

# BRCS5N10MC

Rev.D Jun.-2022

## 描述 / Descriptions

SOT23-3 塑封封装 N 道场效应管。

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

## 特征 / Features

高可靠性，适用无铅及绿色设备(符合 ROHS) ，无卤产品。

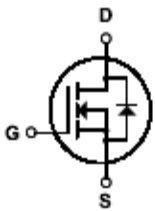
High Reliable;Lead Free and Green Devices Available( RoHS Compliant) ,HF Product.

## 用途 / Applications

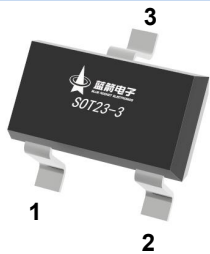
适用电视机等开关电源电路。

Power management in TV Inverter. Power Switch.

## 内部等效电路 / Equivalent Circuit



## 引脚排列 / Pinning



PIN 1 : G

PIN 2 : S

PIN 3 : D

## 印章代码 / Marking

Marking

H5N1

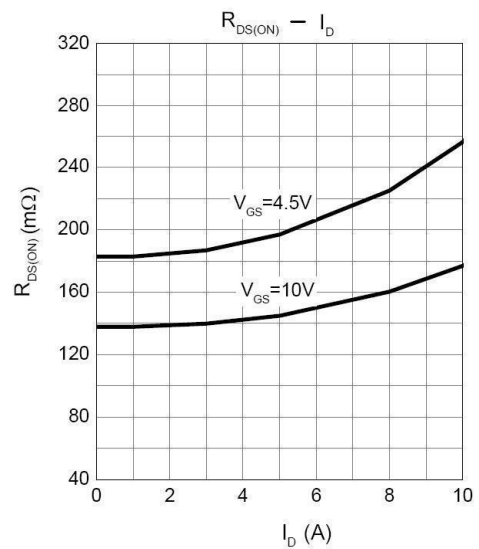
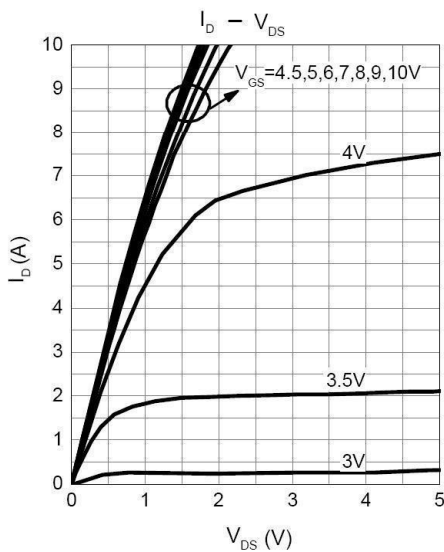
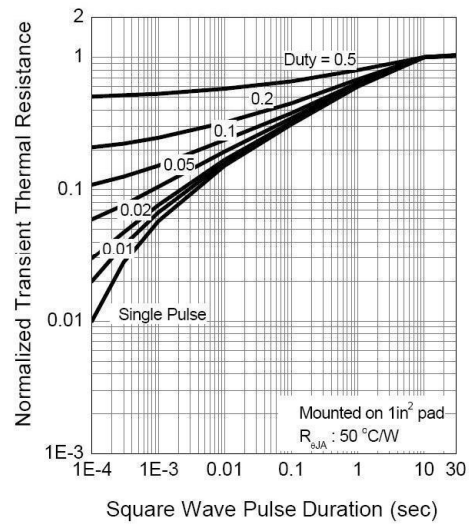
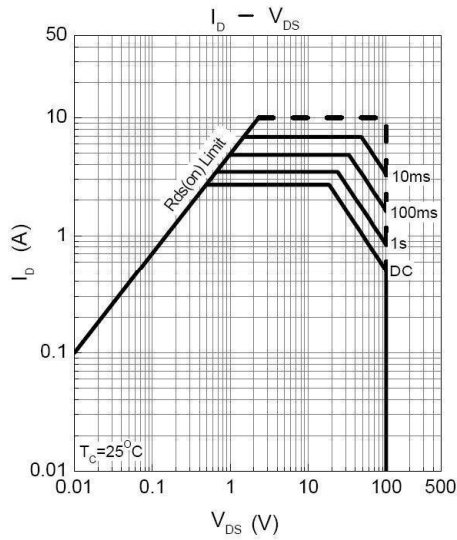
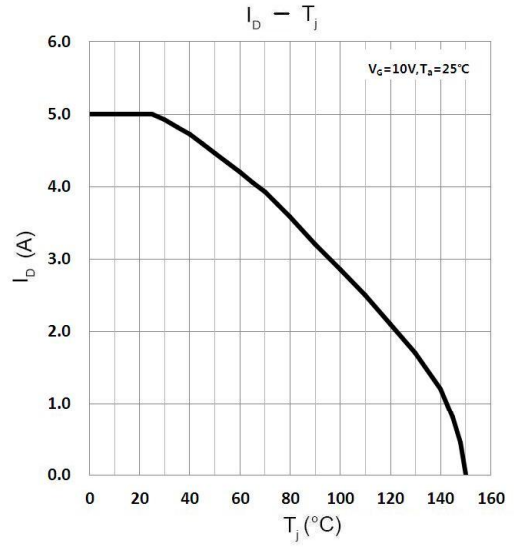
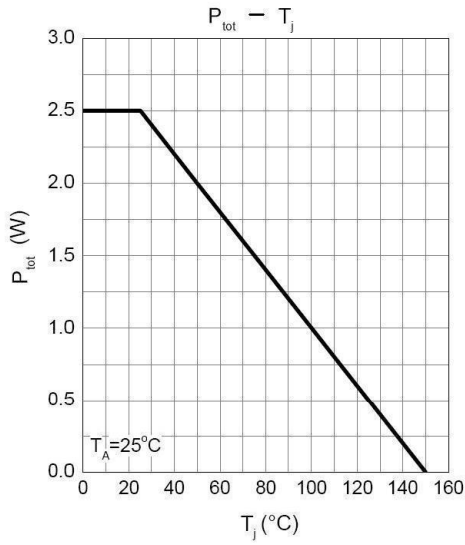
**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage	$V_{DSS}$	100	V
Drain Current- Pulsed	$I_{DM}$	20	A
Maximum Drain Current - Continuous	$I_D$	5.0	A
Gate-Source Voltage	$V_{GSS}$	±20	V
Power Dissipation	$P_D$	0.83	W
Maximum Junction Temperature	$T_J$	150	°C
Storage Temperature Range	$T_{STG}$	-55 to 150	°C
Maximum Resistance –Junction to Ambient	$R_{\theta JA}$	150	°C/W

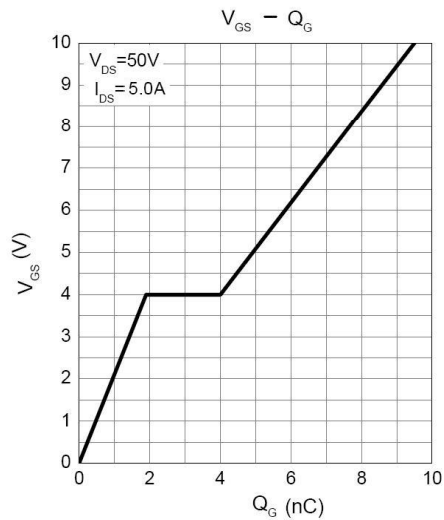
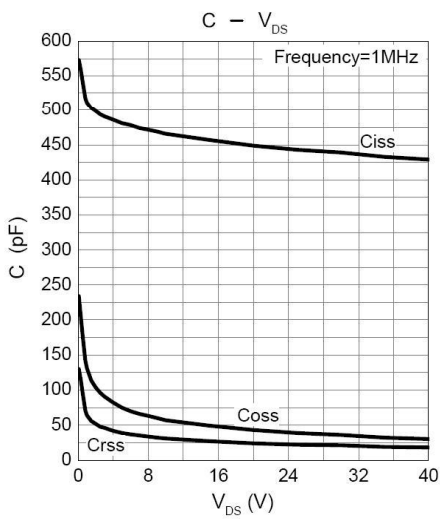
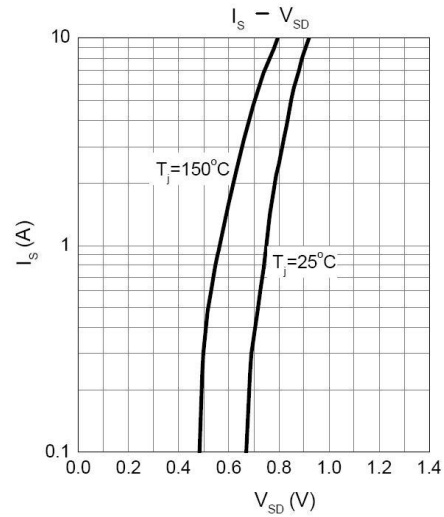
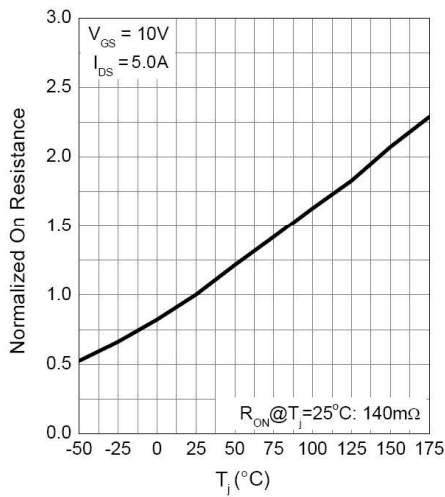
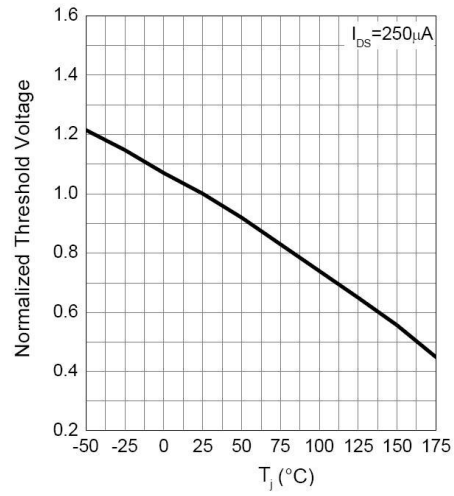
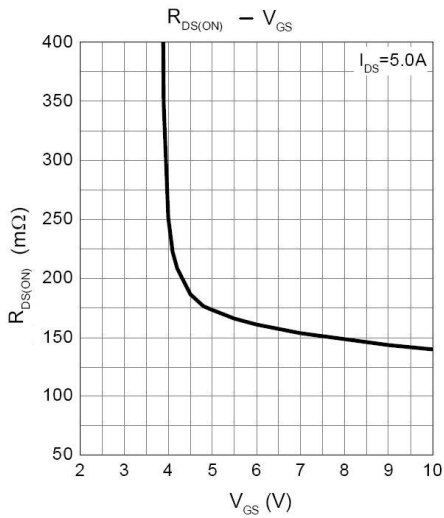
**电性能参数 / Electrical Characteristics(Ta=25°C)**

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	$BV_{DSS}$	$V_{GS}=0V$ $I_{DS}=250\mu A$	100			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=80V$ $V_{GS}=0V$			1	$\mu A$
		$T_J=85^\circ C$			20	$\mu A$
Gate–Body Leakage.	$I_{GSS}$	$V_{GS}=\pm 16V$ $V_{DS}=0V$			±10	$\mu A$
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_{DS}=250\mu A$	1		3	V
Static Drain–Source On–Resistance	$R_{DS(on)(1)}$	$V_{GS}=6V$ $I_D=2A$			235	mΩ
	$R_{DS(on)(2)}$	$V_{GS}=10V$ $I_D=5A$			175	mΩ
Drain-Source Diode Forward Voltage	$V_{SD}$	$V_{GS}=0V$ $I_F=3A$		0.8	1.1	V
Reverse Recovery Time	$T_{rr}$	$I_{DS}=5A$ $d_{SD}/dt=100A/\mu s$		36		ns
Reverse Recovery Charge	$Q_{rr}$			49		nC
Input Capacitance	$C_{iss}$	$V_{DS}=0V$ $V_{GS}=30V$ $f=1.0MHz$		440		pF
Output Capacitance	$C_{oss}$			36		pF
Reverse Transfer Capacitance	$C_{rss}$			20		pF
Turn–On Delay Time	$t_{d(on)}$	$I_{DS}=1A$ $V_{GEN}=10V$ $V_{DD}=30V$ $R_L=30\Omega$ $R_G=6\Omega$		11	21	ns
Turn–On Rise Time	$t_r$			10	19	ns
Turn–Off Delay Time	$t_{d(off)}$			21	39	ns
Turn–Off Fall Time	$t_f$			13	24	ns
Total Gate Charge	$Q_g$	$V_{DS}=50V$ $V_{GS}=10V$ $I_{DS}=5A$		9.5	13	nC
Gate- Source Charge	$Q_{gs}$			1.9		nC
Gate- Drain Charge	$Q_{gd}$			2.1		nC

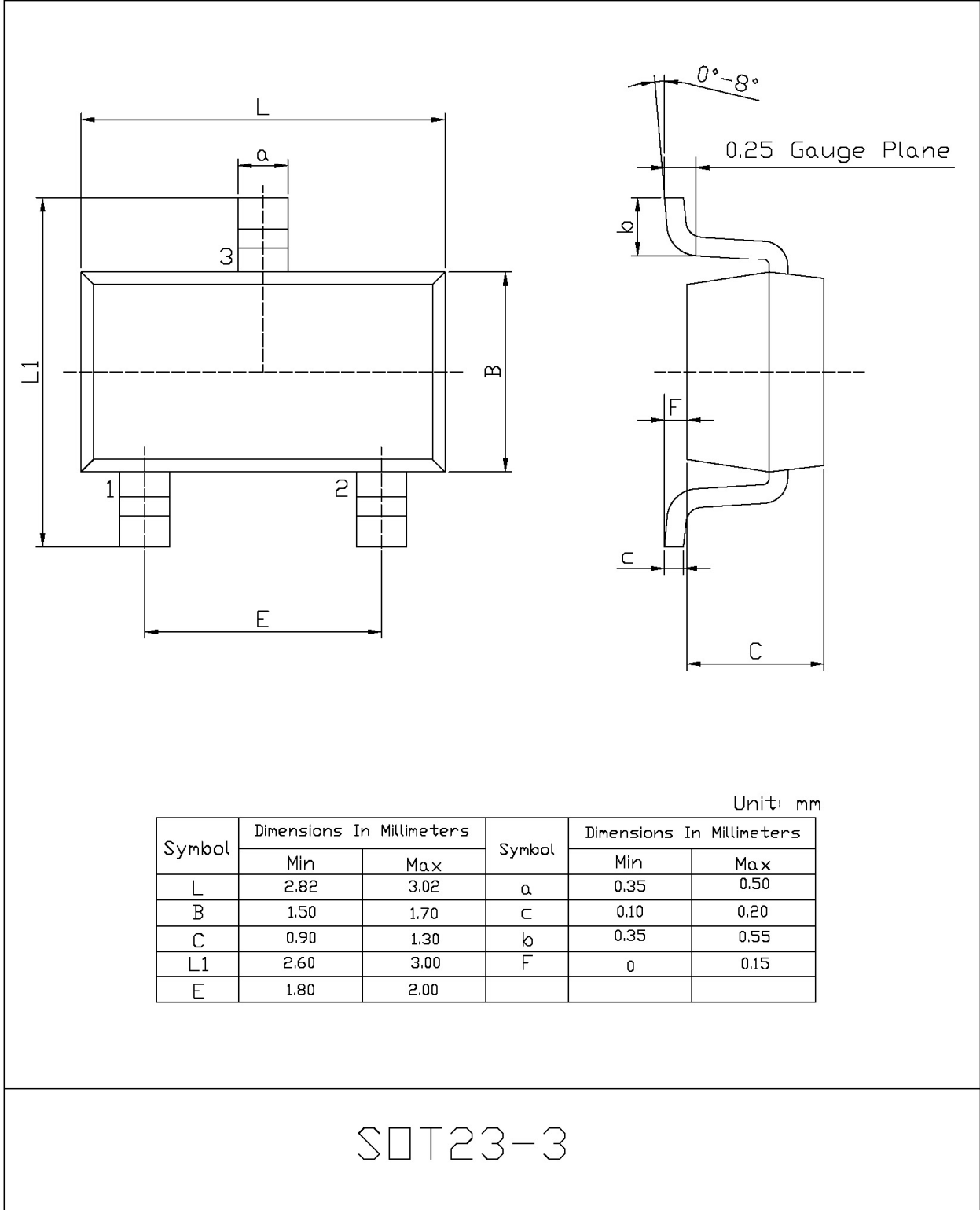
电参数曲线图 / Electrical Characteristic Curve



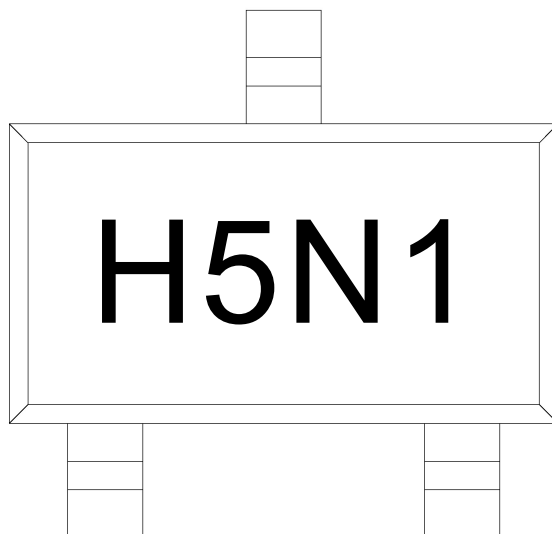
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions



印章说明 / Marking Instructions



说明：

H: 为公司代码

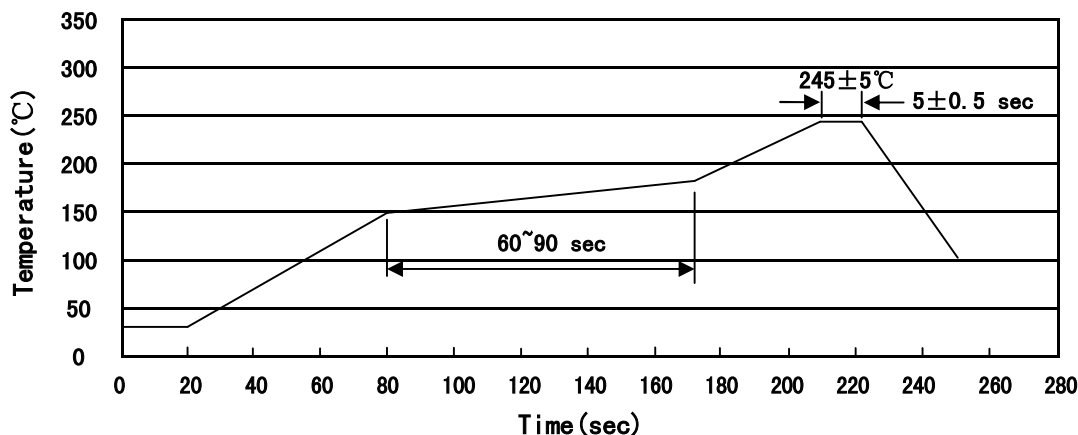
5N1：为型号代码

Note:

H：Company Code

5N1: Product Type 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°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 <sup>3</sup> )		
	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
SOT-23-3	3,000	10	30,000	4	120,000	7" ×8	210×205×205	445×230×435

**使用说明 / Notices**