

描述 / Descriptions

DFN1006-3L 塑封封装 P 沟道 MOS 场效应管。

P-Channel Enhancement Mode Field Effect Transistor in a DFN1006-3L Plastic Package.

特征 / Features

$V_{DS} = -20V$; $I_D = -0.7A$; $V_{GS} = \pm 12V$

$R_{DS(on)} @ -4.5V \leq 520m\Omega$ (Type.390m Ω)

$R_{DS(on)} @ -2.5V \leq 780m\Omega$ (Type.530m Ω)

$R_{DS(on)} @ -1.8V \leq 1100m\Omega$ (Type.700m Ω)

ESD-HBM $\geq 2000V$

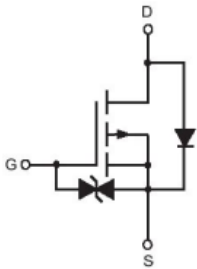
无卤产品。HF Product.

用途 / Applications

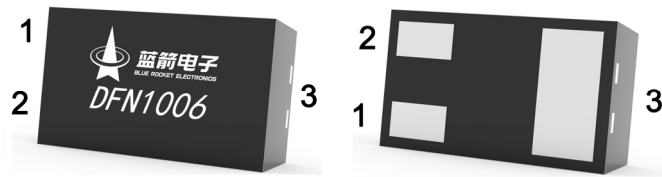
用作一般的开关和相位控制。

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}	±12	V
Drain Current – Continuous	I _D	-0.7	A
Pulsed Drain Current	I _{DM}	-2	A
Power Dissipation	P _D	0.9	W
Storage Temperature Range	T _{stg}	-55 to 150	°C
Thermal resistance, junction - ambient	t ≤ 10s	R _{θJA}	100
	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		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} =±12V			±10	μA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =-250uA	-0.3	-0.6	-1.0	V
Static Drain-Source On-Resistance	R _{DS(on)(1)}	V _{GS} =-4.5V I _D =-500mA		390	520	mΩ
	R _{DS(on)(2)}	V _{GS} =-2.5V I _D =-200mA		530	780	mΩ
	R _{DS(on)(3)}	V _{GS} =-1.8V I _D =-100mA		700	1100	mΩ
	R _{DS(on)(4)}	V _{GS} =-1.5V I _D =-50mA		870		mΩ
	R _{DS(on)(5)}	V _{GS} =-1.2V I _D =-20mA		1295		mΩ
Drain-Source Diode Forward Voltage	V _{SD}	V _{GS} =0V I _S =-250mA			-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		79		pF
Output Capacitance	C _{oss}			15		
Reverse Transfer Capacitance	C _{rss}			13		
Total Gate Charge	Q _g	V _{GS} =-4.5V, V _{DS} =-10V, I _D =-0.4A		0.77		nC
Gate Source Charge	Q _{gs}			0.17		
Gate Drain Charge	Q _{gd}			0.23		
Turn-On Delay Time	t _{d(on)}	V _{GS} =-4.5V V _{DS} =-10V R _L =25Ω R _{GEN} =3Ω		6.2		ns
Turn-On Rise Time	t _r			5.3		
Turn-Off Delay Time	t _{d(off)}			23		
Turn-Off Fall Time	t _f			8.1		

电参数曲线图 / Electrical Characteristic Curve

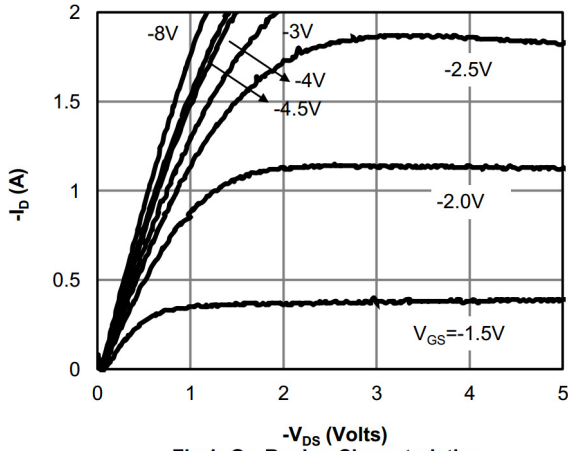


Fig 1: On-Region Characteristics

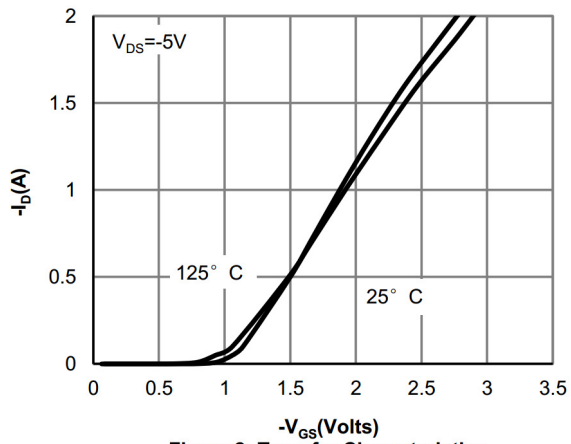


Figure 2: Transfer Characteristics

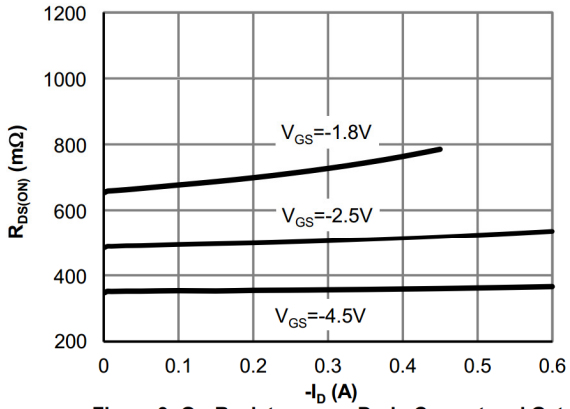


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

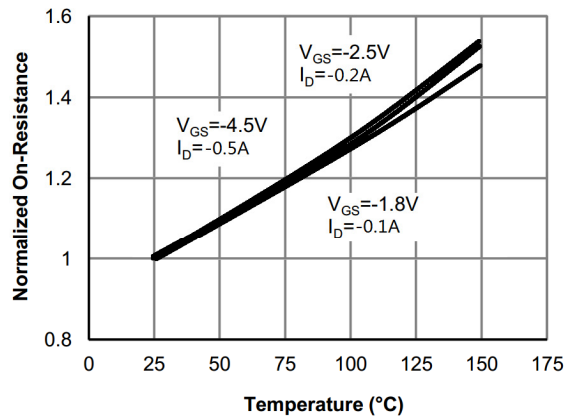


Figure 4: On-Resistance vs. Junction Temperature

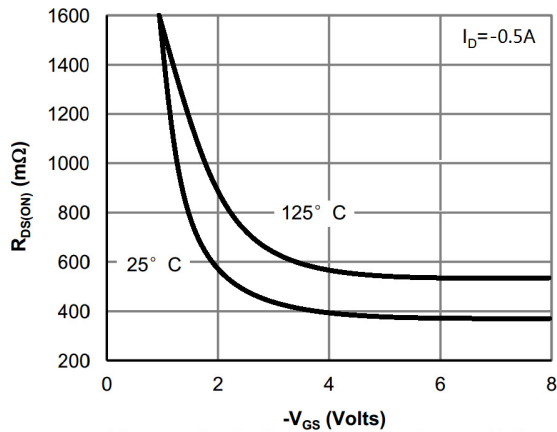


Figure 5: On-Resistance vs. Gate-Source Voltage

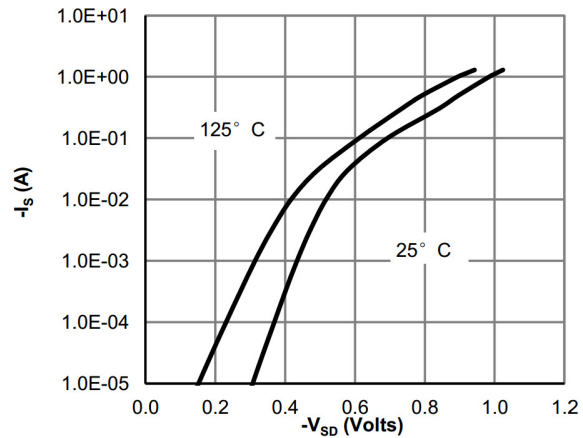


Figure 6: Body-Diode Characteristics

电参数曲线图 / Electrical Characteristic Curve

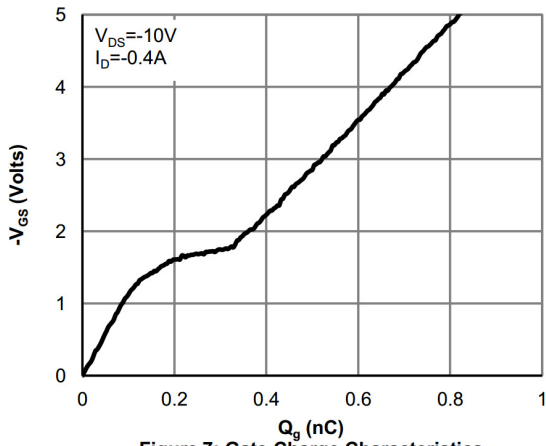


Figure 7: Gate-Charge Characteristics

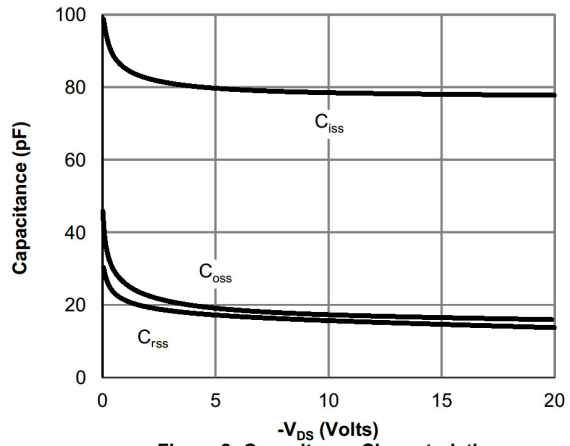


Figure 8: Capacitance Characteristics

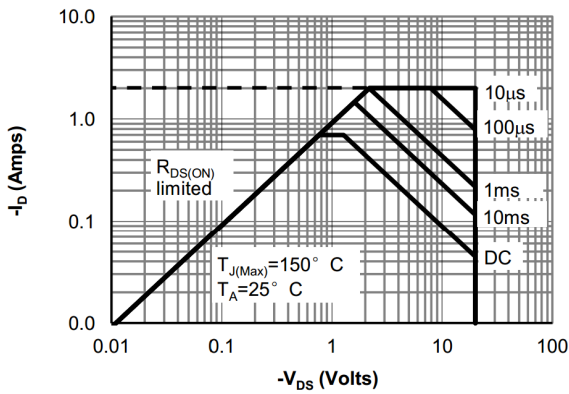


Figure 9: Maximum Forward Biased Safe Operating Area

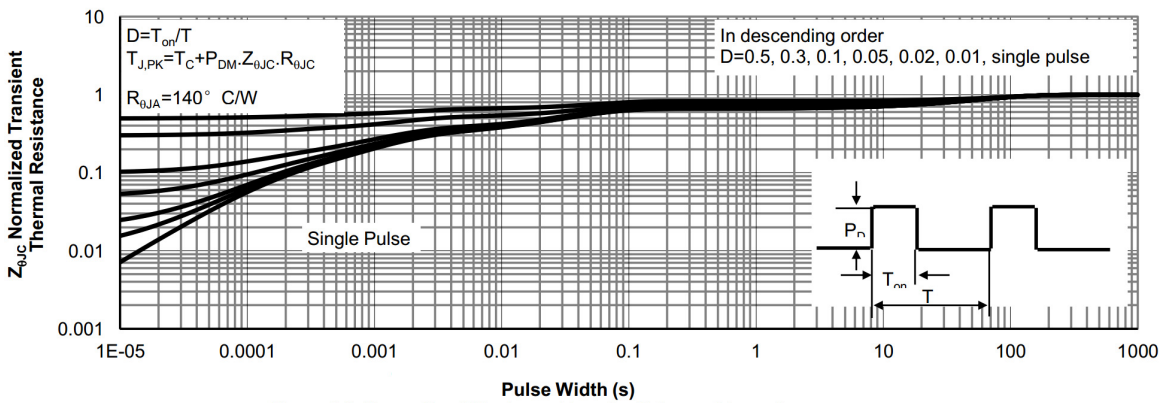
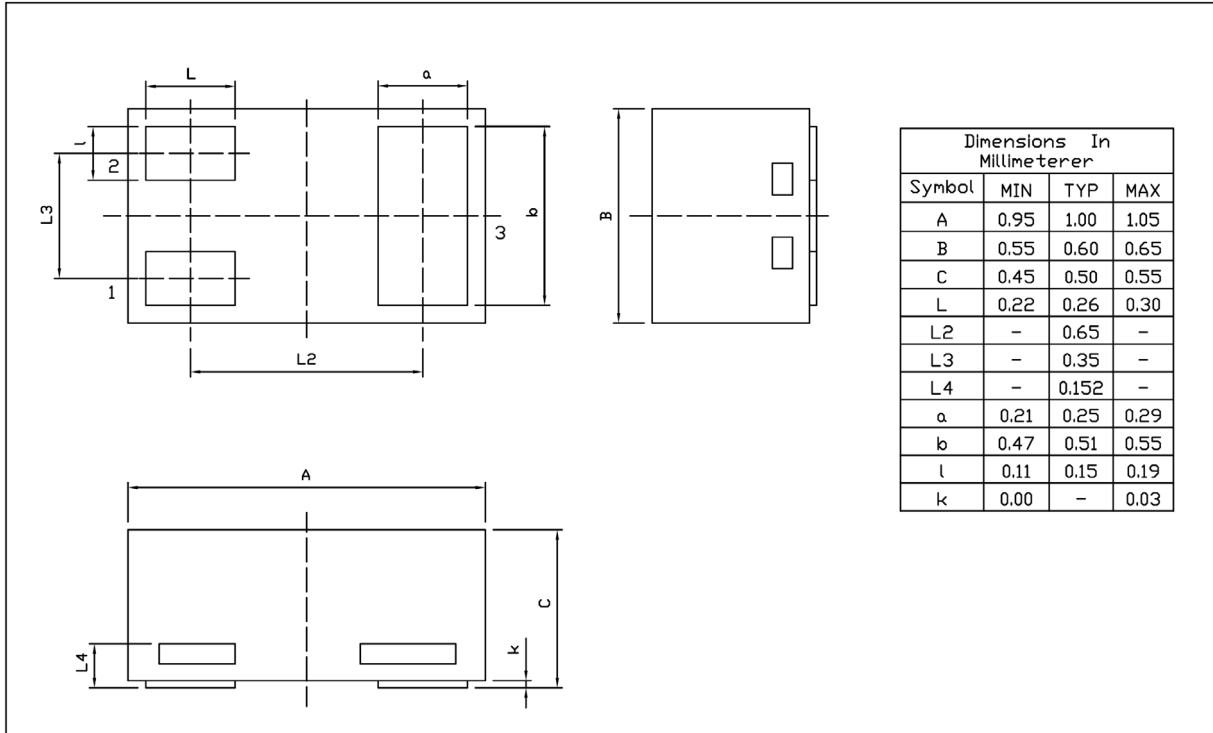


Figure 10: Normalized Maximum Transient Thermal Impedance

外形尺寸图 / Package Dimensions

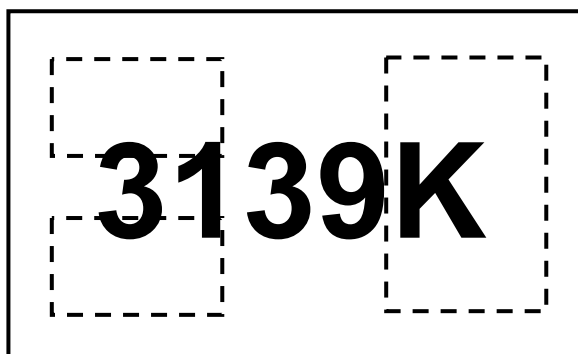
DFN1006-3L

Unit:mm



Rev.03 202108

印章说明 / Marking Instructions

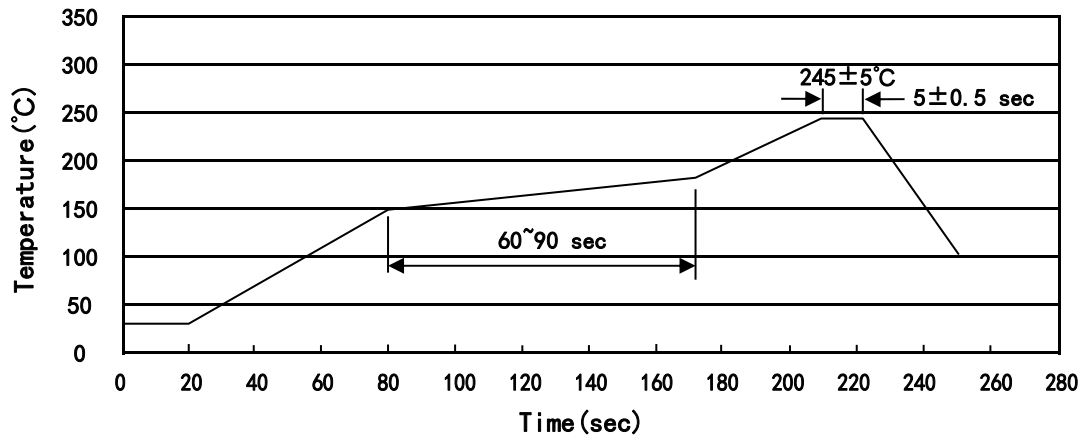


说明：

3139K： 为型号代码

Note:

3139K: 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	445×435×230

使用说明 / Notices