

# BRCS3134WS

Rev.D Jan.-2024

## 描述 / Descriptions

SOT-363 塑封封装 N 沟道 MOS 场效应管。  
N-CHANNEL MOSFET in a SOT-363 Plastic Package.

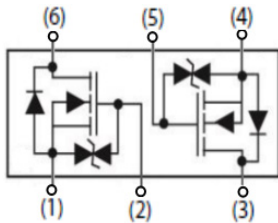
## 特征 / Features

先进的沟道设计单元和开关速度快，内置防静电保护二极管，无卤产品。  
Advanced trench cell design and High speed switch,ESD protected diode, HF Product.

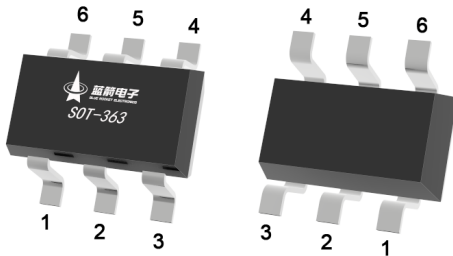
## 用途 / Applications

用于实用电器和负载开关。  
Typical applications are portable appliances and Load switch appliances.

## 内部等效电路 / Equivalent Circuit



## 引脚排列 / Pinning



PIN1、4 : S      PIN 2、5 : G      PIN 3、6 : D

## 印章代码 / Marking

见印章说明。  
See Marking Instructions.

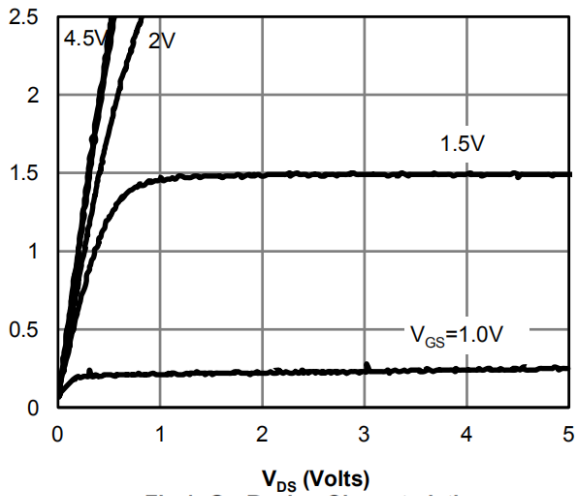
**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage	$V_{DSS}$	20	V
Gate-Source Voltage	$V_{GSS}$	$\pm 10$	V
Drain Current – Continuous	$I_D$	0.5	A
Peak Drain Current	$I_{DM}$	2	A
Power Dissipation	$P_D$	235	mW
Storage Temperature Range	$T_{stg}$	-55~150	°C

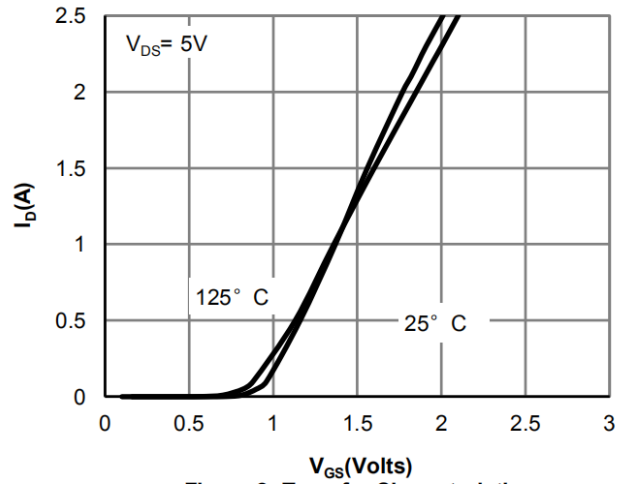
**电性能参数 / Electrical Characteristics(Ta=25°C)**

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-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0$ $I_D = 250\mu A$	20			V
Zero Gate Voltage Drain Current	$I_{DSS(1)}$	$V_{GS}=0$ $V_{DS}=16V$			1.0	$\mu A$
	$I_{DSS(2)}$	$T_J = 85^\circ C$			30	$\mu A$
Gate-Body Leakage.	$I_{GSS}$	$V_{DS}=0V$ $V_{GS}=\pm 8$			$\pm 10$	$\mu A$
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D = 250 \mu A$	0.5	0.65	1.0	V
Static Drain-Source On-Resistance <sup>a</sup>	$R_{DS(on)(1)}$	$V_{GS}=4.5V$ $I_D=0.5A$		0.25	0.4	$\Omega$
	$R_{DS(on)(2)}$	$V_{GS}=2.5V$ $I_D=0.2A$		0.35	0.65	$\Omega$
	$R_{DS(on)(3)}$	$V_{GS}=1.8V$ $I_D=0.1A$		0.4	0.8	$\Omega$
	$R_{DS(on)(4)}$	$V_{GS}=1.5V$ $I_D=0.05A$		0.5		$\Omega$
	$R_{DS(on)(5)}$	$V_{GS}=1.2V$ $I_D=0.02A$		1.0		$\Omega$
Diode Forward Voltage	$V_{SD}$	$I_{SD} = 0.5 A$ $V_{GS} = 0 V$		0.7	1.3	V
Input Capacitance	$C_{iss}$	$V_{DS}=10V$ $V_{GS}=0V$ $f=1.0MHz$		105		pF
Output Capacitance	$C_{oss}$			65		
Reverse Transfer Capacitance	$C_{rss}$			20		
Total Gate Charge	$Q_g$	$V_{GS}=4.5V,$ $V_{DS}=10V,$ $I_D=0.4A$		0.85		nC
Gate Source Charge	$Q_{gs}$			0.1		
Gate Drain Charge	$Q_{gd}$			0.25		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=4.5V$ $V_{DS}=10V$ $R_L=25\Omega$ $R_{GEN}=3\Omega$		2		ns
Turn-On Rise Time	$t_r$			4		
Turn-Off Delay Time	$t_{d(off)}$			18		
Turn-Off Fall Time	$t_f$			8		

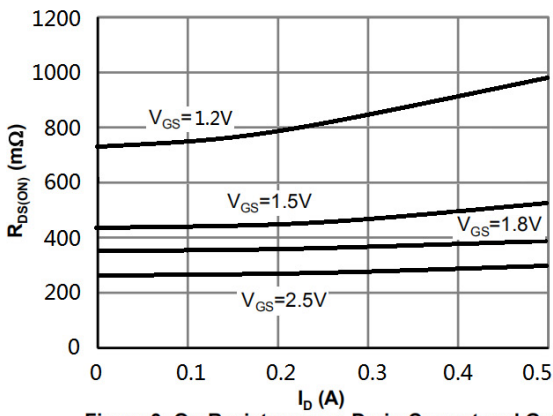
**电参数曲线图 / Electrical Characteristic Curve**



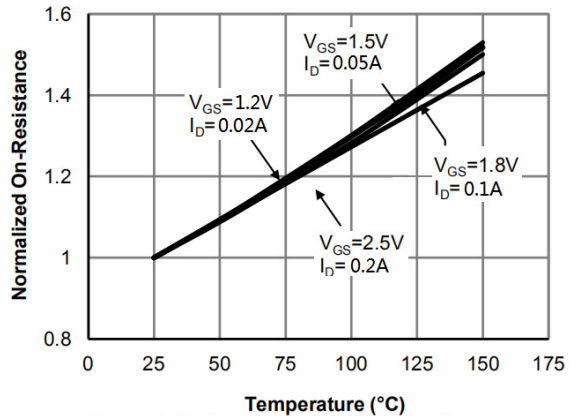
**Fig 1: On-Region Characteristics**



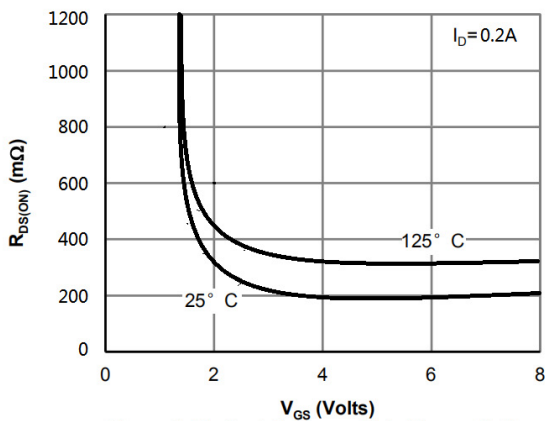
**Figure 2: Transfer Characteristics**



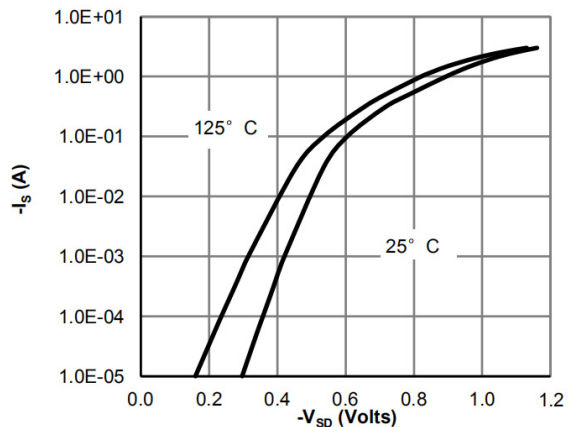
**Figure 3: On-Resistance vs. Drain Current and Gate Voltage**



**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

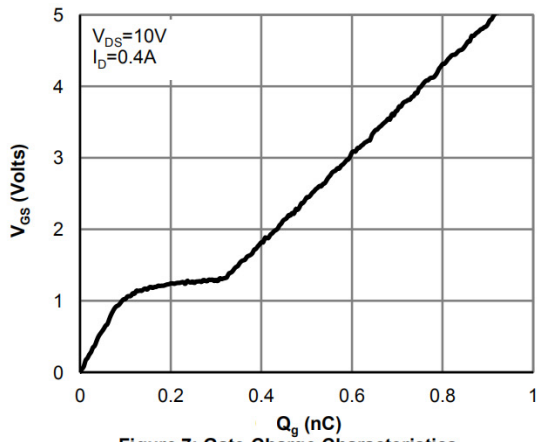


Figure 7: Gate-Charge Characteristics

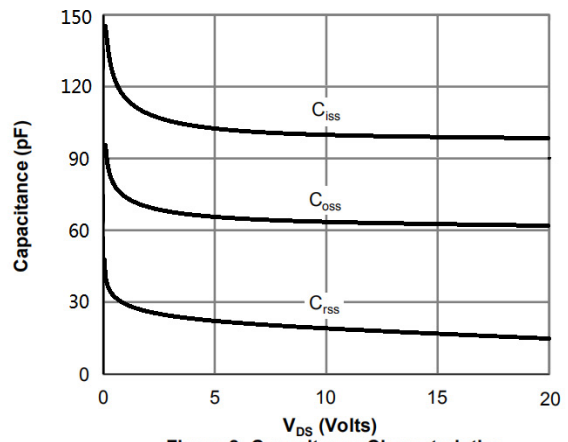
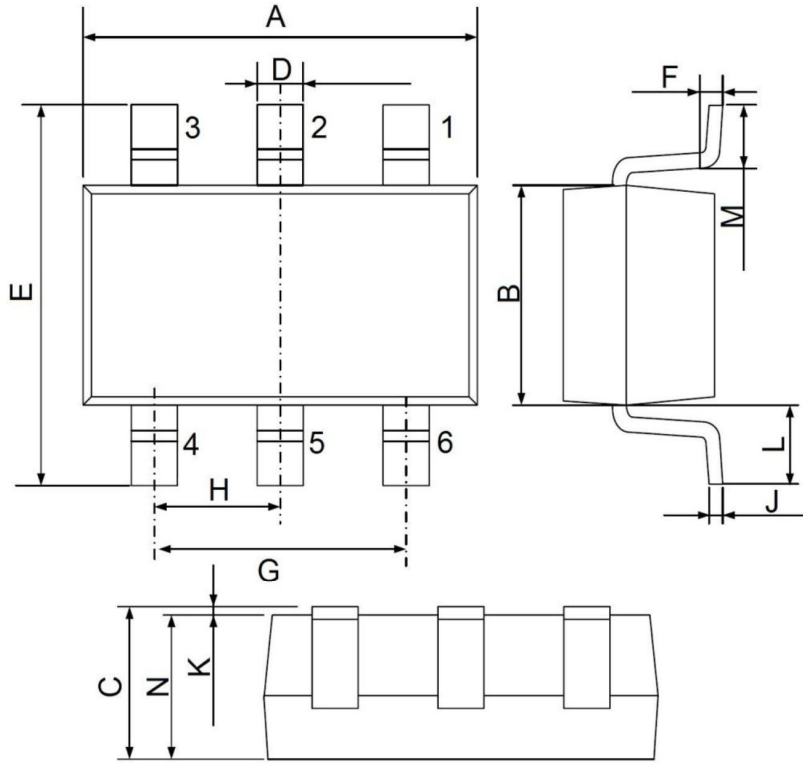


Figure 8: Capacitance Characteristics

外形尺寸图 / Package Dimensions

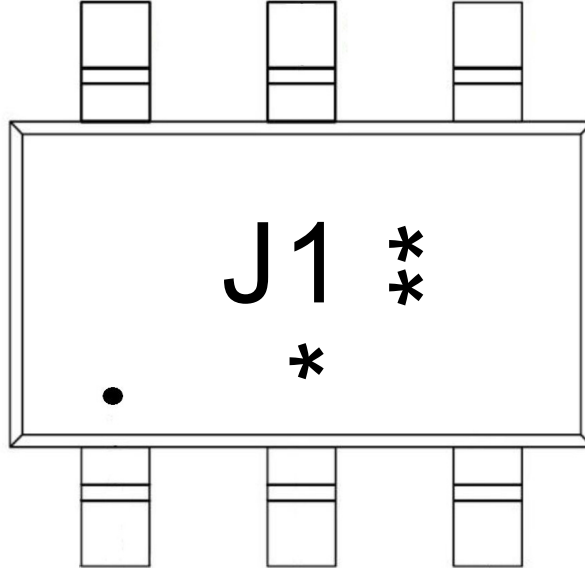
**SOT-363-6L**



UNIT: mm

DIM	MIN	MAX
A	2.00	2.20
B	1.15	1.35
C	0.90	1.10
D	0.15	0.35
E	1.95	2.25
F	0.20 Typ.	
G	1.20	1.40
H	0.65 Typ.	
J	0.08	0.15
K	0.00	0.10
L	0.525 Ref.	
M	0.26	0.46
N	0.90	1.10

印章说明 / Marking Instructions

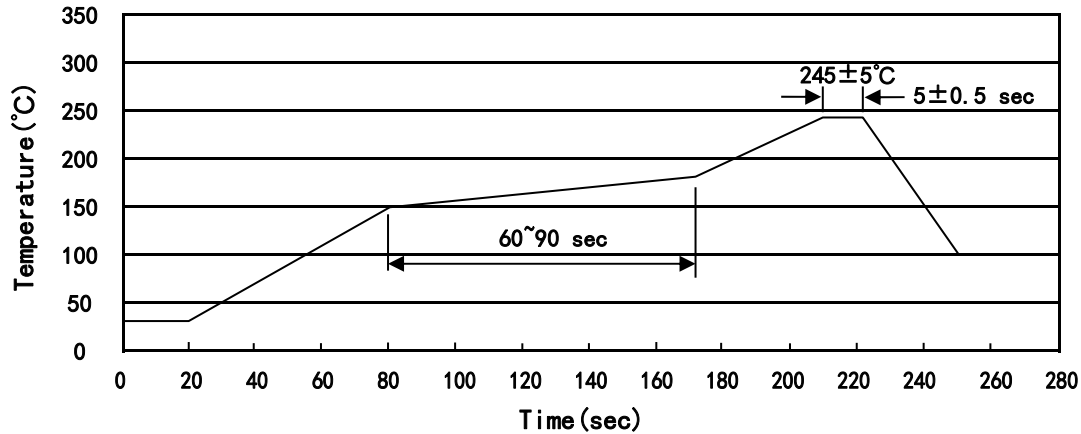


说明：

- ： 为“1”脚
- J1： 为型号代码
- \*\*\*： 为生产批号代码，随生产批号变化

Note:

- ： "1" Pin
- J1: 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 <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-363	3,000	10	30,000	6	180,000	7" ×8	180×120×180	390×385×205

**使用说明 / Notices**