

### 描述 / Descriptions

DFN1006-3L 塑封封装 N 沟道 MOS 场效应管。  
N-Channel Enhancement Mode Field Effect Transistor in a DFN1006-3L Plastic Package.

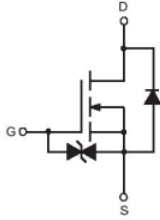
### 特征 / Features

灵敏的控制级触发电流和很低的维持电流。静电保护达 2KV，无卤产品。  
Sensitive gate trigger current and Low Holding current.ESD protected up to 2KV, HF Product.

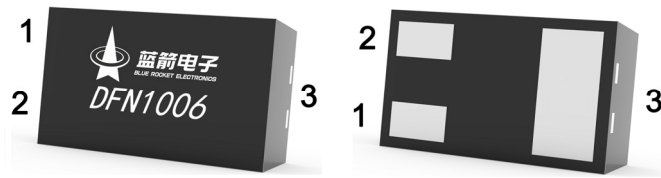
### 用途 / Applications

用作一般的开关和相位控制。  
Intended for use in general purpose switching and phase control applications.

### 内部等效电路 / Equivalent Circuit



### 引脚排列 / Pinning



Pin1:G

Pin2:S

Pin3: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 <sub>DSS</sub>	20	V
Gate-Source Voltage	V <sub>GSS</sub>	±8	V
Drain Current – Continuous	I <sub>D</sub>	0.75	A
Pulsed Drain Current	I <sub>DM</sub>	1.8	A
Power Dissipation	P <sub>D</sub>	0.9	W
Storage Temperature Range	T <sub>stg</sub>	-55 to 150	°C
Thermal resistance, junction - ambient	t ≤ 10s	100	°C/W
	Steady-State	140	

**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	V <sub>DSS</sub>	V <sub>GS</sub> =0 I <sub>D</sub> =250uA	20	22.9		V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>GS</sub> =0 V <sub>DS</sub> =20V			1	μA
Gate–Body Leakage	I <sub>GSS</sub>	V <sub>DS</sub> =0V V <sub>GS</sub> =±8V			10	μA
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> I <sub>D</sub> =250uA	0.3	0.68	1	V
Static Drain-Source On-Resistance	R <sub>DS(on)(1)</sub>	V <sub>GS</sub> =2.5V I <sub>D</sub> =200mA		273	400	mΩ
	R <sub>DS(on)(2)</sub>	V <sub>GS</sub> =1.8V I <sub>D</sub> =100mA		353	750	mΩ
	R <sub>DS(on)(3)</sub>	V <sub>GS</sub> =1.5V I <sub>D</sub> =50mA		442		mΩ
	R <sub>DS(on)(4)</sub>	V <sub>GS</sub> =1.2V I <sub>D</sub> =20mA		733		mΩ
Drain-Source Diode Forward Voltage	V <sub>SD</sub>	V <sub>GS</sub> =0V I <sub>S</sub> =250mA		0.86	1.2	V
Gate Resistance	R <sub>g</sub>	V <sub>GS</sub> =0V V <sub>DS</sub> =0V f=1MHz		60		Ω
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =10V V <sub>GS</sub> =0V f=1.0MHz		105		pF
Output Capacitance	C <sub>oss</sub>			65		
Reverse Transfer Capacitance	C <sub>rss</sub>			20		

**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
Total Gate Charge	$Q_g$	$V_{GS}=4.5V, V_{DS}=10V,$ $I_D=0.4A$		0.85		nC
Gate Source Charge	$Q_{gs}$			0.1		
Gate Drain Charge	$Q_{gd}$			0.25		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=4.5V V_{DS}=10V$ $R_L=25\Omega R_{GEN}=3\Omega$		2		ns
Turn-On Rise Time	$t_r$			4		ns
Turn-Off Delay Time	$t_{d(off)}$			18		ns
Turn-Off Fall Time	$t_f$			8		ns

电参数曲线图 / Electrical Characteristic Curve

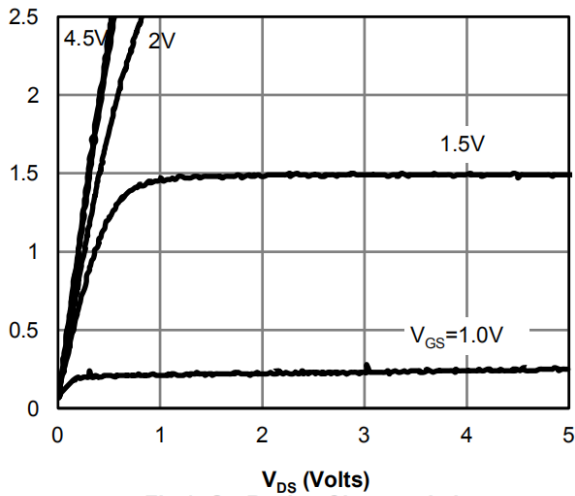


Fig 1: On-Region Characteristics

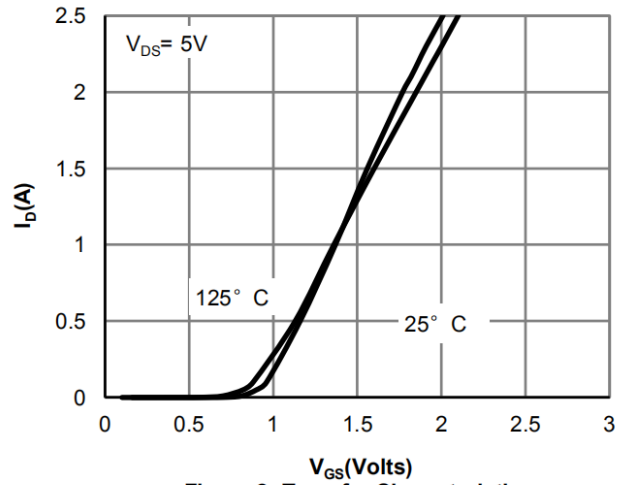


Figure 2: Transfer Characteristics

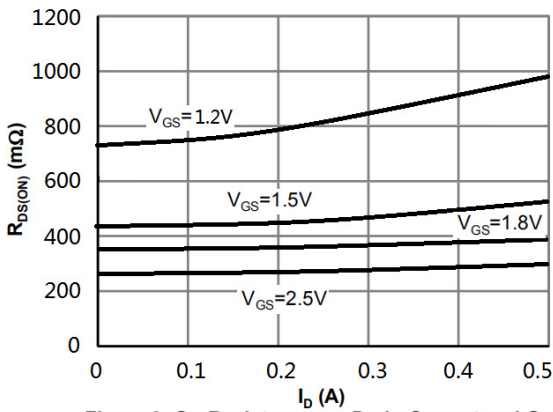


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

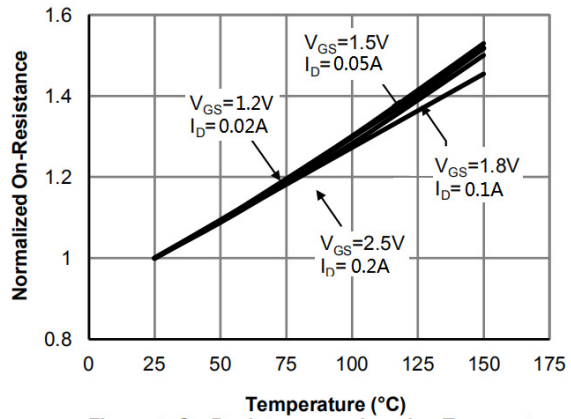


Figure 4: On-Resistance vs. Junction Temperature

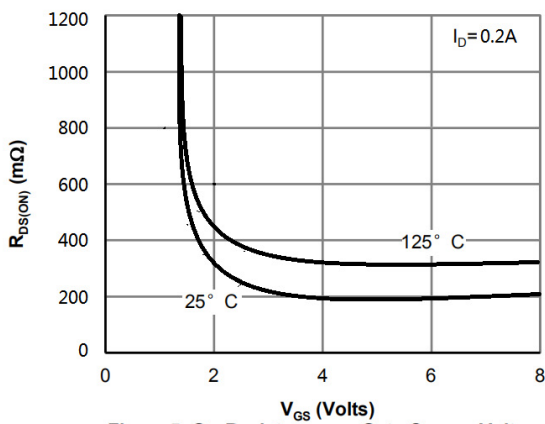


Figure 5: On-Resistance vs. Gate-Source Voltage

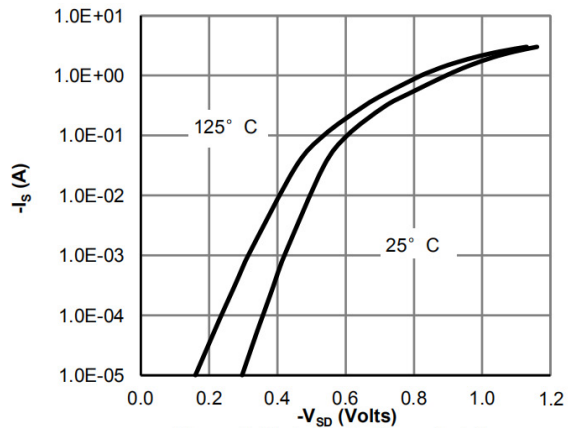


Figure 6: Body-Diode Characteristics

**电参数曲线图 / Electrical Characteristic Curve**

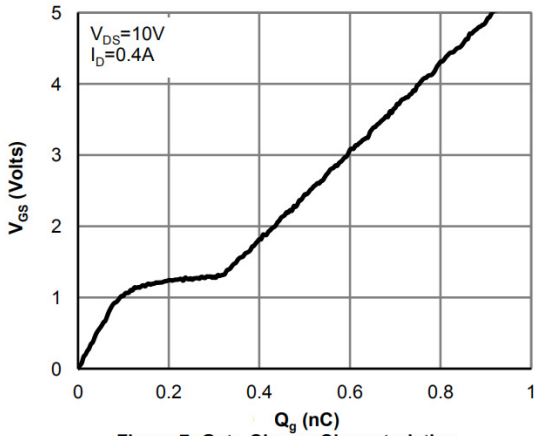


Figure 7: Gate-Charge Characteristics

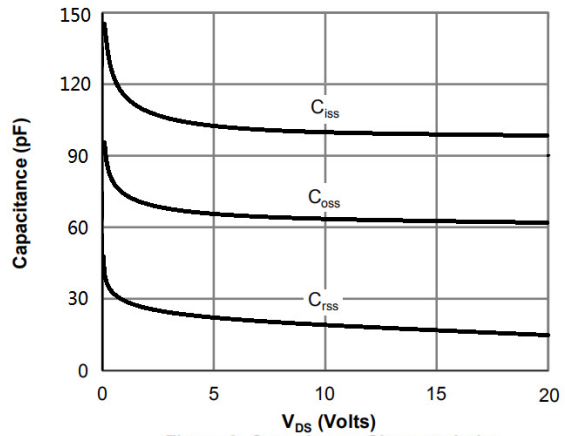


Figure 8: Capacitance Characteristics

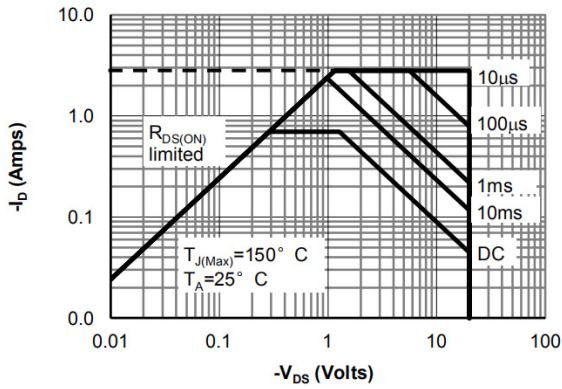


Figure 9: Maximum Forward Biased Safe Operating Area

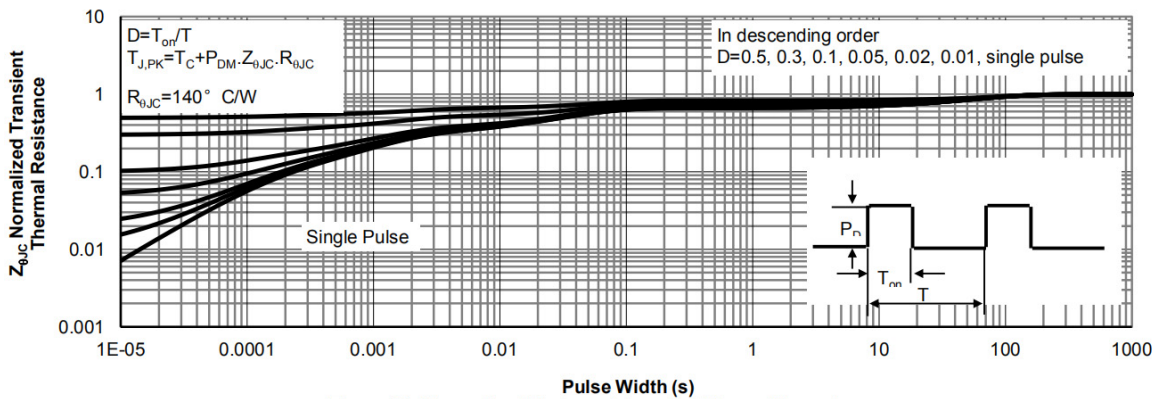
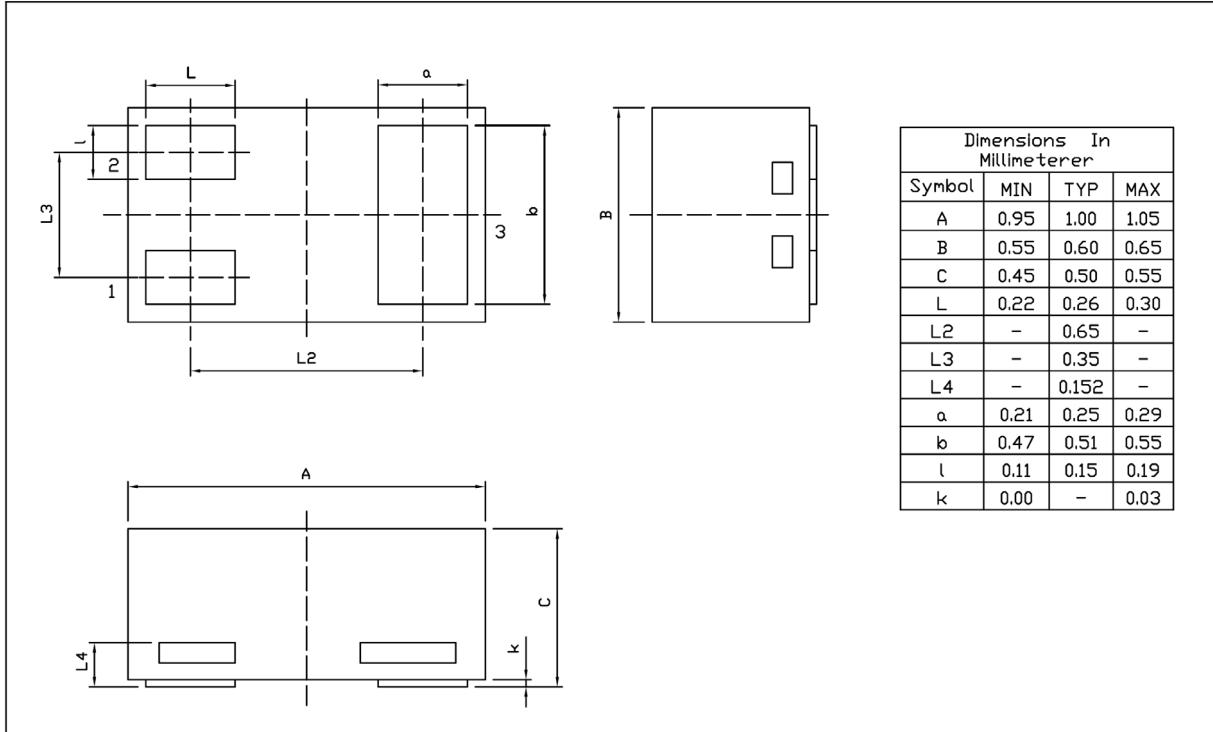


Figure 10: Normalized Maximum Transient Thermal Impedance

**外形尺寸图 / Package Dimensions**

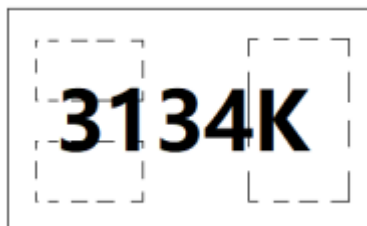
DFN1006-3L

Unit:mm



Rev.03 202108

印章说明 / Marking Instructions



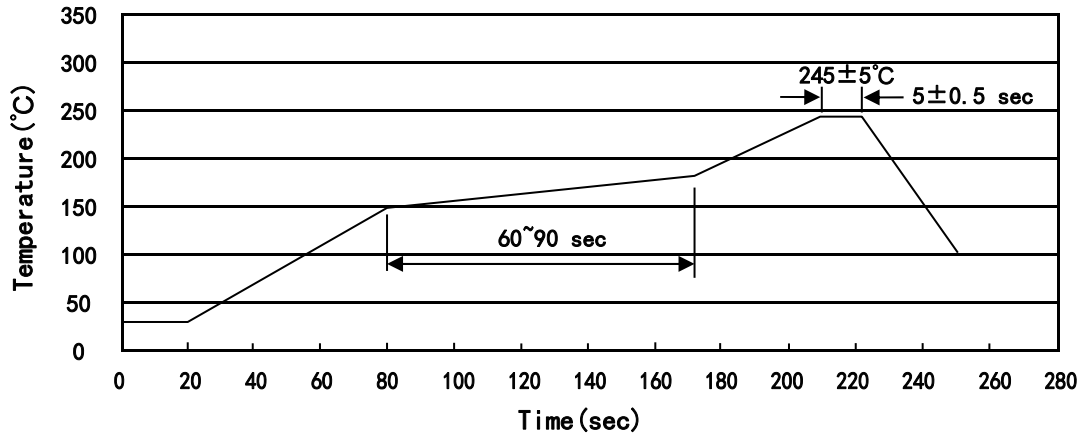
说明：

3134K： 为型号代码

Note:

3134K: Product Type

**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
DFN1006-3L	10,000	10	100,000	4	400,000	7" ×8	210×205×205	445×230×435

**使用说明 / Notices**



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