BRCS200P016MC

Rev.C Aug.-2025

DATA SHEET

描述 / Descriptions

SOT23-3 塑封封装 P 道 MOS 场效应管。

P- CHANNEL MOSFET in a SOT23-3 Plastic Package.

特征 / Features

V_{DS} (V) = -16V I_D = -7.0A

$R_{DS(ON)}$@-4.5V(Typ.)=16.7mΩ

$R_{DS(ON)}$@-2.5V(Typ.)=22.5mΩ

$R_{DS(ON)}$@-1.8V(Typ.)=32.5mΩ

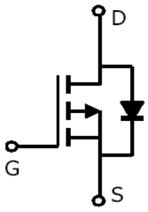
无卤产品。HF Product.

用途 / Applications

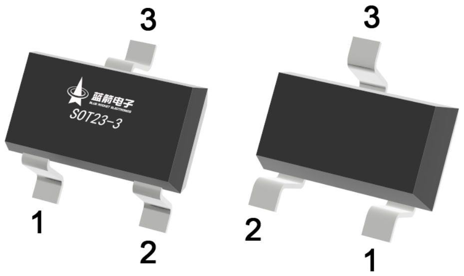
用于电源管理，便携式设备和电池供电系统。

Power Management in Notebook computer, Portable Equipment and Battery powered systems.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN1 : G   PIN 2 : S   PIN 3 : D

印章代码 / Marking

Marking	C6H

极限参数 / Absolute Maximum Ratings(Ta=25℃)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage	V_{DSS}	-16	V
Gate-Source Voltage	V_{GSS}	±12	V
Continuous Drain Current	I_D	-7.0	A
Pulsed Drain Current	I_{DM}	-30	A
Power Dissipation for Single Operation	P_D	1.2	W
Maximum Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55 ~ 150	℃
Thermal Resistance-Junction to Ambient	$R_{\theta JA}$	100	℃/W

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

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}	I_D=-250μA V_{GS}=0V	-16	-17		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-12.8V V_{GS}=0V			-1.0	μA
Gate-Body leakage current	I_{GSS}	V_{DS}=0V V_{GS}=±12V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=VGS I_D=-250μA	-0.5	-0.6	-1.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=-4.5V I_D=-3.5A		16.7	20	mΩ
		V_{GS}=-2.5V I_D=-3.5A		22.5	25	
		V_{GS}=-1.8V I_D=-1A		32.5	100	
Diode Forward Voltage	V_{SD}	I_S=-1A V_{GS}=0V			-1.2	V
Gate resistance	Rg	V_{GS}=0V, V_{DS}=0V, f=1MHz		5.8		Ω
Input Capacitance	C_{iss}	V_{GS}=0V V_{DS}=-5V f=1MHz		1350		pF
Output Capacitance	C_{oss}			290		
Reverse Transfer Capacitance	C_{rss}			250		

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

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=-7.0A		13.2		nC
Gate Source Charge	Q_{gs}			1.5		
Gate Drain Charge	Q_{gd}			3.6		
Turn–On Delay Time	$t_{d(on)}$	V_{GS}=-4.5V I_D=-7.0A V_{DS}=-10V R_{GEN}=3Ω		13.7		ns
Turn–On Rise Time	t_r			47.6		
Turn–Off Delay Time	$t_{d(off)}$			43.1		
Turn–Off Fall Time	t_f			29.5		

电参数曲线图 / Electrical Characteristic Curve

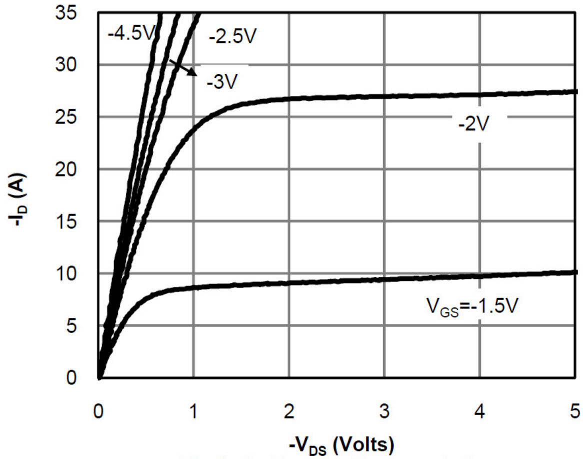


Fig 1: On-Region Characteristics

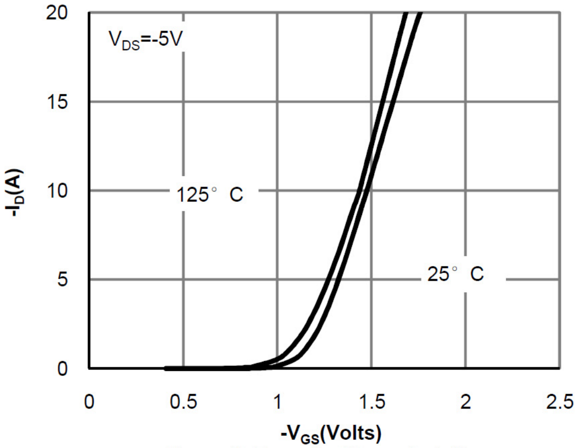


Figure 2: Transfer Characteristics

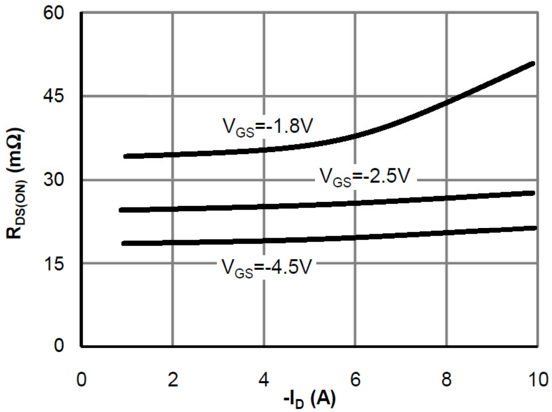


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

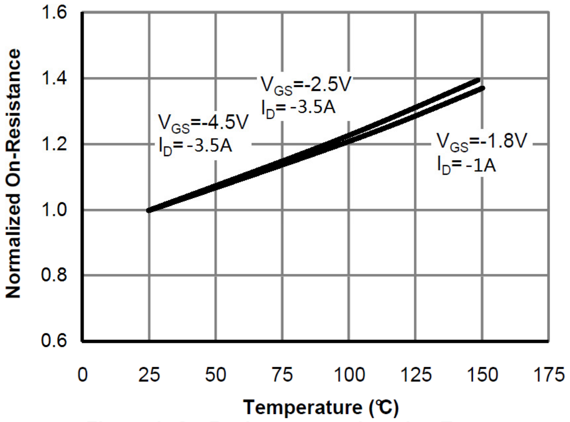


Figure 4: On-Resistance vs. Junction Temperature

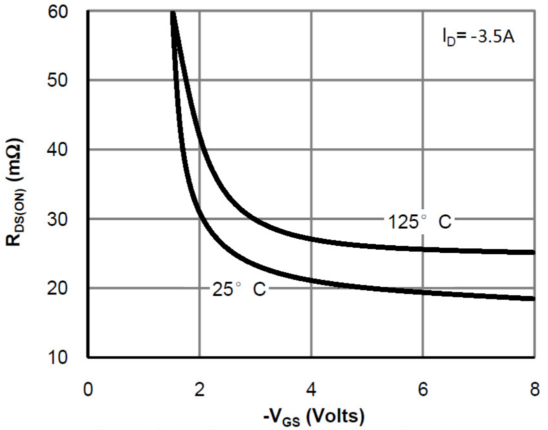


Figure 5: On-Resistance vs. Gate-Source Voltage

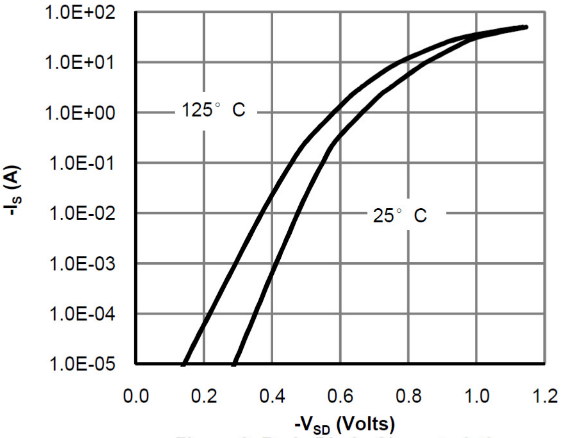


Figure 6: Body-Diode Characteristics

电参数曲线图 / Electrical Characteristic Curve

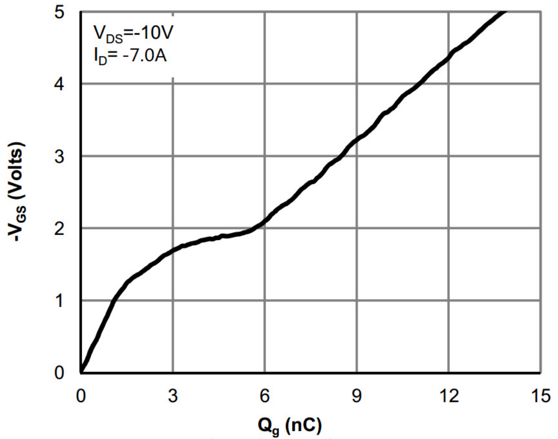


Figure 7: Gate-Charge Characteristics

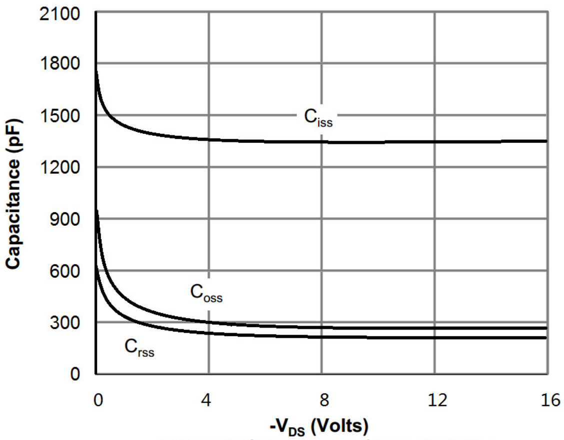


Figure 8: Capacitance Characteristics

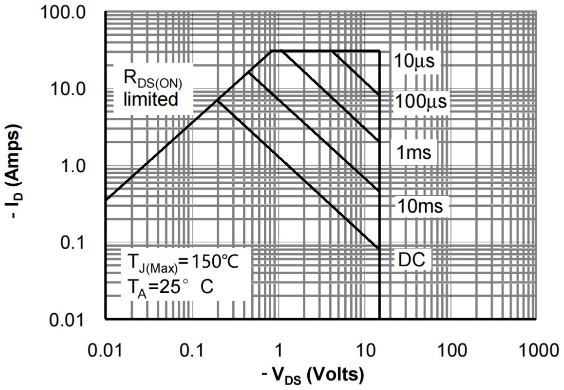


Figure 9: Maximum Forward Biased Safe Operating Area

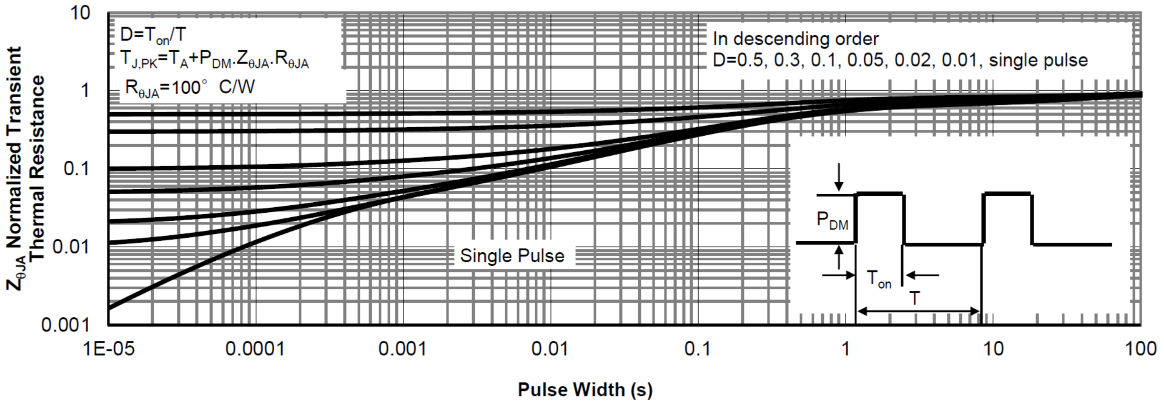
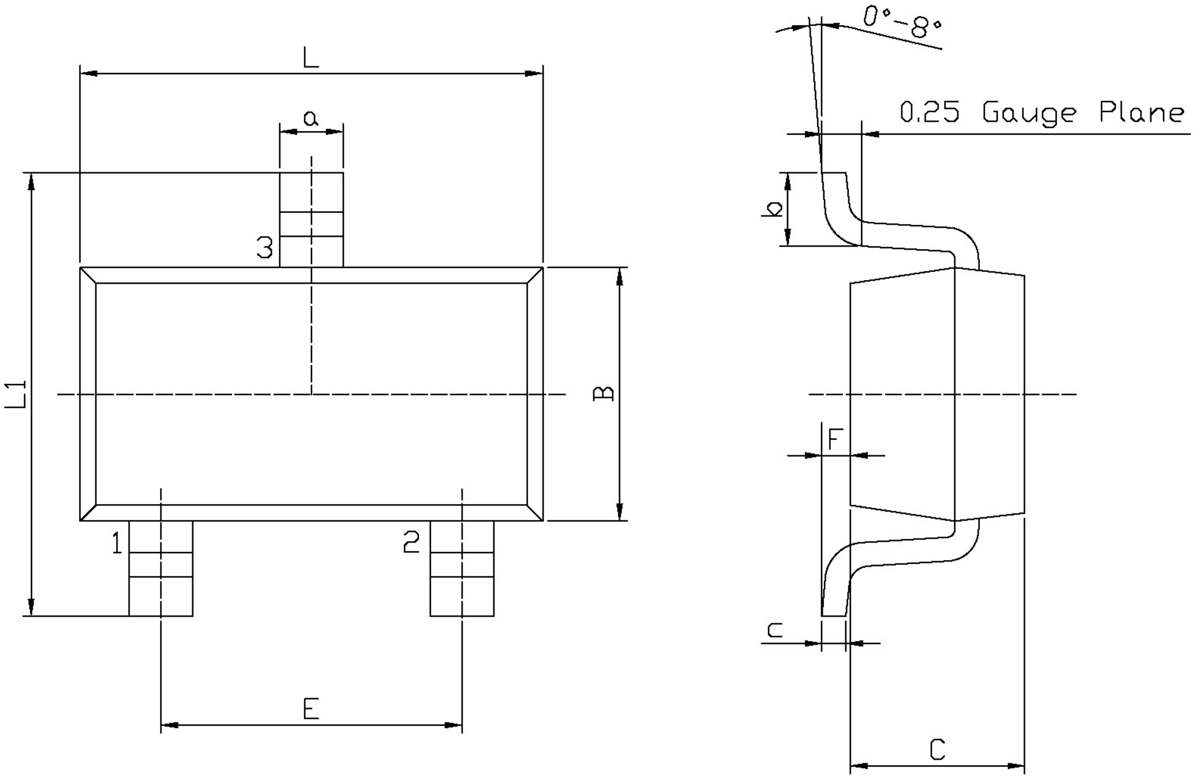


Figure 10: Normalized Maximum Transient Thermal Impedance

外形尺寸图 / Package Dimensions

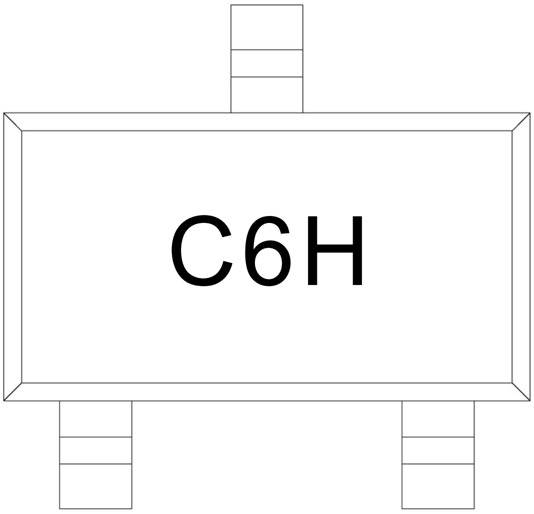


Unit: mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	2.82	3.02	a	0.35	0.50
B	1.50	1.70	c	0.10	0.20
C	0.90	1.30	b	0.35	0.55
L1	2.60	3.00	F	0	0.15
E	1.80	2.00			

SOT23-3

印章说明 / Marking Instructions



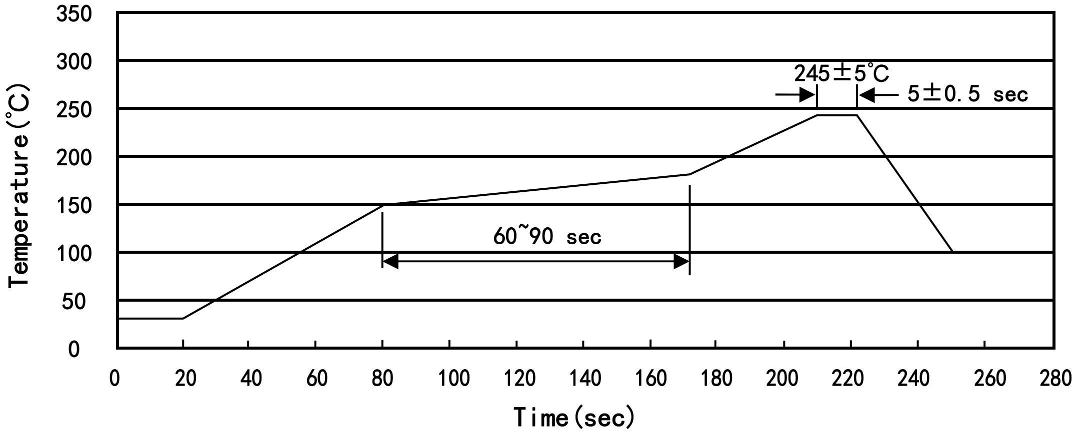
说明：

C6：	为型号代码
H：	为公司代码

Note:

C6:	Product Type Code
H:	Company Code

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℃，时间 60～90sec;
2、峰值温度 245±5℃，时间持续为 5±0.5sec;
3、焊接制程冷却速度为 2～10℃/sec.

Note:
1.Preheating:150~180℃, Time:60~90sec.
2.Peak Temp.:245±5℃, Duration:5±0.5sec.
3. Cooling Speed: 2~10℃/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：260±5℃　　时间：10±1 sec.

Temp.:260±5℃　　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
SOT23-3	3,000	10	30,000	4	120,000	7″ ×8	210×205×205	445×435×230

使用说明 / Notices

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