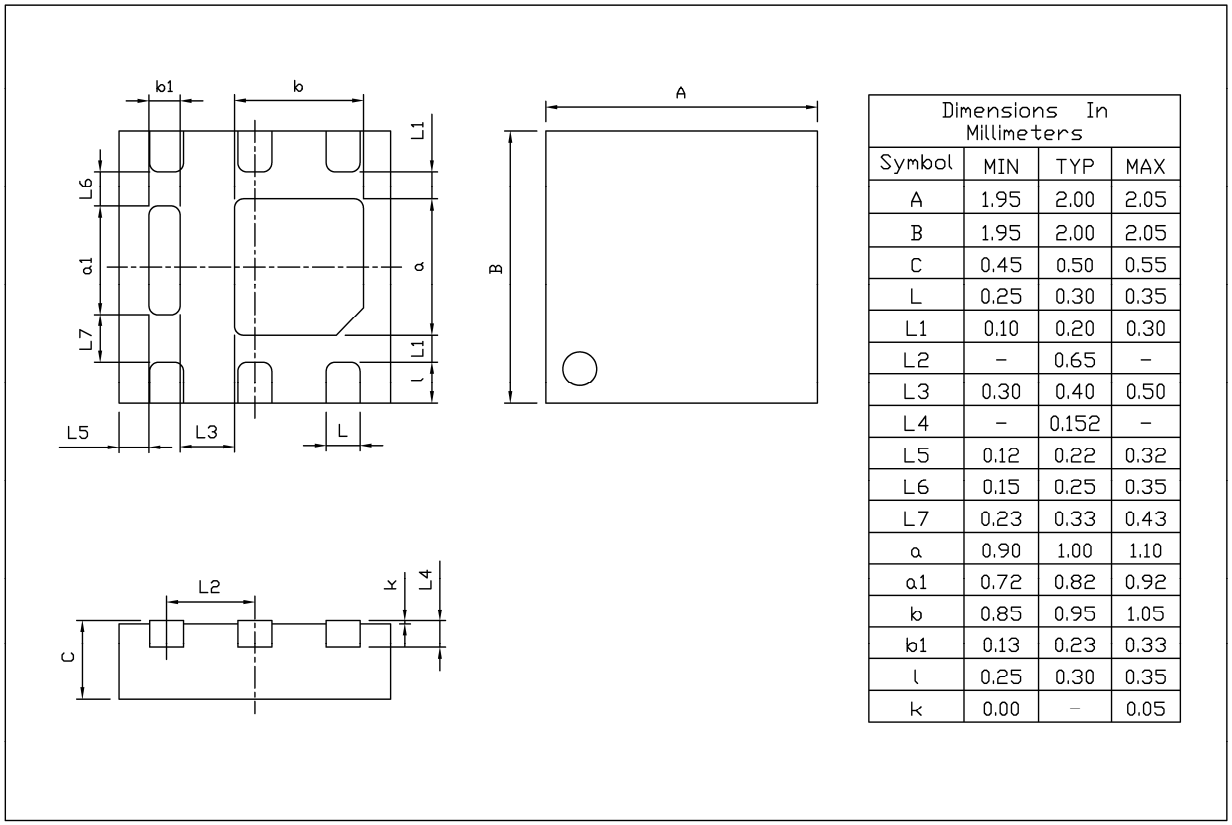
/ Electrical Characteristic Curve





/ Package Dimensions

DFN2×2B-6L-0.5 Unit:mm



Dimensions In Millimeters			
Symbol	MIN	TYP	MAX
A	1.95	2.00	2.05
B	1.95	2.00	2.05
C	0.45	0.50	0.55
L	0.25	0.30	0.35
L1	0.10	0.20	0.30
L2	–	0.65	–
L3	0.30	0.40	0.50
L4	–	0.152	–
L5	0.12	0.22	0.32
L6	0.15	0.25	0.35
L7	0.23	0.33	0.43
a	0.90	1.00	1.10
a1	0.72	0.82	0.92
b	0.85	0.95	1.05
b1	0.13	0.23	0.33
l	0.25	0.30	0.35
k	0.00	–	0.05

Rev.01 202006

/ Marking Instructions

BR

120N02L

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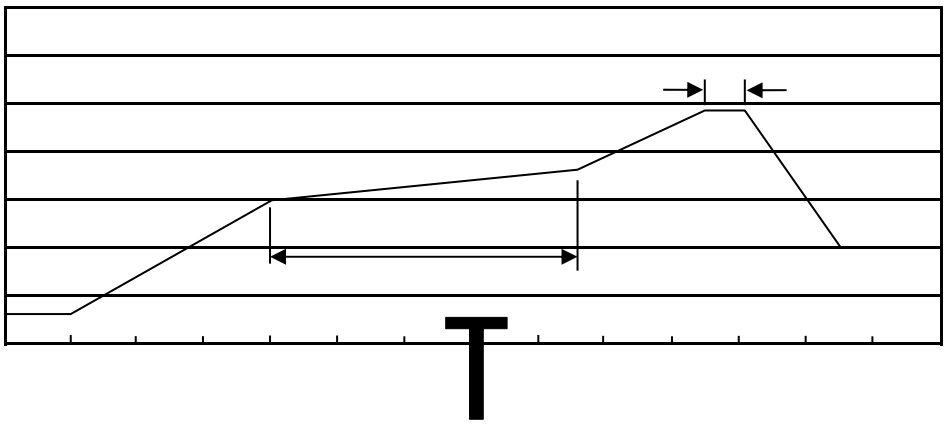
Note:

BR:	Company Code
120N02L:	Product Type Code
****:	Lot No. Code, code change with Lot No.

( ) / Temperature Profile for IR Reflow Soldering(Pb-Free)



					Note:
1	150	180		60 90sec;	1.Preheating:150~180 , Time:60~90sec.
2	245±5			5±0.5sec;	2.Peak Temp.:245±5 , Duration:5±0.5sec.
3			2	10 /sec.	3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

260±5	10±1 sec.	Temp.:260±5	Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension		(unit mm³)
DFN2×2B-6L	4,000	10	40,000	4	160,000	7 ×8	210×205×205	445×435×230

/ Notices

All information provided in this document is subject to legal disclaimers.