

BRCS070N02EYW

Rev.A Feb.-2025

描述 / Descriptions

DFN3×2-6L 塑封封装共漏双 N 沟通增强模式场效应管。

Common-Drain Dual N-Channel Enhancement MOSFET in a DFN3×2-6L Plastic Package.

特征 / Features

$V_{DS(V)}=20V$ $I_D=12.3A$

$R_{DS(ON)}@4.5V\leq 7.2m\Omega$ (Typ.6.6mR)

$R_{DS(ON)}@3.8V\leq 8.2m\Omega$ (Typ.6.9mR)

$R_{DS(ON)}@2.5V\leq 10.5m\Omega$ (Typ.8.1mR)

静电保护达 2KV, 无卤产品。

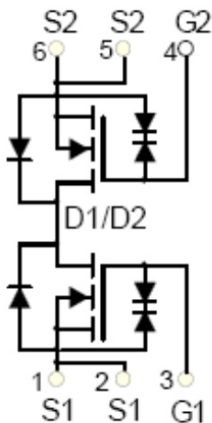
ESD protected up to 2KV, HF Product.

用途 / Applications

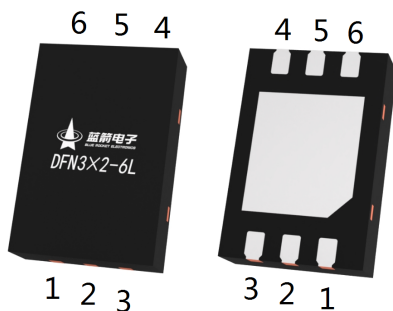
手持式仪器、POL 应用、电池保护应用。

Handheld Instruments, POL Applications, Battery Protection Applications.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



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
Drain Current	I _D	12.3	A
Drain Current - Pulsed	I _{DM}	62	A
Gate-Source Voltage	V _{GSS}	±10	V
Power Dissipation	P _D	1.7	W
Operating and Storage Temperature Range	T _J , T _{stg}	-55 to 150	°C
Junction-to-Ambient	Steady-State R _{θJA}	73.5	°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}	V _{GS} =0V I _D =250μA	20	21		V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =20V V _{GS} =0V			1.0	μA
Gate-Body leakage current	I _{GSS}	V _{GS} =±10V V _{DS} =0V			±10	μA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =250μA	0.5	0.7	1.0	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =4.5V I _D =3A		6.6	7.2	mΩ
		V _{GS} =4.0V I _D =3A		6.8	7.5	mΩ
		V _{GS} =3.8V I _D =3A		6.9	8.2	mΩ
		V _{GS} =3.1V I _D =3A		7.3	9.2	mΩ
		V _{GS} =2.5V I _D =3A		8.1	10.5	mΩ
Diode Forward Voltage	V _{SD}	V _{GS} =0V I _S =1.0A			1.2	V
Input Capacitance	C _{iss}	V _{DS} =10V V _{GS} =0V f=1.0MHz		1900		pF
Output Capacitance	C _{oss}			255		pF
Reverse Transfer Capacitance	C _{rss}			200		pF
Total Gate Charge	Q _g	V _{GS} =4.5V V _{DS} =15V I _D =10A		17.9		nC
Gate-Source Charge	Q _{gs}			1.5		nC
Gate-Drain Charge	Q _{gd}			4.7		nC
Turn-On Delay Time	t _{d(on)}	V _{DS} =10V V _{GS} =5.0V R _L =1.35Ω R _{GEN} =3Ω		2.2		ns
Turn-On Rise Time	t _r			5.9		ns
Turn-Off Delay Time	t _{d(off)}			40		ns
Turn-Off Fall Time	t _f			90		ns

电参数曲线图 / Electrical Characteristic Curve

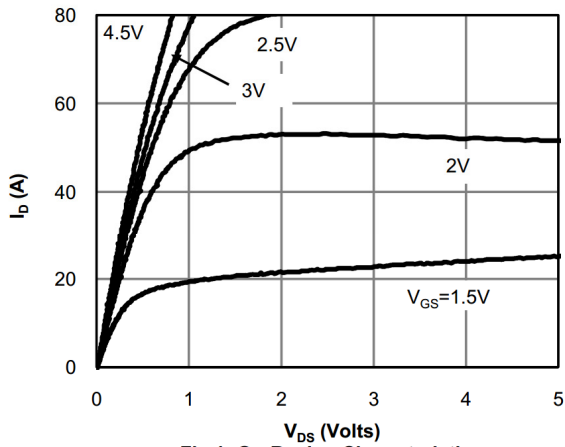


Fig 1: On-Region Characteristics

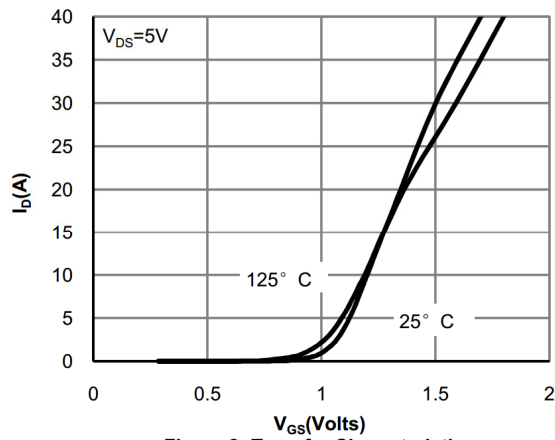


Figure 2: Transfer Characteristics

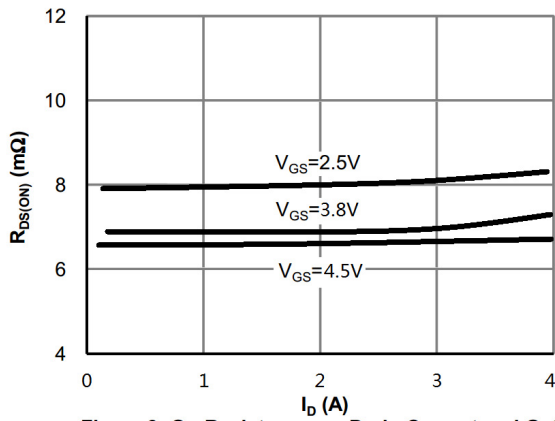


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

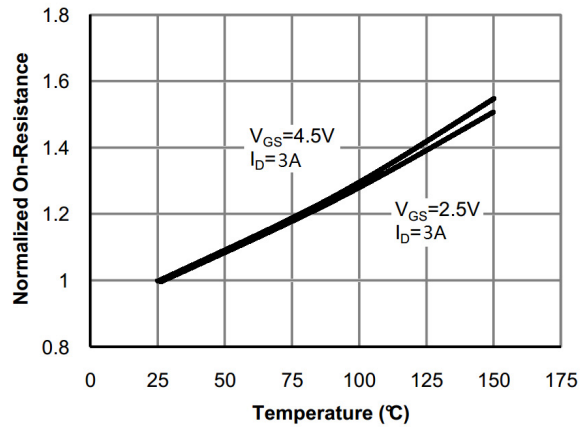


Figure 4: On-Resistance vs. Junction Temperature

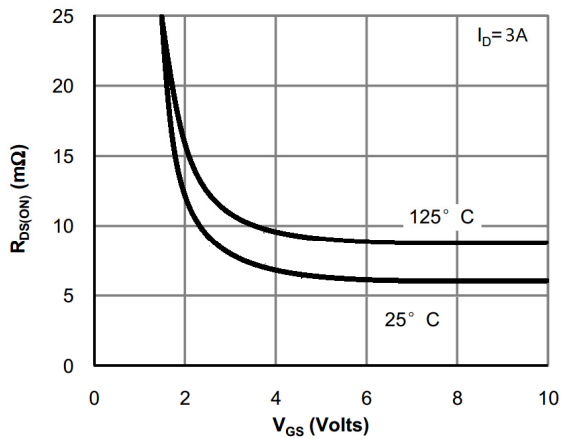


Figure 5: On-Resistance vs. Gate-Source Voltage

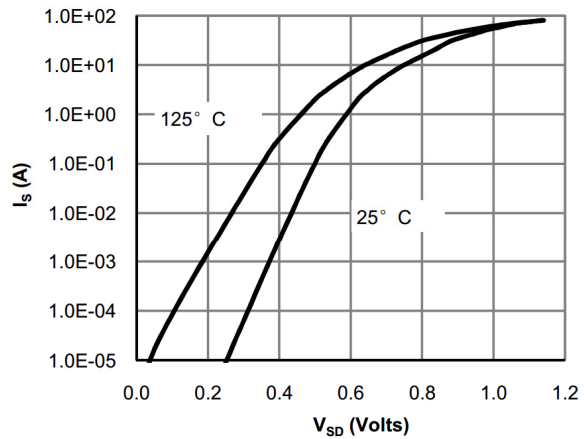


Figure 6: Body-Diode Characteristics

电参数曲线图 / Electrical Characteristic Curve

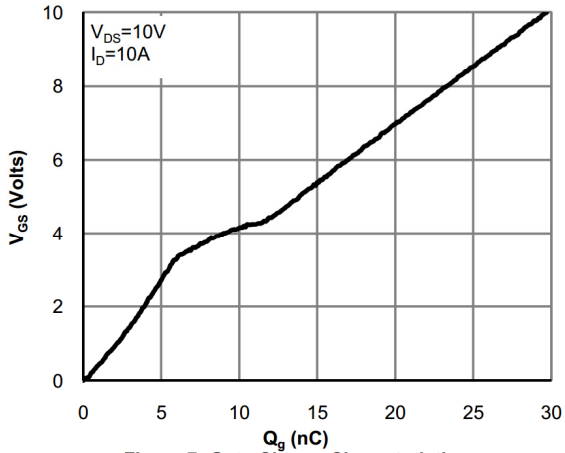


Figure 7: Gate-Charge Characteristics

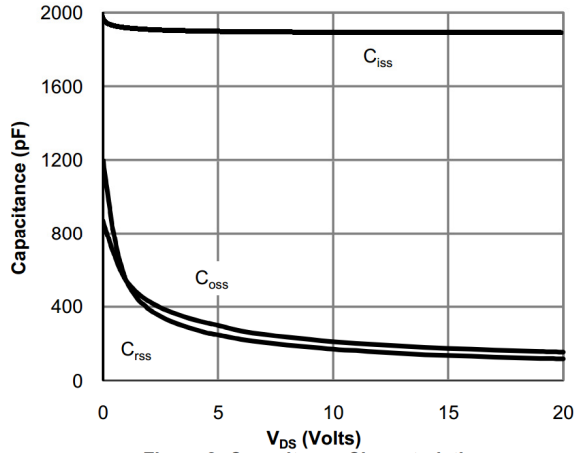


Figure 8: Capacitance Characteristics

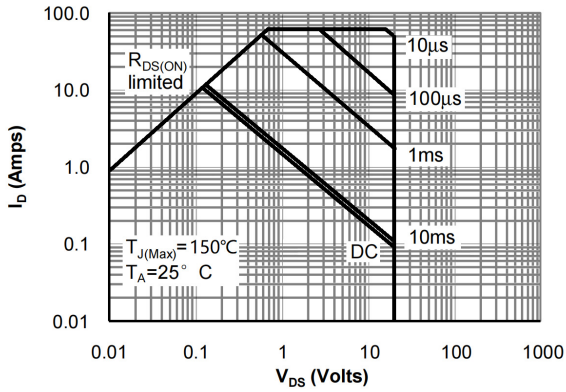


Figure 9: Maximum Forward Biased Safe Operating Area

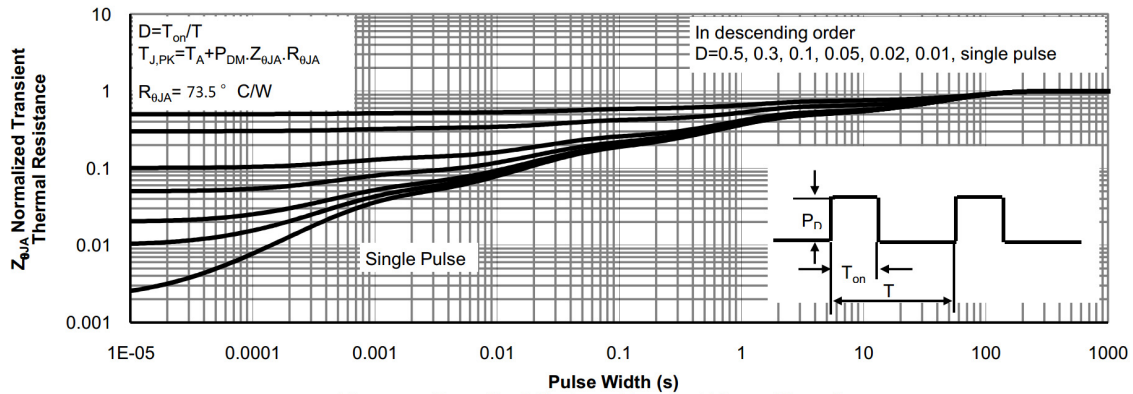
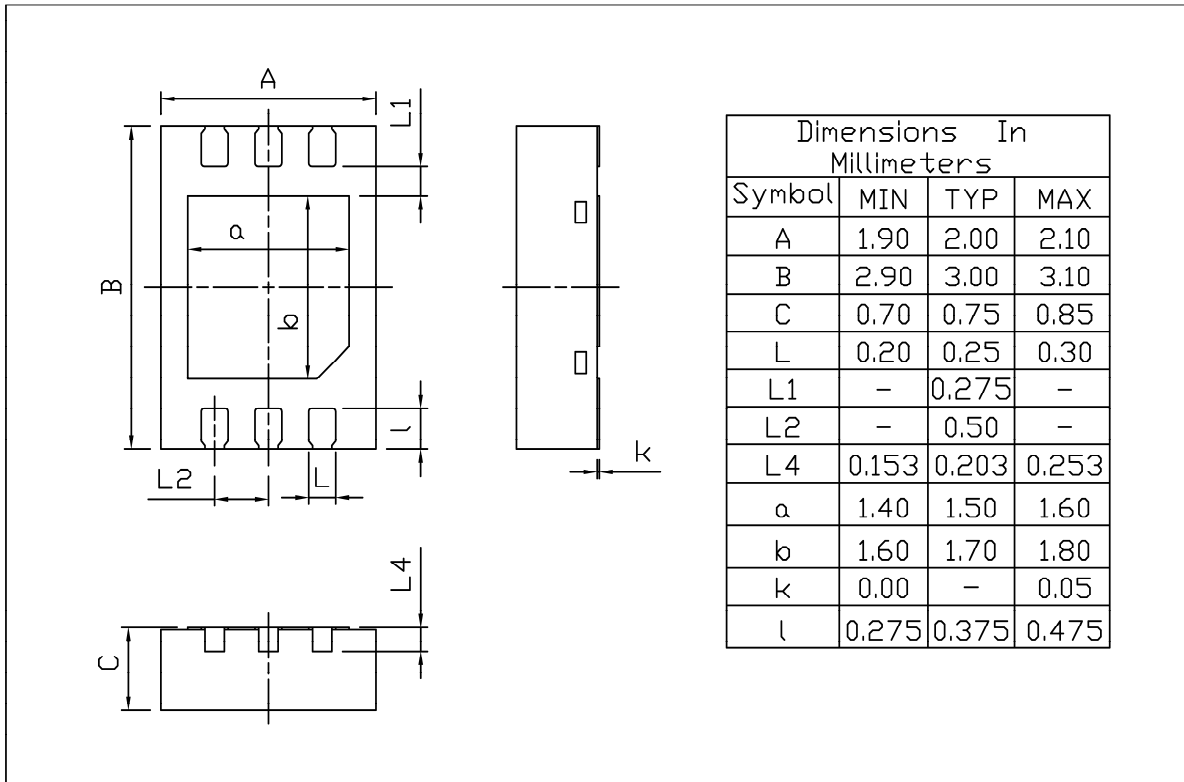


Figure 10: Normalized Maximum Transient Thermal Impedance

外形尺寸图 / Package Dimensions

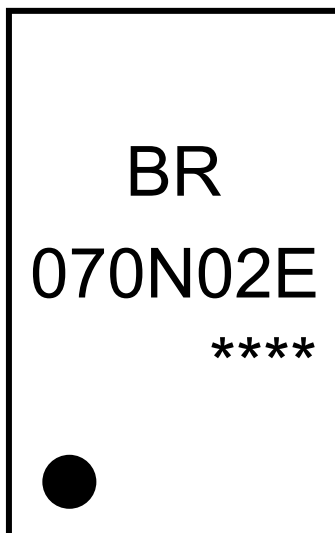
DFN3X2-6L

Unit:mm



Rev.00 202311

印章说明 / Marking Instructions



说明：

BR： 为公司代码

070N02E： 为型号代码

****： 为生产批号代码，随生产批号变化

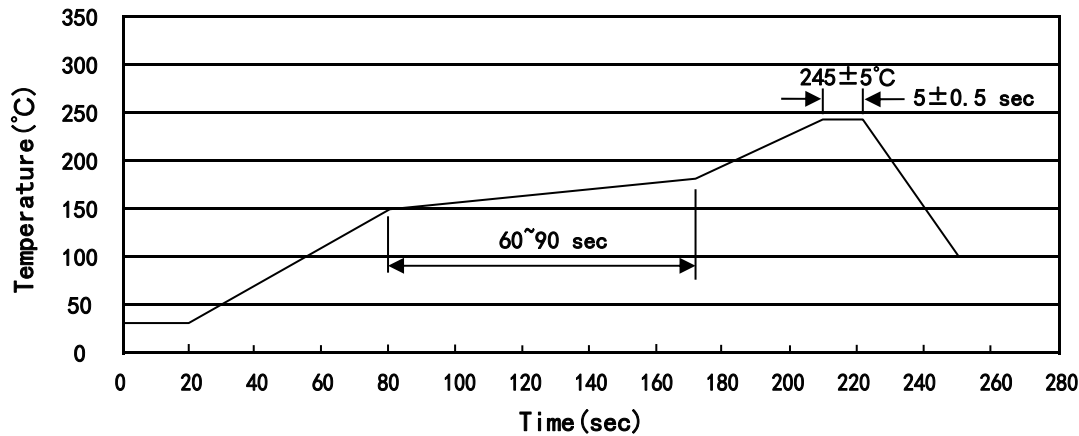
Note:

BR: Company Code

070N02E: Product Type Code

****: 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 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
DFN3×2-6L	3,000	10	30,000	4	120,000	7" ×8	210×205×205	445×435×230

使用说明 / Notices