

**描述 / Descriptions**

DFN 2\*2B-6L 塑封封装 P 沟道 MOS 场效应管。

P-Channel Enhancement Mode Field Effect Transistor in a DFN 2\*2B-6L Plastic Package.

**特征 / Features**

$V_{DS} (V) = -20V$      $I_D = -8A$

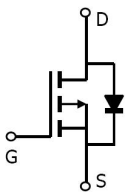
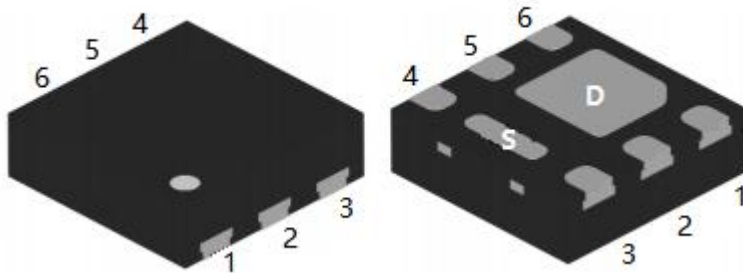
$R_{DS(ON)}@-4.5V \leq 30m\Omega$

无卤产品。HF Product.

**用途 / Applications**

用于电源管理，便携式设备和电池供电系统。

Power Management in Notebook computer, Portable Equipment and Battery powered systems.

**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°C)**

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage	$V_{DSS}$	-20	V
Gate-Source Voltage	$V_{GSS}$	$\pm 12$	V
Continuous Drain Current	$I_D (T_a=25^\circ\text{C})$	-7	A
Continuous Drain Current	$I_D (T_a=70^\circ\text{C})$	-5	A
Pulsed Drain Current	$I_{DM}$	-28	A
Avalanche Current	$I_{AS}$	21	A
Avalanche energy L=0.5mH	$E_{AS}$	308	mJ
Power Dissipation for Single Operation	$P_D (T_a=25^\circ\text{C})$	2.8	W
Maximum Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 ~ 150	$^\circ\text{C}$
Thermal Resistance-Junction to Ambient	$R_{\theta JA} (t \leq 10s)$	45	$^\circ\text{C/W}$
Thermal Resistance-Junction to Ambient	$R_{\theta JA}$	80	$^\circ\text{C/W}$

## 电性能参数 / Electrical Characteristics(Ta=25°C)

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	$BV_{DSS}$	$I_D=-250\mu A$ $V_{GS}=0V$	-20	-23		V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=-20V$ $V_{GS}=0V$			-1.0	$\mu A$
		$V_{DS}=-20V$ $V_{GS}=0V$ $T_J=55^\circ C$			-5.0	
Gate-Body leakage current	$I_{GSS}$	$V_{DS}=0V$ $V_{GS}=\pm 20V$			$\pm 100$	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=-250\mu A$	-0.4	-0.7	-1.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=-10V$ $I_D=-3.5A$		23.7	30	m $\Omega$
		$V_{GS}=-4.5V$ $I_D=-2.8A$		30.4	40	
		$V_{GS}=-2.5V$ $I_D=-2.0A$		43.6	50	
Forward Transconductance	$g_{FS}$	$V_{DS}=-4.5V$ $I_D=-3.5A$		8.8		S
Diode Forward Voltage	$V_{SD}$	$I_S=-1A$ $V_{GS}=0V$		0.75		V
Total Gate Charge	$Q_g$	$V_{GS}=-4.5V$ $V_{DS}=-10V$ $I_D=-8A$		13		nC
Gate-Source Charge	$Q_{gs}$			2		
Gate-Drain Charge	$Q_{gd}$			3.4		
Input Capacitance	$C_{iss}$	$V_{GS}=0V$ $V_{DS}=-25V$ $f=1MHz$		1050		pF
Output Capacitance	$C_{oss}$			155		
Reverse Transfer Capacitance	$C_{rss}$			125		
Turn-on Delay Time	$t_{d(ON)}$	$V_{GS}=-4.5V$ $V_{DS}=-10V$ $R_L=1.25\Omega$ $R_{GEN}=3\Omega$		7		ns
Turn-on Rise Time	$t_r$			28		
Turn-off Delay Time	$t_{d(OFF)}$			95		
Turn-off Fall Time	$t_f$			46		

电参数曲线图 / Electrical Characteristic Curve

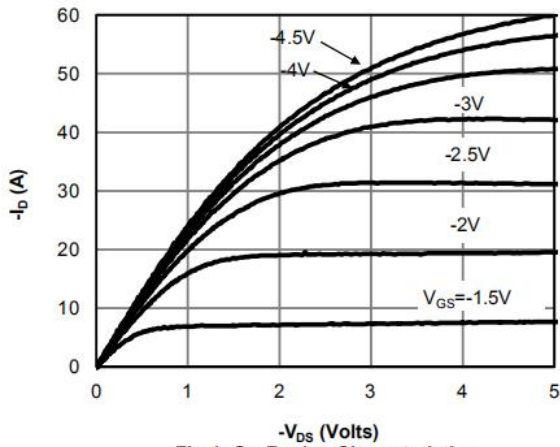


Fig 1: On-Region Characteristics

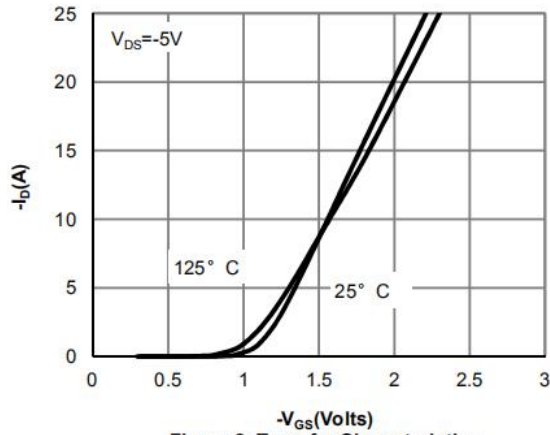


Figure 2: Transfer Characteristics

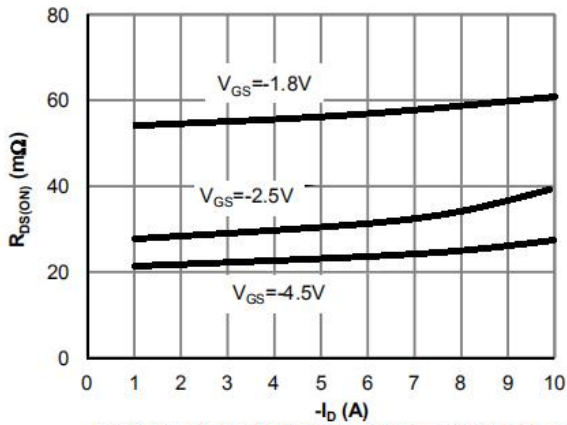


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

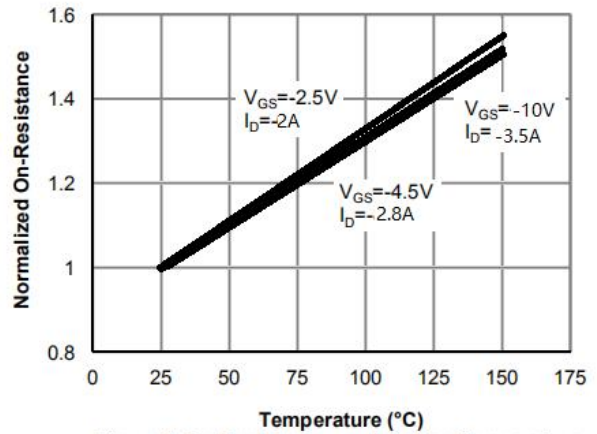


Figure 4: On-Resistance vs. Junction Temperature

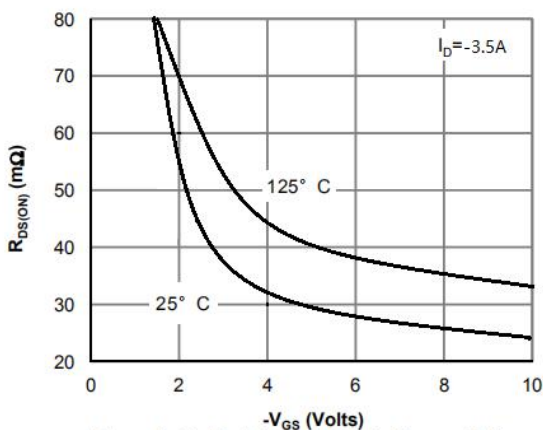


Figure 5: On-Resistance vs. Gate-Source Voltage

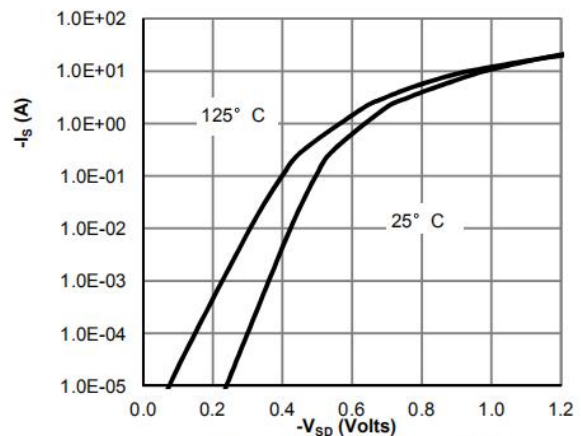


Figure 6: Body-Diode Characteristics

电参数曲线图 / Electrical Characteristic Curve

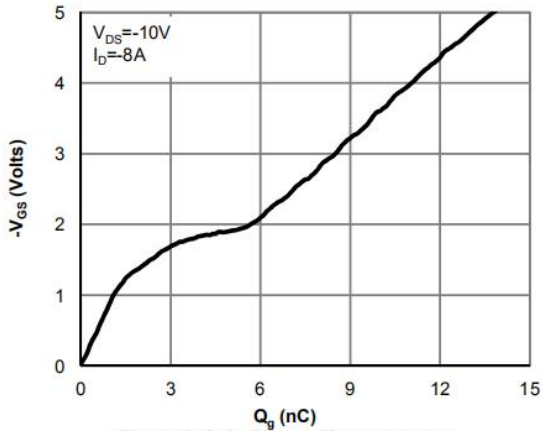


Figure 7: Gate-Charge Characteristics

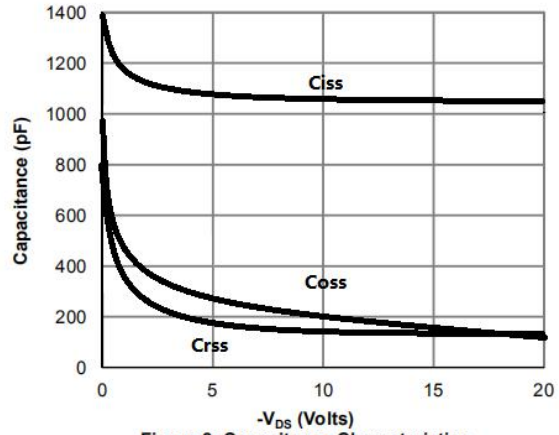


Figure 8: Capacitance Characteristics

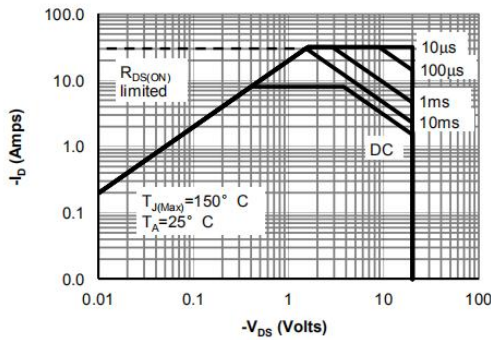


Figure 9: Maximum Forward Biased Safe Operating Area

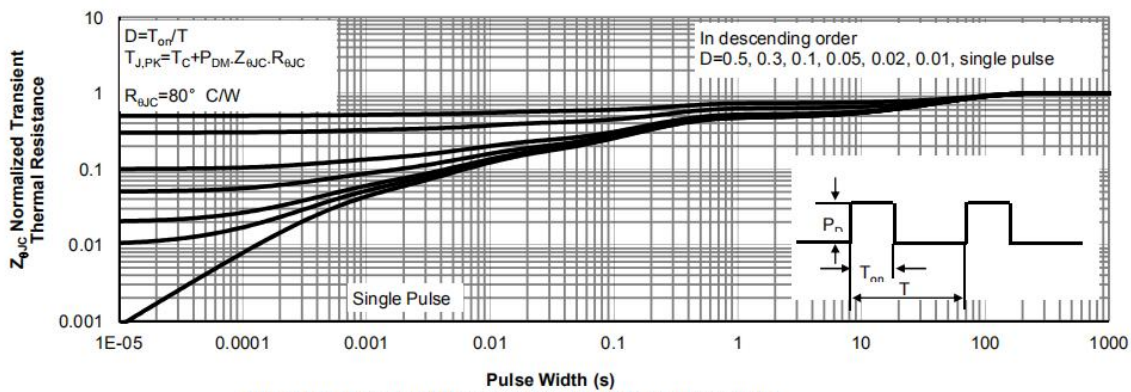


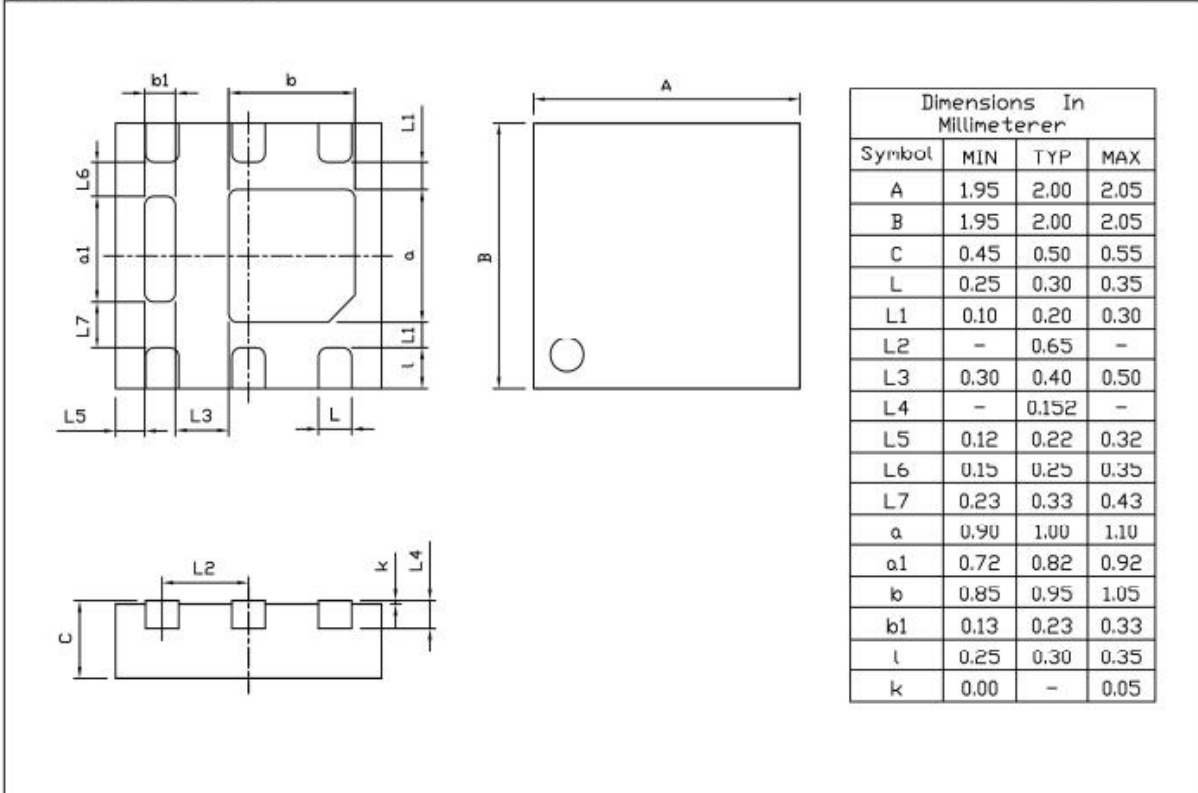
Figure 10: Normalized Maximum Transient Thermal Impedance

**外形尺寸图 / Package Dimensions**

**DFN2×2B-6L-0.5 外形尺寸图**

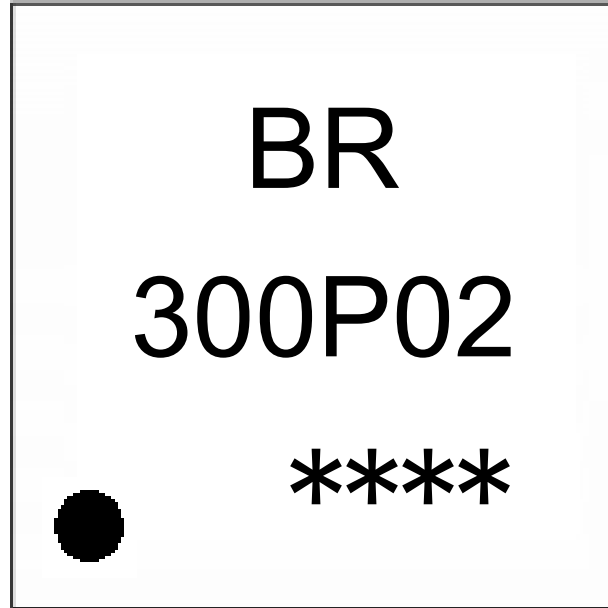
DFN2×2B-6L-0.5

Unit:mm



Rev.01 202006

印章说明 / Marking Instructions



说明：

BR： 为公司代码

300P02： 为型号代码

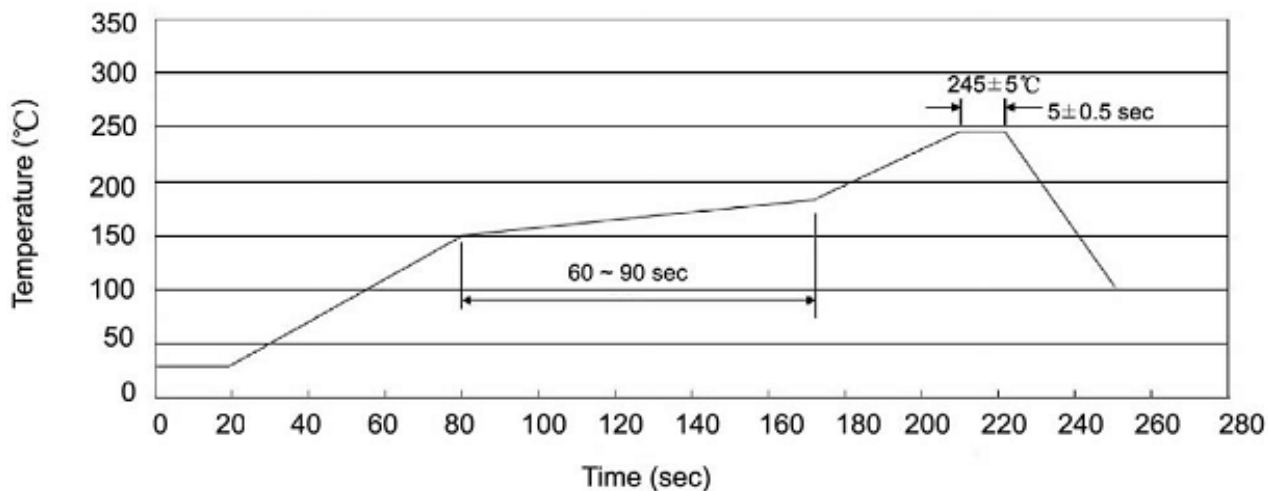
\*\*\*\*： 为生产批号代码，随生产批号变化。

Note:

BR: Company Code.

300P02: Product Type

\*\*\*\*: 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°C，时间 60~90sec；
- 2、峰值温度 245±5°C，时间持续为 5±0.5sec；
- 3、焊接制程冷却速度为 2~10°C/sec.

Note:

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

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

温度：260±5°C

时间：10±1 sec.

Temp.:260±5°C

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 <sup>3</sup> )		
	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
DFN 2*2B-6L	3,000	10	30,000	4	120,000	7" x8	210×210×205	445×445×230

**使用说明 / Notices**