

描述 / Descriptions

SOP-8 塑封封装 N 沟道 Power Trench MOS 双场效应管。

Dual N-Channel Power Trench MOSFET in a SOP-8 Plastic Package.

特征 / Features

$V_{DS}(V)=40V$ $I_D=8A$

$R_{DS(ON)}@10V<20m\Omega$ (Typ. 22m Ω)

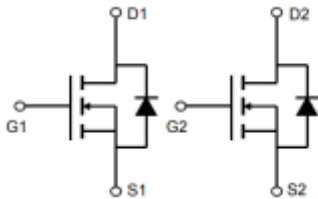
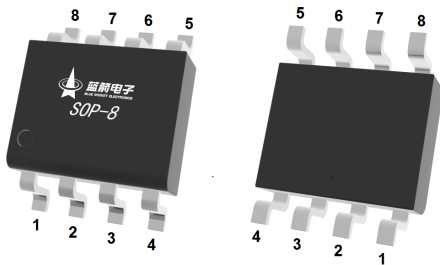
$R_{DS(ON)}@4.5V<29.5m\Omega$ (Typ. 36m Ω)

无卤产品。HF Product.

用途 / Applications

电池保护，负载开关，电源管理。

Battery protection, Load Switch, Power management.

内部等效电路 / Equivalent Circuit**引脚排列 / Pinning**

PIN1 : S1 PIN 2 : G1 PIN 3 : S2 PIN 4 : G2

PIN 5 : D2 PIN 6 : D2 PIN 7 : D1 PIN 8 : D1

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}	40	V
Gate-Source Voltage	V _{GS}	±20	V
Drain Current	I _D	8	A
Maximum Body-Diode Continuous Current	I _S	2.0	A
Pulsed Drain Current	I _{DM}	40	A
Maximum Body-Diode Pulse Current (10 ms Single Half Sine Wave Superimposed on Rated Load)	I _{SM}	40	A
Power Dissipation	P _D	2.0	W
Operating and Junction Temperature Range	T _j T _{stg}	-55~150	°C
Avalanche Current	I _{AS}	11.7	A
Avalanche energy(L=0.5mH)	E _{AS}	54.8	mJ
Maximum Junction-to-Ambient	R _{θJA}	62.5	°C/ W
Maximum Junction-to-Ambient		90	
Maximum Junction-to Lead		40	

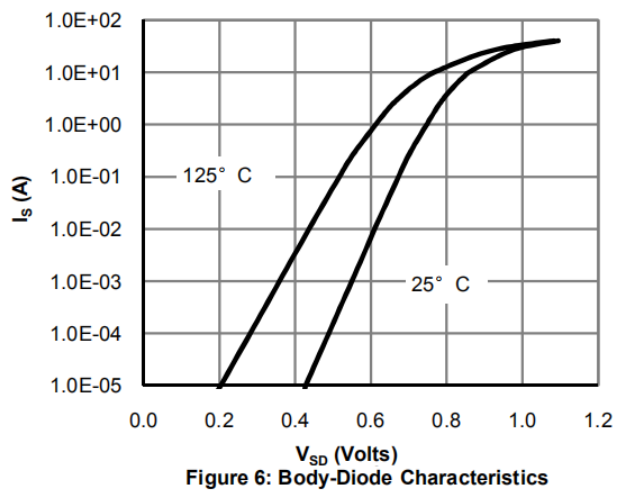
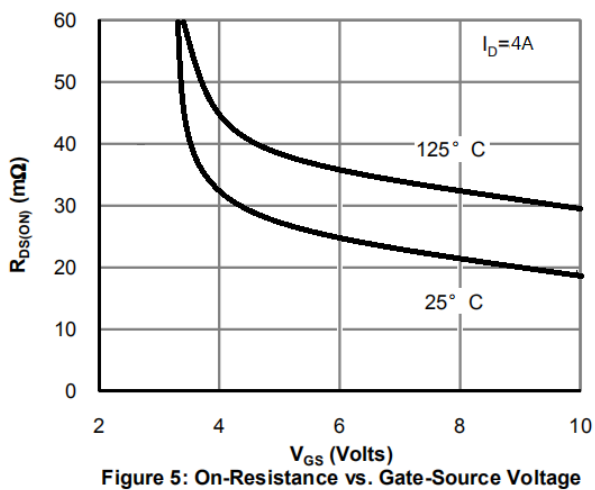
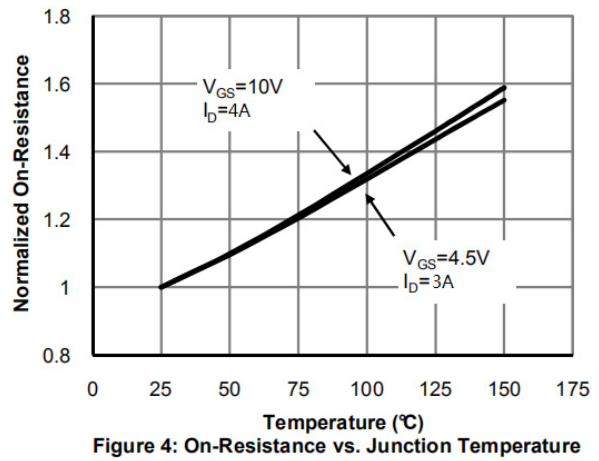
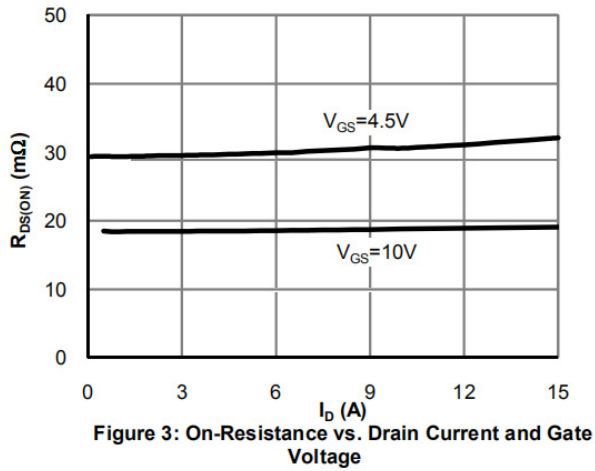
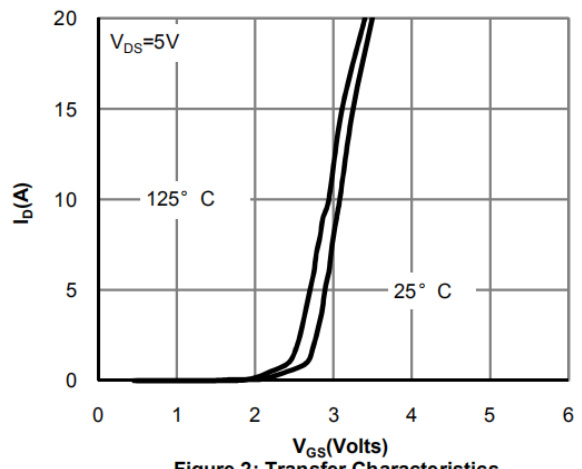
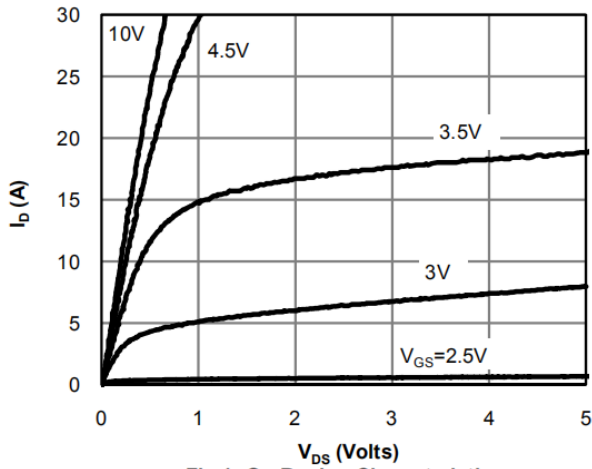
电性能参数 / Electrical Characteristics(Ta=25°C)

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	40	45		V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =40V V _{GS} =0V			1.0	μA
Gate-Body Leakage Current Forward	I _{GSS}	V _{GS} =±20V V _{DS} =0V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =250μA	1.0	1.7	2.5	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V I _D =4A		19.9	22	mΩ
		V _{GS} =4.5V I _D =3A		29.5	36	
Diode Forward Voltage	V _{SD}	I _S =1A V _{GS} =0V		0.75	1.0	V
Input Capacitance	C _{iss}	V _{DS} =25V V _{GS} =0V f=1.0MHz		1200		pF
Output Capacitance	C _{oss}			350		pF
Reverse Transfer Capacitance	C _{rss}			250		pF
Gate resistance	R _g	V _{DS} =0V V _{GS} =0V f=1.0MHz		2.5		Ω
Total Gate Charge	Q _{g(10V)}	V _{GS} =10V V _{DS} =20V I _D =6A		15.4		nC
Total Gate Charge	Q _{g(4.5V)}			7.0		nC
Gate-Source Charge	Q _{gs}			1.4		nC
Gate-Drain Charge	Q _{gd}			2.9		nC

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	$Q_g(10V)$	$V_{GS}=10V$ $V_{DS}=20V$ $I_D=6A$		15.4		nC
Total Gate Charge	$Q_g(4.5V)$			7.0		
Gate-Source Charge	Q_{gs}			1.4		
Gate-Drain Charge	Q_{gd}			2.9		

电参数曲线图 / Electrical Characteristic Curve



电参数曲线图 / Electrical Characteristic Curve

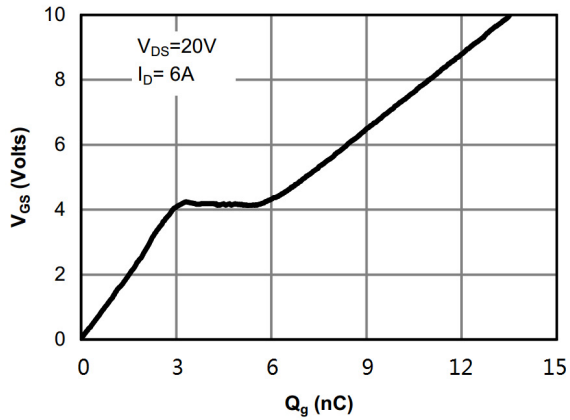


Figure 7: Gate-Charge Characteristics

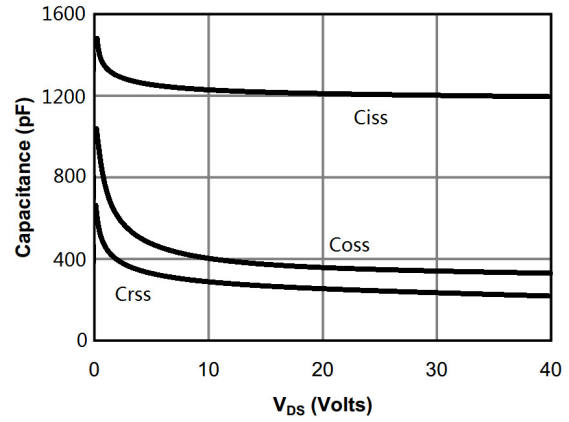


Figure 8: Capacitance Characteristics

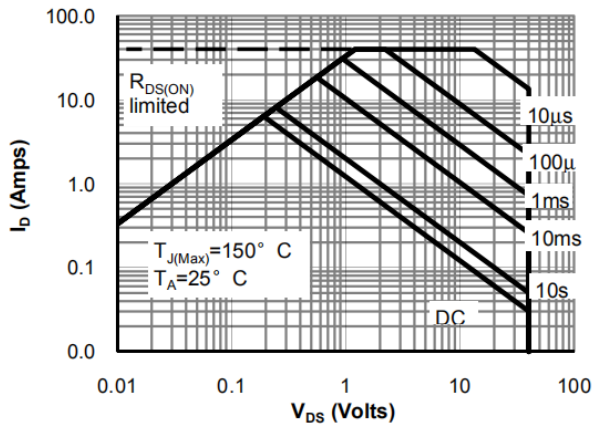


Figure 9 : Maximum Forward Biased Safe Operating Area

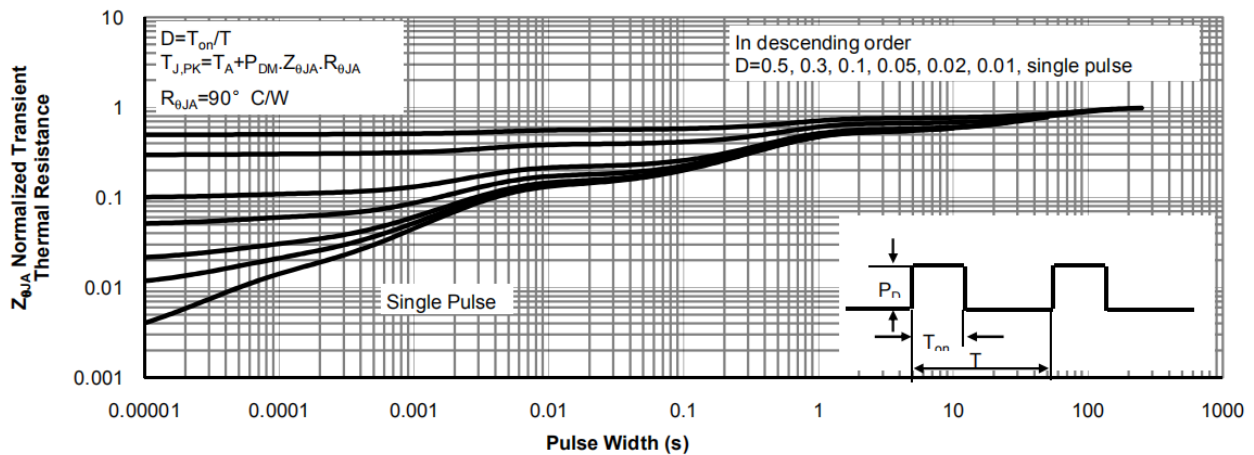
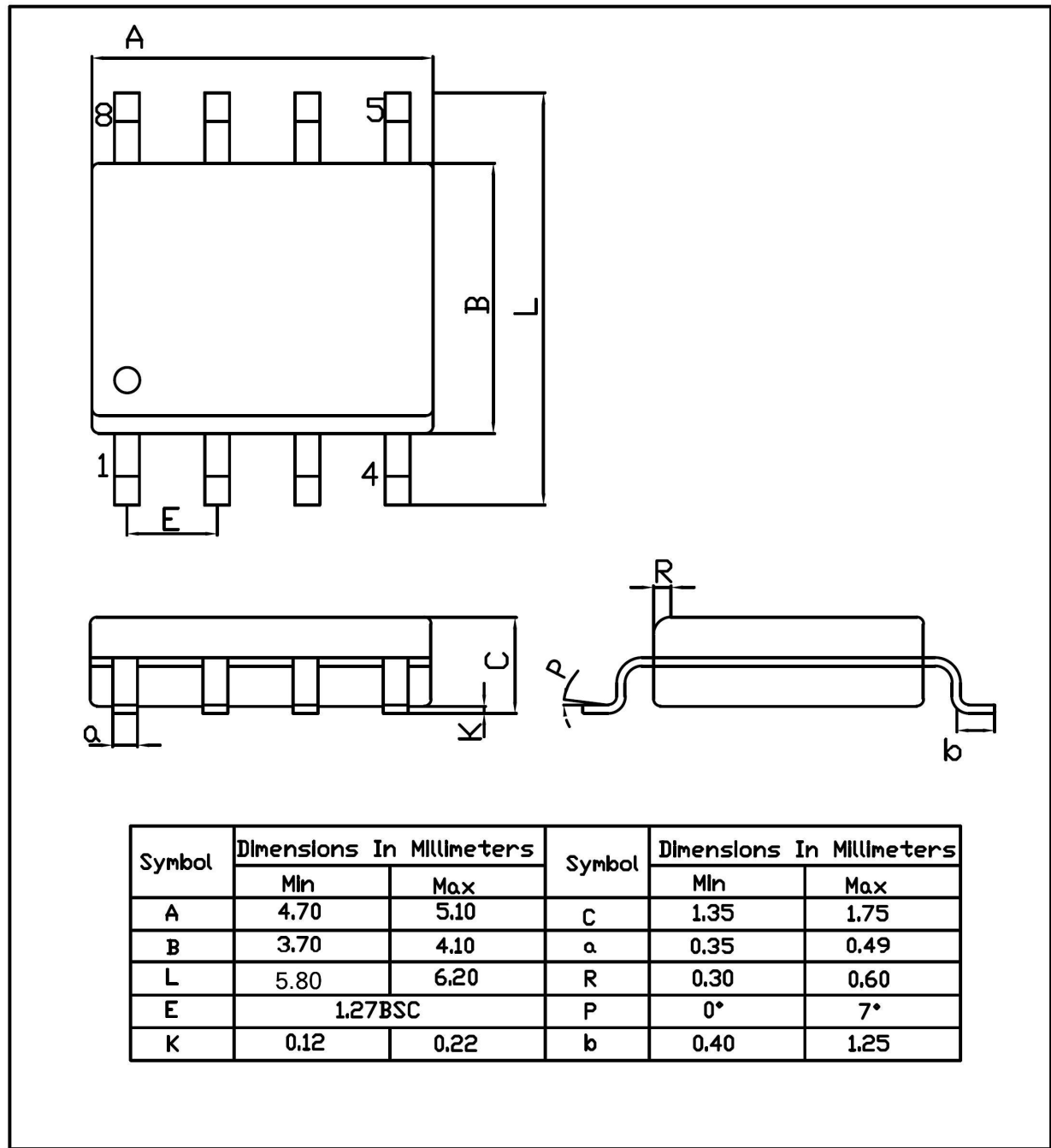


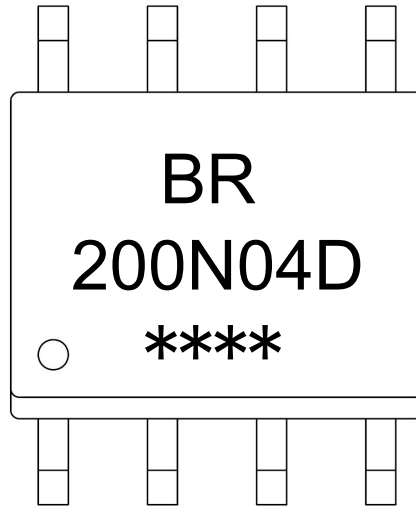
Figure 10: Normalized Maximum Transient Thermal Impedance

外形尺寸图 / Package Dimensions

SOP-8

Unit:mm



印章说明 / Marking Instructions

说明：

BR： 为公司代码

200N04D： 为型号代码

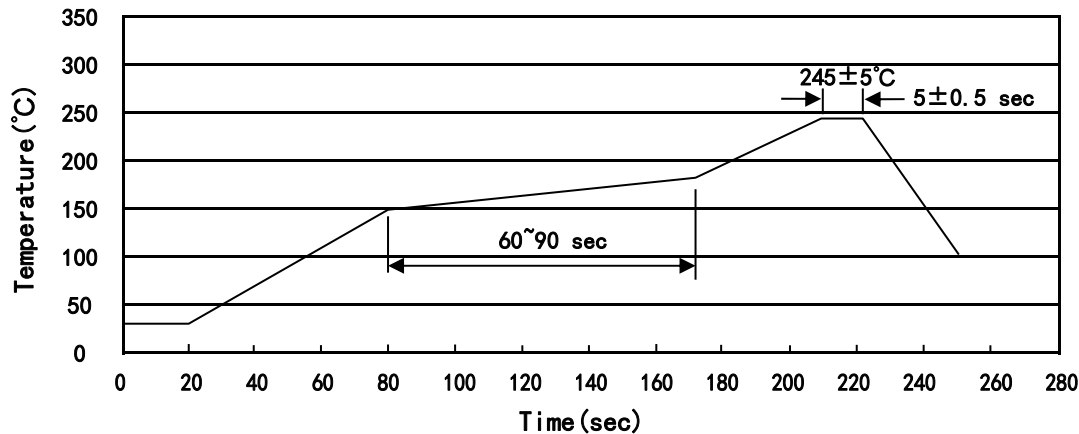
****： 为生产批号代码，随生产批号变化

Note:

BR: Company Code.

200N04D: Product Type.

****: 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
SOP/ESOP-8	4,000	2	8,000	6	48,000	13" ×12	360×360×50	380×335×366

使用说明 / Notices

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