

描述 / Descriptions

DFN2×2B-6L 塑封封装 N 沟道 MOS 场效应管。

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

特征 / Features

$V_{DS} (V) = 30V$ $I_D = 14.7A$ ($V_{GS} = \pm 20V$)

$R_{DS(ON)}@10V < 7m\Omega$ (Typ. $6.3m\Omega$)

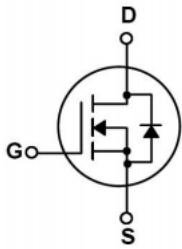
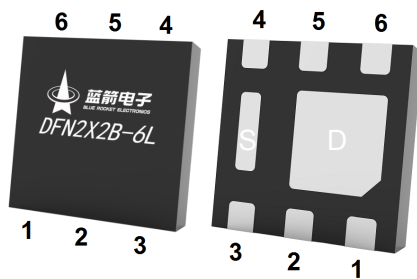
$R_{DS(ON)}@4.5V < 12m\Omega$ (Typ. $9.5m\Omega$)

无卤产品。HF Product.

用途 / Applications

用于低压电路如：汽车电路、DC/DC 转换、便携式产品的电源高效转换。

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

内部等效电路 / Equivalent Circuit**引脚排列 / Pinning**

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

印章代码 / Marking

见印章说明。

See Marking Instructions.

极限参数 / Absolute Maximum Ratings(Ta=25℃)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage	V_{DS}	30	V
Drain Current	I_D	14.7	A
Gate-Source Voltage	V_{GS}	± 20	V
Power Dissipation	$P_D(T_c=25^\circ\text{C})$	2.5	W
Junction Temperature Range	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55~150	$^\circ\text{C}$
Maximum Junction-to-Ambient	$t \leq 10\text{s}$	$R_{\theta JA}$	$^\circ\text{C/W}$
	Steady-State		

电性能参数 / Electrical Characteristics(Ta=25℃)

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Drain-Source Breakdown Voltage	BV_{DS}	$V_{GS}=0\text{V}$ $I_D=250\mu\text{A}$	30	35		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30\text{V}$ $V_{GS}=0\text{V}$			1	μA
Gate-Body leakage current	I_{GSS}	$V_{GS}=\pm 20\text{V}$ $V_{DS}=0\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu\text{A}$	1.0	1.7	2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}$ $I_D=20\text{A}$		6.3	7	m Ω
		$V_{GS}=4.5\text{V}$ $I_D=10\text{A}$		9.5	12	m Ω
Diode Forward Voltage	V_{SD}	$V_{GS}=0\text{V}$ $I_S=1.0\text{A}$			1.2	V
Input Capacitance	C_{iss}	$V_{DS}=25\text{V}$ $V_{GS}=0\text{V}$ $f=1.0\text{MHz}$		1170		pF
Output Capacitance	C_{oss}			110		pF
Reverse Transfer Capacitance	C_{rss}			100		pF
Gate resistance	R_g	$V_{DS}=0\text{V}$ $V_{GS}=0\text{V}$ $f=1.0\text{MHz}$		3.7		Ω
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10\text{V}$ $V_{DS}=15\text{V}$ $I_D=20\text{A}$		40		nC
Total Gate Charge	$Q_{g(4.5V)}$			22		nC
Gate-Source Charge	Q_{gs}			11		nC
Gate-Drain Charge	Q_{gd}			5		nC

电性能参数 / Electrical Characteristics(Ta=25℃)

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Turn-On Delay Time	t _{d(on)}	V _{DS} =15 V V _{GS} =10V R _L =0.75Ω R _{GEN} =3Ω		11		ns
Turn-On Rise Time	t _r			14		ns
Turn-Off Delay Time	t _{d(off)}			38		ns
Turn-Off Fall Time	t _f			10		ns

电参数曲线图 / Electrical Characteristic Curve

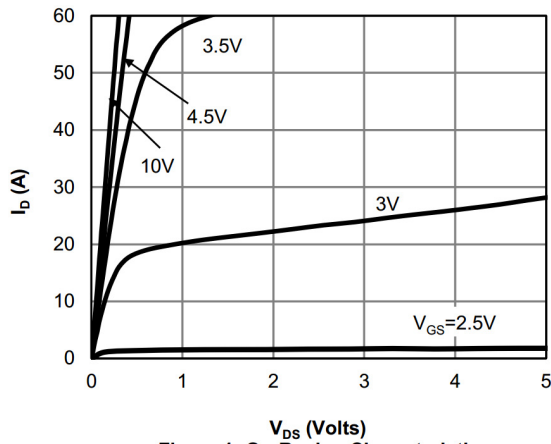


Figure 1: On-Region Characteristics

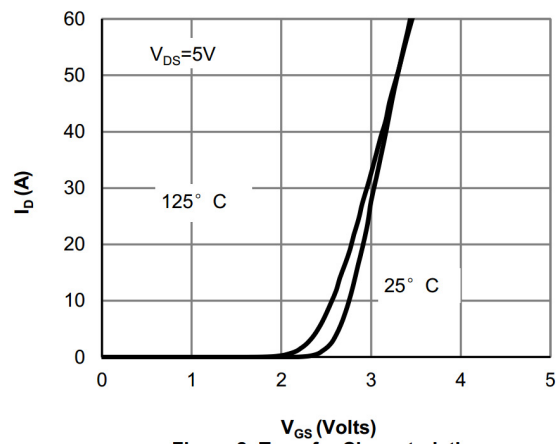


Figure 2: Transfer Characteristics

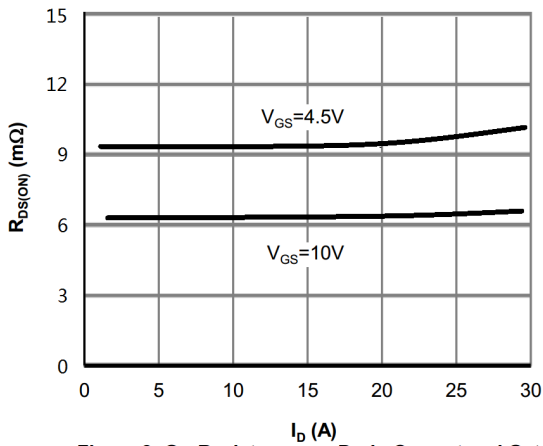


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

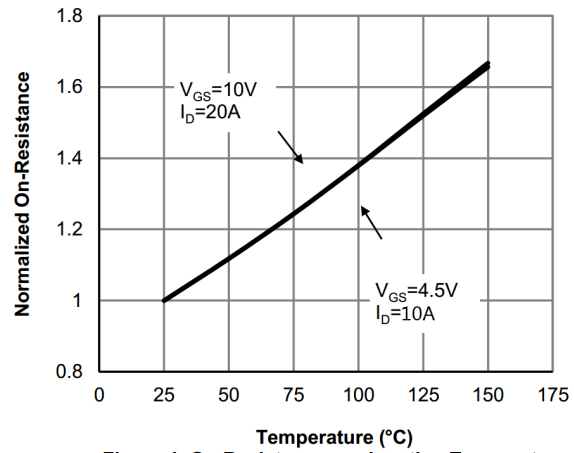


Figure 4: On-Resistance vs. Junction Temperature

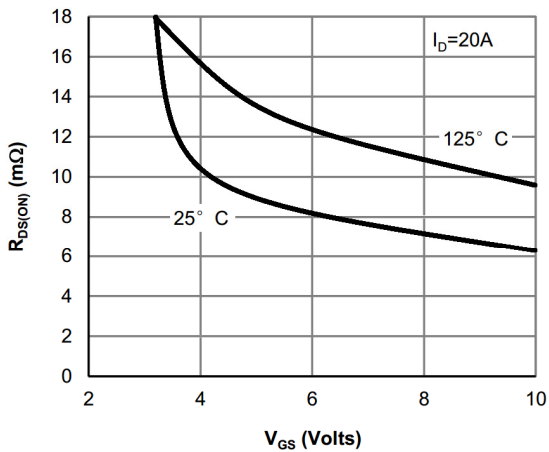


Figure 5: On-Resistance vs. Gate-Source Voltage

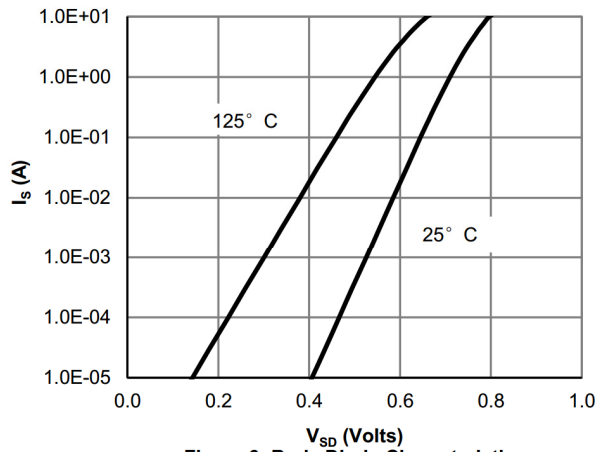
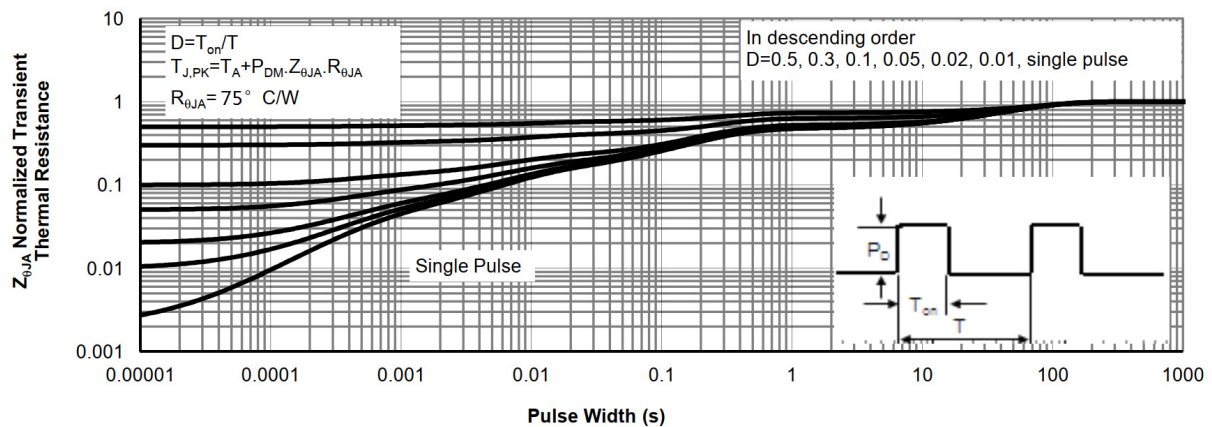
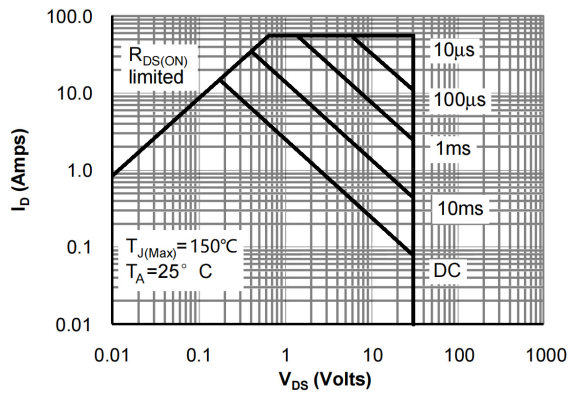
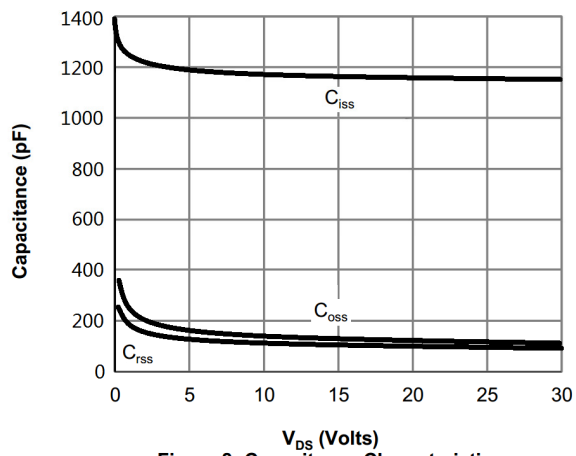
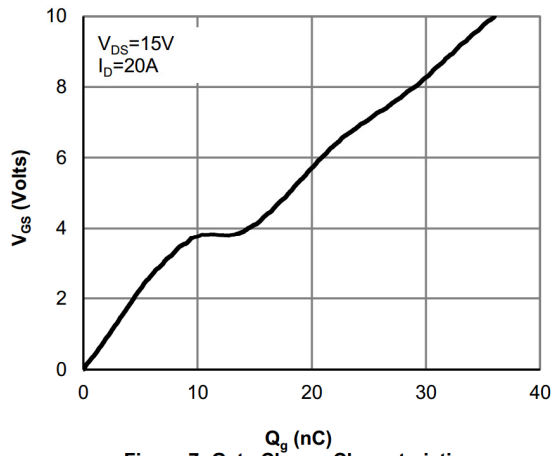


Figure 6: Body-Diode Characteristics

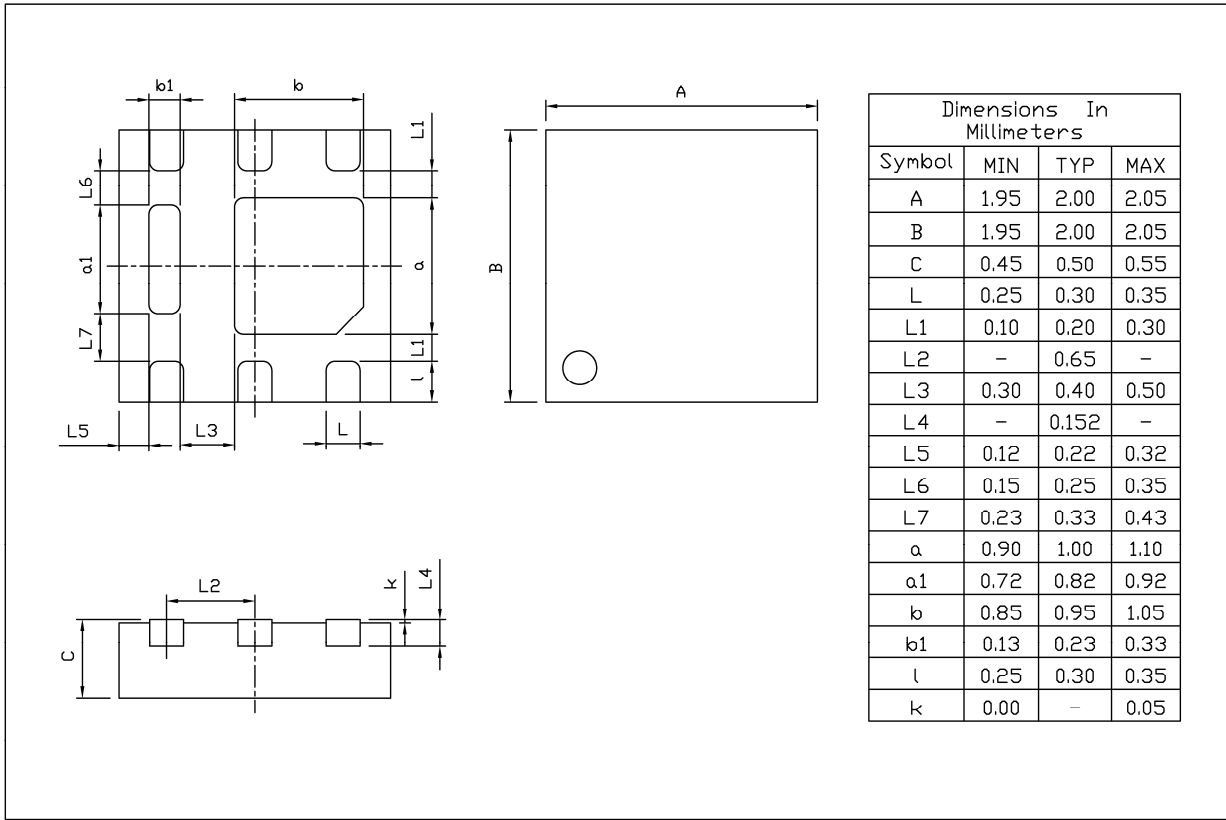
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

DFN2 ×2B-6L-0.5

Unit:mm



Rev.01 202006

印章说明 / Marking Instructions



说明：

BR： 为公司代码

070N03： 为型号代码

****： 为生产批号代码，随生产批号变化

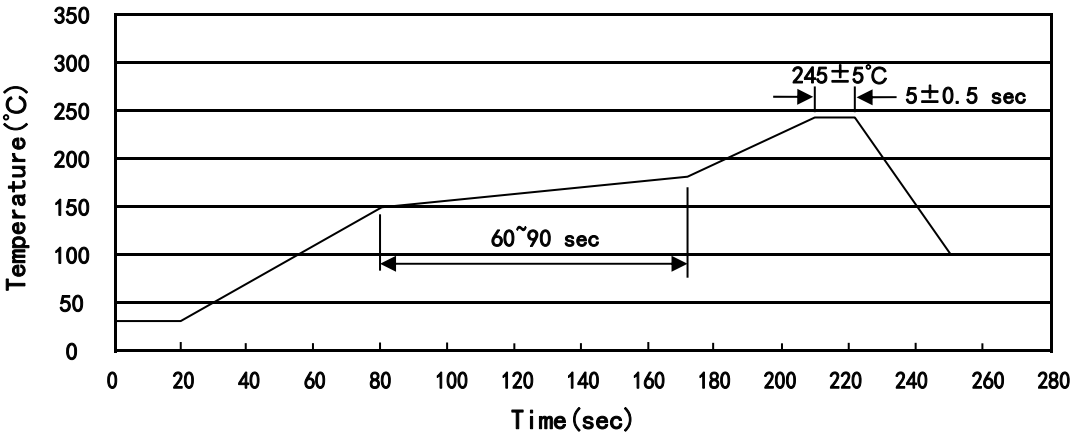
Note:

BR: Company Code

070N03: Product Type Code

****: Lot No. Code, code change with Lot No.

回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)



- 说明：

 - 1、预热温度 150 ~ 180℃，时间 60 ~ 90sec;
 - 2、峰值温度 245±5℃，时间持续为 5±0.5sec;
 - 3、焊接制程冷却速度为 2 ~ 10℃/sec.
- Note:

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

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：260±5℃ 时间：10±1 sec.

Temp.:260±5℃ Time:10±1 sec

包装规格 / Packaging SPEC.

卷盘包装 / REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
DFN2×2B-6L	4,000	10	40,000	4	160,000	7" ×8	210×205×205	445×435×230

使用说明 / Notices