

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

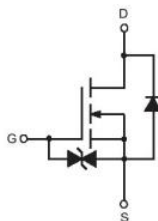
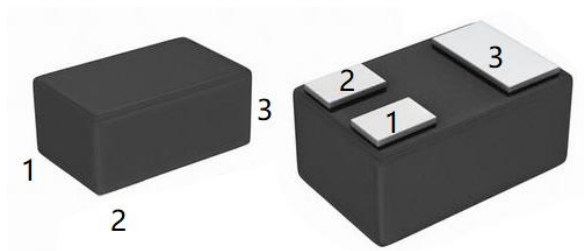
灵敏的控制级触发电流和很低的维持电流。静电保护达 2KV。无卤产品。

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	$t \leq 10s$	$R_{\theta JA}$	°C/W
	Steady-State		

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}	$V_{GS}=0$ $I_D=250\mu A$	20	22.9		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{GS}=0$ $V_{DS}=20V$			1	μA
Gate-Body Leakage	I_{GSS}	$V_{DS}=0V$ $V_{GS}=\pm 8V$			10	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	0.3	0.68	1	V
Static Drain-Source On-Resistance	$R_{DS(on)(1)}$	$V_{GS}=2.5V$ $I_D=200mA$		273	300	m Ω
	$R_{DS(on)(2)}$	$V_{GS}=1.8V$ $I_D=100mA$		353	400	m Ω
	$R_{DS(on)(3)}$	$V_{GS}=1.5V$ $I_D=50mA$		442	500	m Ω
	$R_{DS(on)(4)}$	$V_{GS}=1.2V$ $I_D=20mA$		733	850	m Ω
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

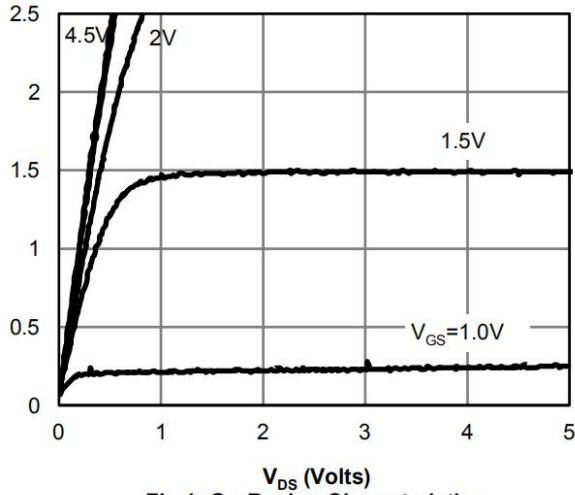


Fig 1: On-Region Characteristics

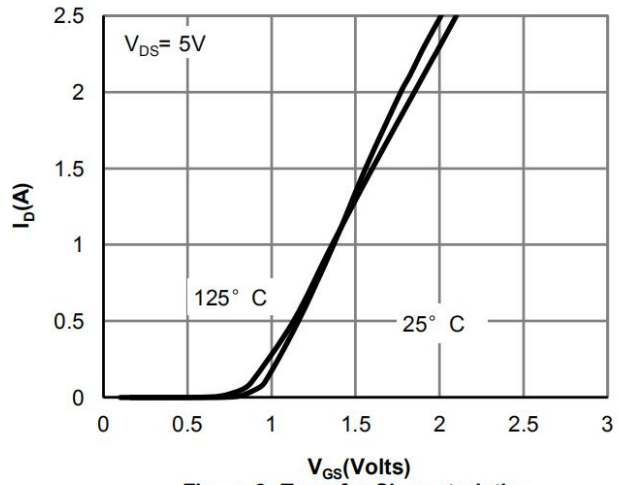


Figure 2: Transfer Characteristics

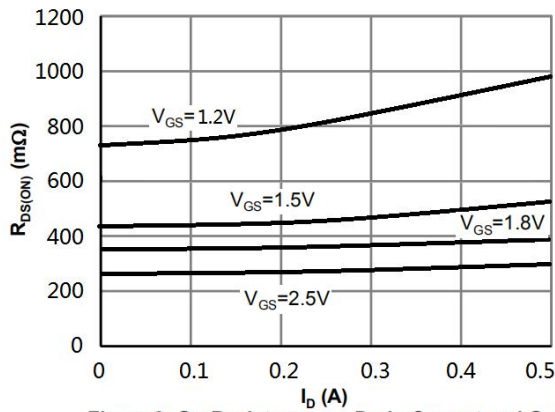


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

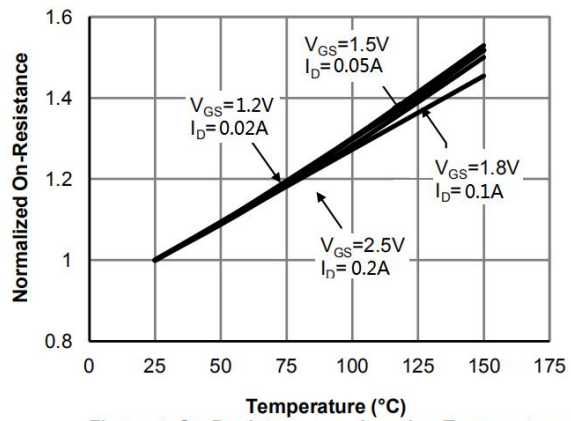


Figure 4: On-Resistance vs. Junction Temperature

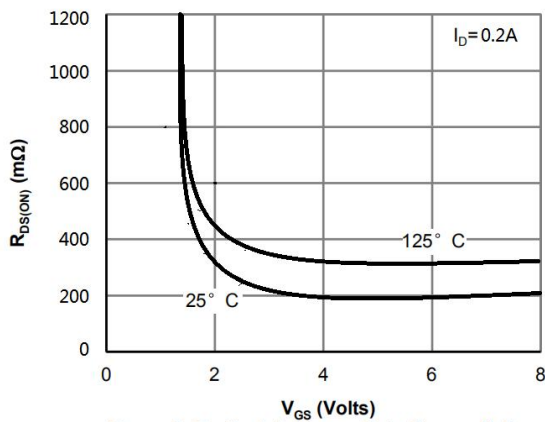


Figure 5: On-Resistance vs. Gate-Source Voltage

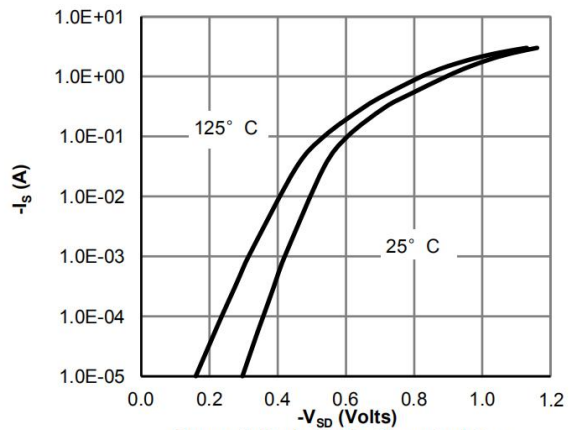


Figure 6: Body-Diode Characteristics

电参数曲线图 / Electrical Characteristic Curve

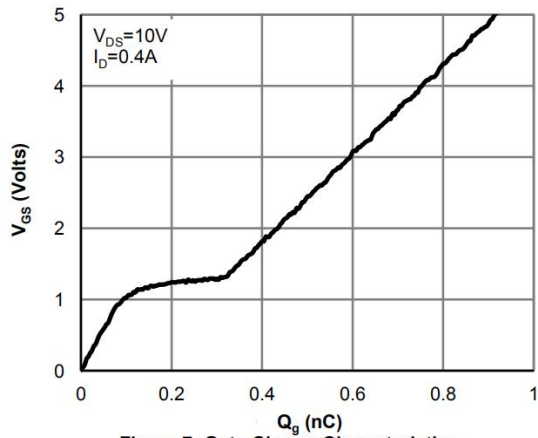


Figure 7: Gate-Charge Characteristics

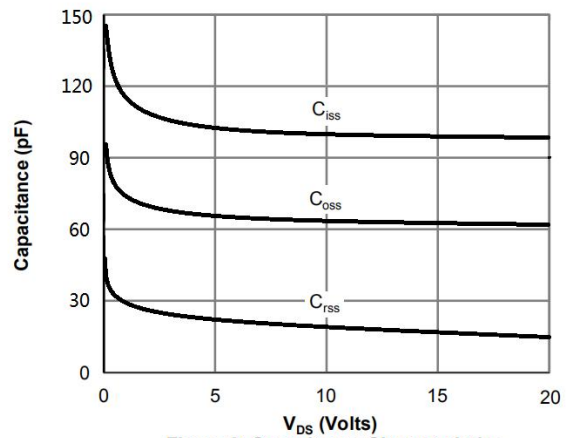


Figure 8: Capacitance Characteristics

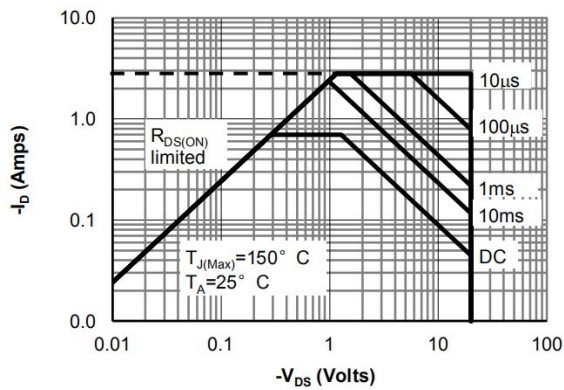


Figure 9: Maximum Forward Biased Safe Operating Area

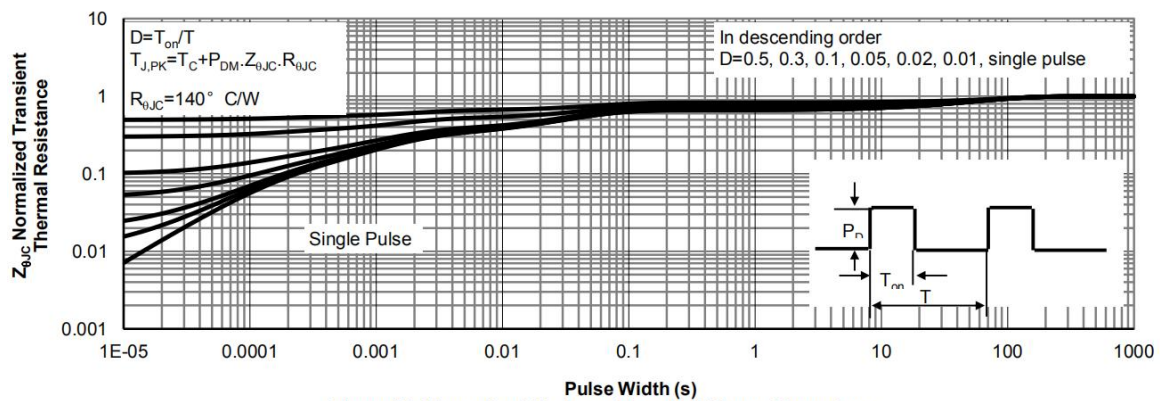
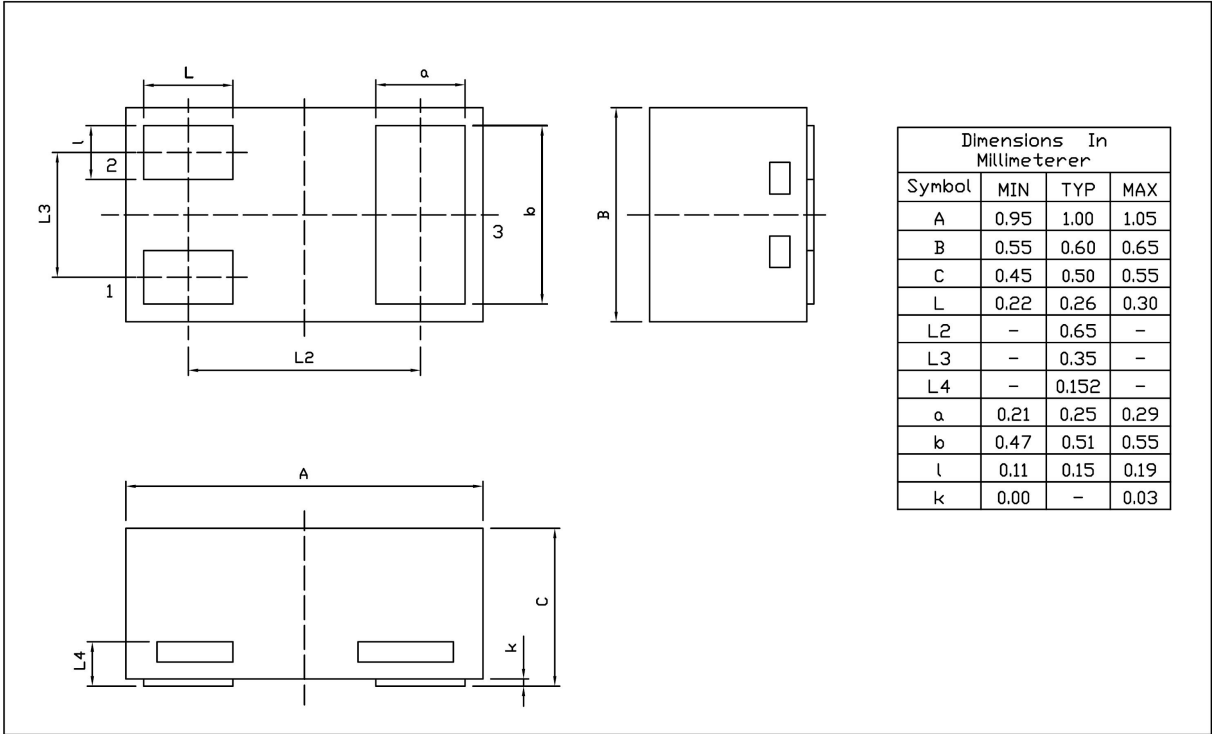


Figure 10: Normalized Maximum Transient Thermal Impedance

外形尺寸图 / Package Dimensions

DFN1006-3L

Unit:mm



Rev.03 202108

印章说明 / Marking Instructions

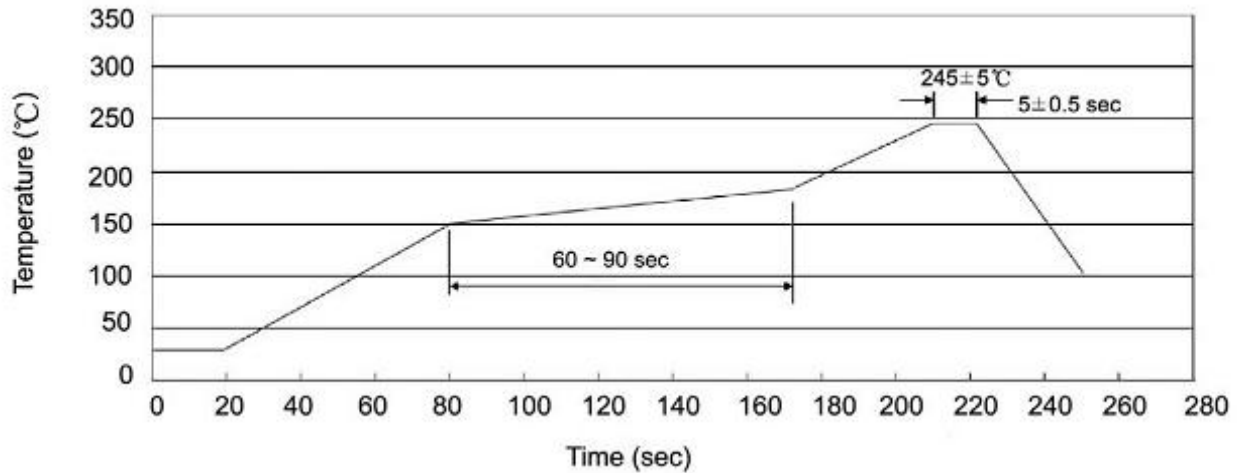


说明：

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