

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.

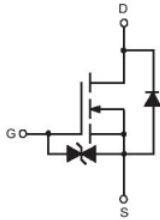
特征 / Features

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.

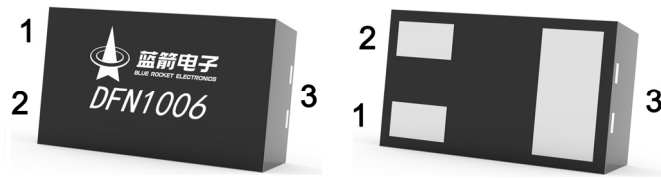
用途 / Applications

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 _{DSS} | 20 | V |
| Gate-Source Voltage | V _{GSS} | ±8 | V |
| Drain Current – Continuous | I _D | 0.75 | A |
| Pulsed Drain Current | I _{DM} | 1.8 | A |
| Power Dissipation | P _D | 0.9 | W |
| Storage Temperature Range | T _{stg} | -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 _{DSS} | V _{GS} =0 I _D =250uA | 20 | 22.9 | | V |
| Zero Gate Voltage Drain Current | I _{DSS} | V _{GS} =0 V _{DS} =20V | | | 1 | μA |
| Gate–Body Leakage | I _{GSS} | V _{DS} =0V V _{GS} =±8V | | | 10 | μA |
| Gate Threshold Voltage | V _{GS(th)} | V _{DS} =V _{GS} I _D =250uA | 0.3 | 0.68 | 1 | V |
| Static Drain-Source On-Resistance | R _{DS(on)(1)} | V _{GS} =2.5V I _D =200mA | | 273 | 400 | mΩ |
| | R _{DS(on)(2)} | V _{GS} =1.8V I _D =100mA | | 353 | 750 | mΩ |
| | R _{DS(on)(3)} | V _{GS} =1.5V I _D =50mA | | 442 | | mΩ |
| | R _{DS(on)(4)} | V _{GS} =1.2V I _D =20mA | | 733 | | mΩ |
| Drain-Source Diode Forward Voltage | V _{SD} | V _{GS} =0V I _S =250mA | | 0.86 | 1.2 | V |
| Gate Resistance | R _g | V _{GS} =0V V _{DS} =0V f=1MHz | | 60 | | Ω |
| Input Capacitance | C _{iss} | V _{DS} =10V V _{GS} =0V f=1.0MHz | | 105 | | pF |
| Output Capacitance | C _{oss} | | | 65 | | |
| Reverse Transfer Capacitance | C _{rss} | | | 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

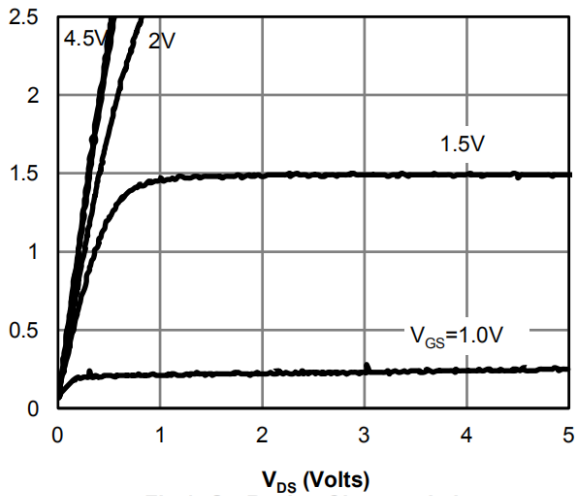


Fig 1: On-Region Characteristics

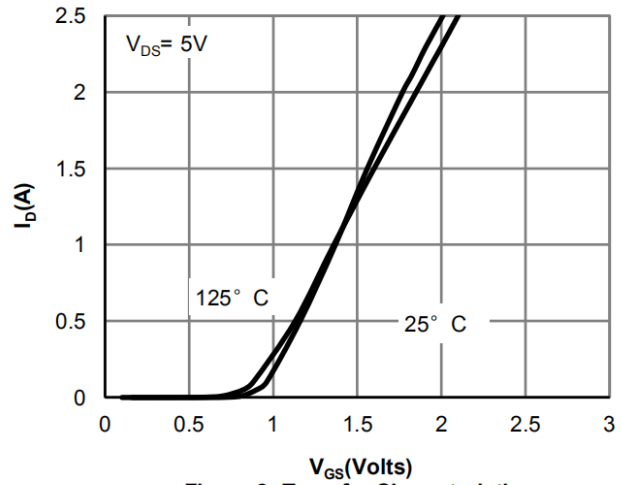


Figure 2: Transfer Characteristics

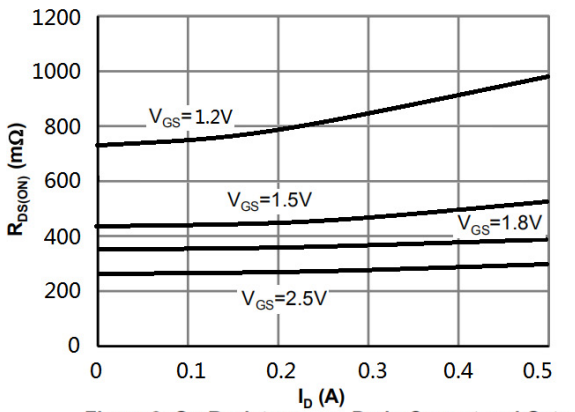


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

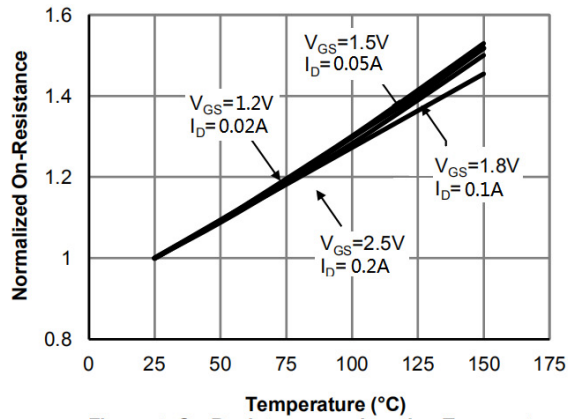


Figure 4: On-Resistance vs. Junction Temperature

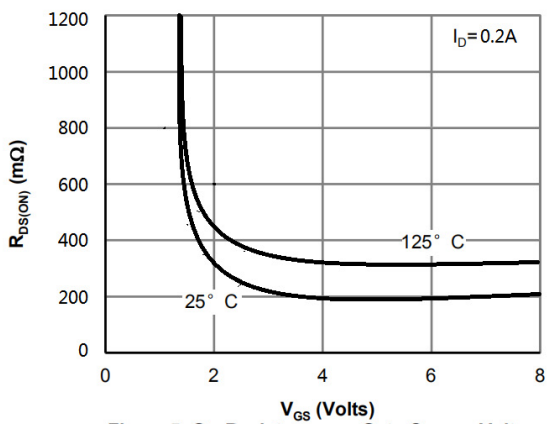


Figure 5: On-Resistance vs. Gate-Source Voltage

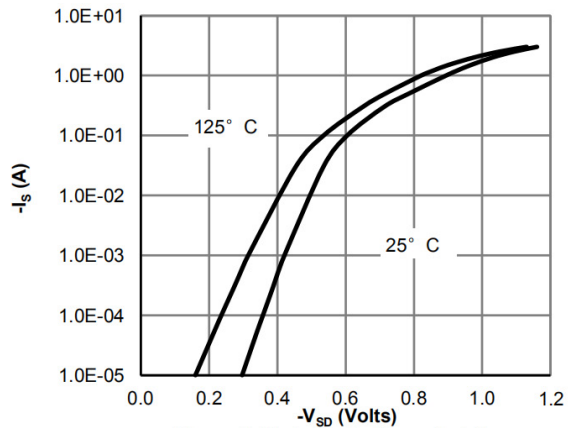


Figure 6: Body-Diode Characteristics

电参数曲线图 / Electrical Characteristic Curve

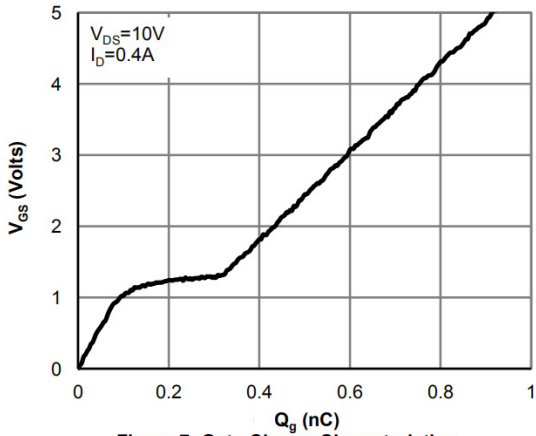


Figure 7: Gate-Charge Characteristics

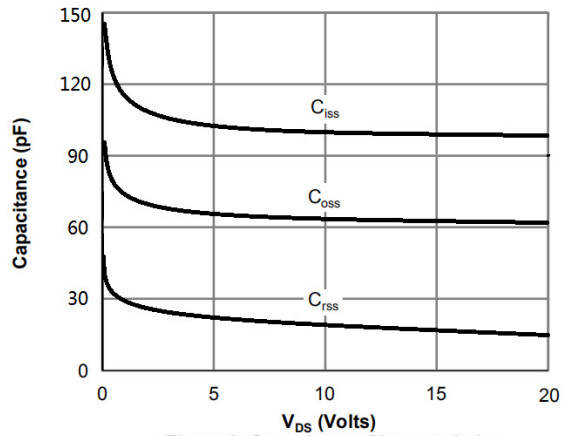


Figure 8: Capacitance Characteristics

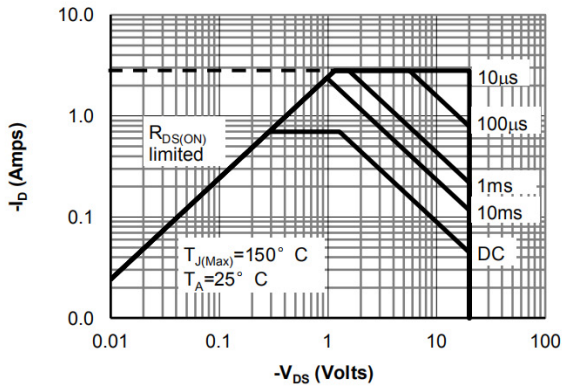


Figure 9: Maximum Forward Biased Safe Operating Area

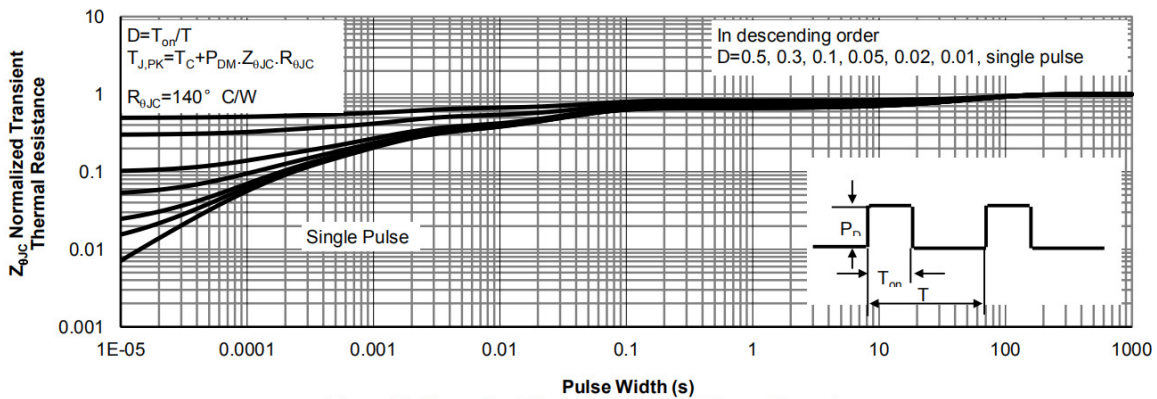
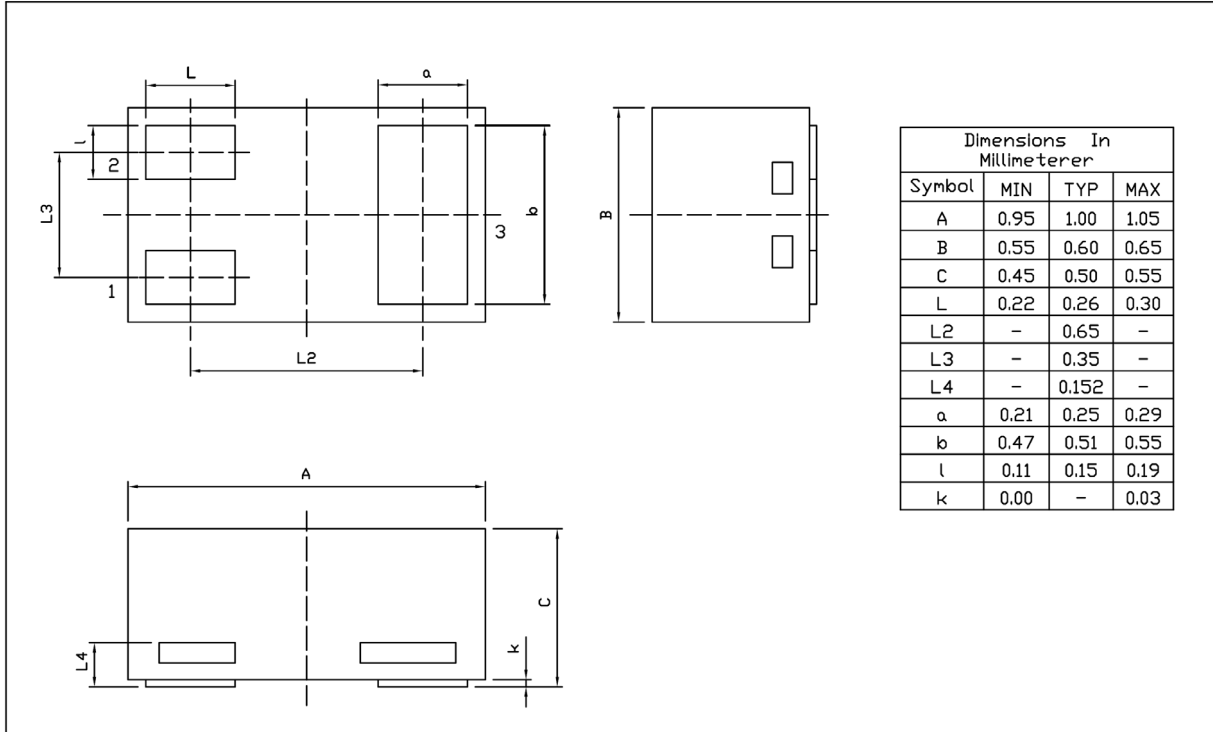


Figure 10: Normalized Maximum Transient Thermal Impedance

外形尺寸图 / Package Dimensions

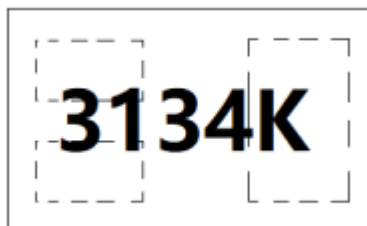
DFN1006-3L

Unit:mm



Rev.03 202108

印章说明 / Marking Instructions



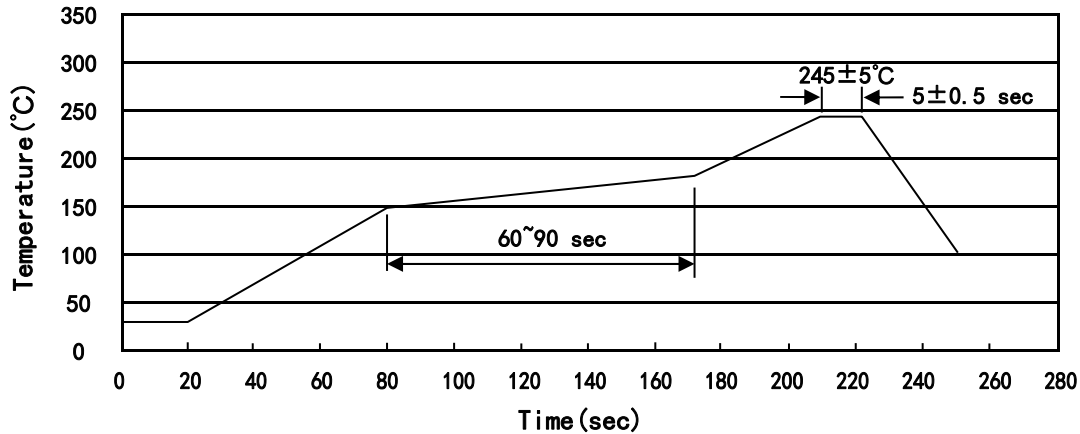
说明：

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

使用说明 / Notices