

# BRES5V0X4C6MF

Rev.A Jun.-2022

## 描述 / Descriptions

SOT23-6 塑封封装低电容 TVS 二极管。

Low Capacitance TVS Array in a SOT23-6 Plastic Package.

## 特征 / Features

4 路 ESD 保护结构；低电容的高速接口；I/O 通道之间的电容不大于 0.35pF；低钳位电压；低工作电压；适应高速数据传输线。无卤产品。

4 ESD protection structures, low capacitance for high-speed interfaces, Capacitance I / O channel is not more than 0.35pF, Low clamping voltage, Low operating voltage, suitable for high speed data transmission lines. HF Product.

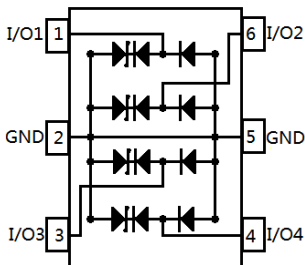
## 用途 / Applications

用于高速数据线 ESD 保护，如 USB 2.0、机顶盒、显示器等。按 IEC 61000-4-2(ESD)标准：±30kV (空气放电)，±20kV (接触放电)。

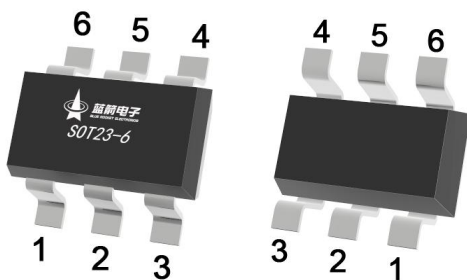
ESD protection for high-speed data lines, such as USB 2.0, set-top boxes, monitors and so on.

According to IEC 61000-4-2 (ESD) Standard: ± 30kV (air discharge), ± 20kV (contact discharge).

## 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.

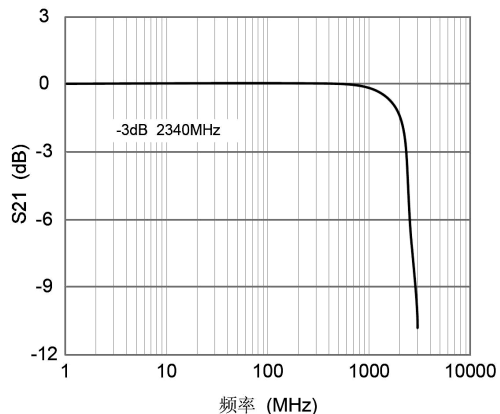
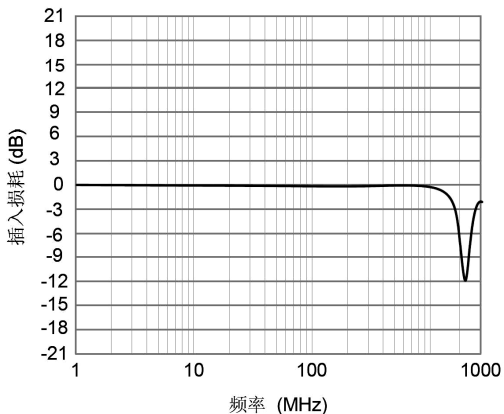
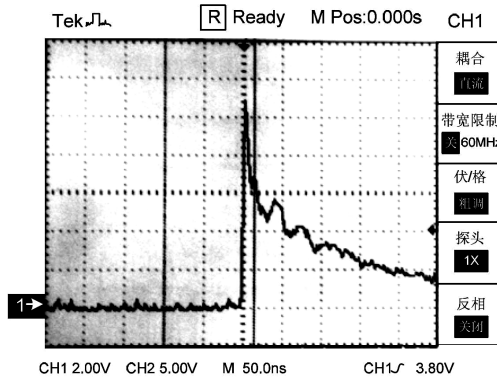
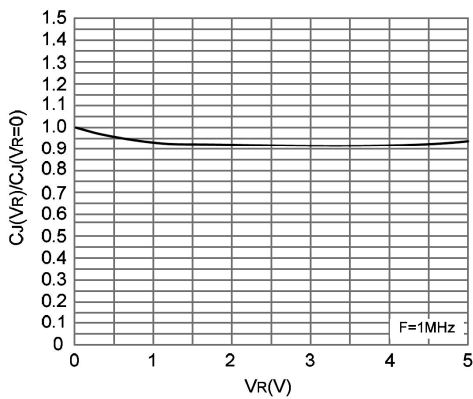
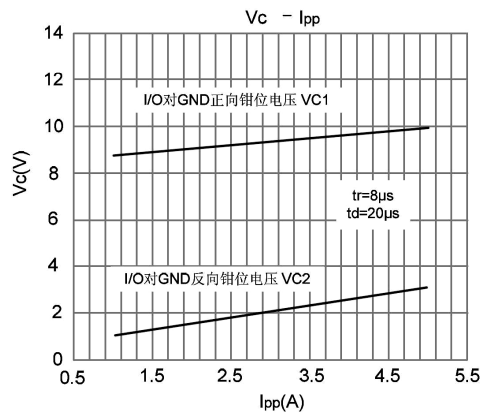
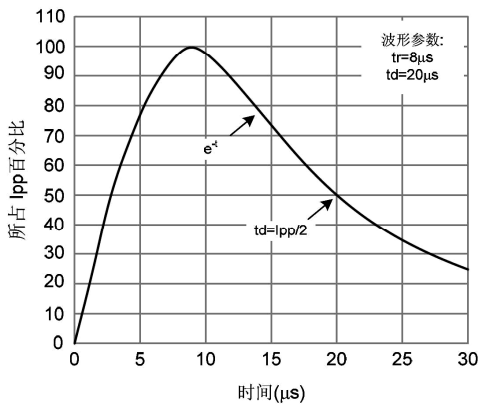
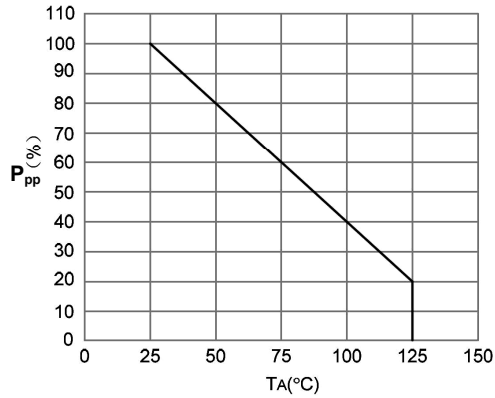
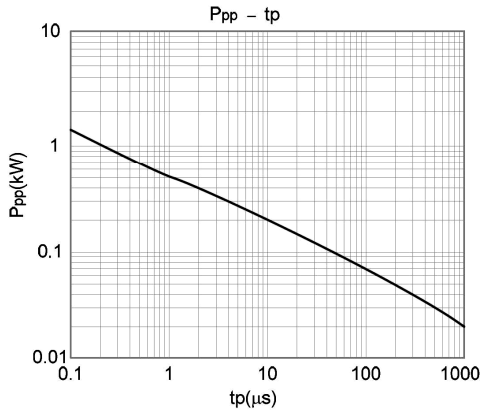
**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Peak Pulse Power (tp = 8/20μs)	P <sub>PP</sub>	56	W
Peak Pulse Current (tp = 8/20μs)	I <sub>PP</sub>	4.0	A
ESD per IEC 61000-4-2 (Air)	V <sub>ESD1</sub>	±30	kV
ESD per IEC 61000-4-2 (Contact)	V <sub>ESD2</sub>	±20	kV
Operating Temperature	T <sub>OPR</sub>	-55 to +125	°C
Storage Temperature	T <sub>STG</sub>	-55 to +150	°C

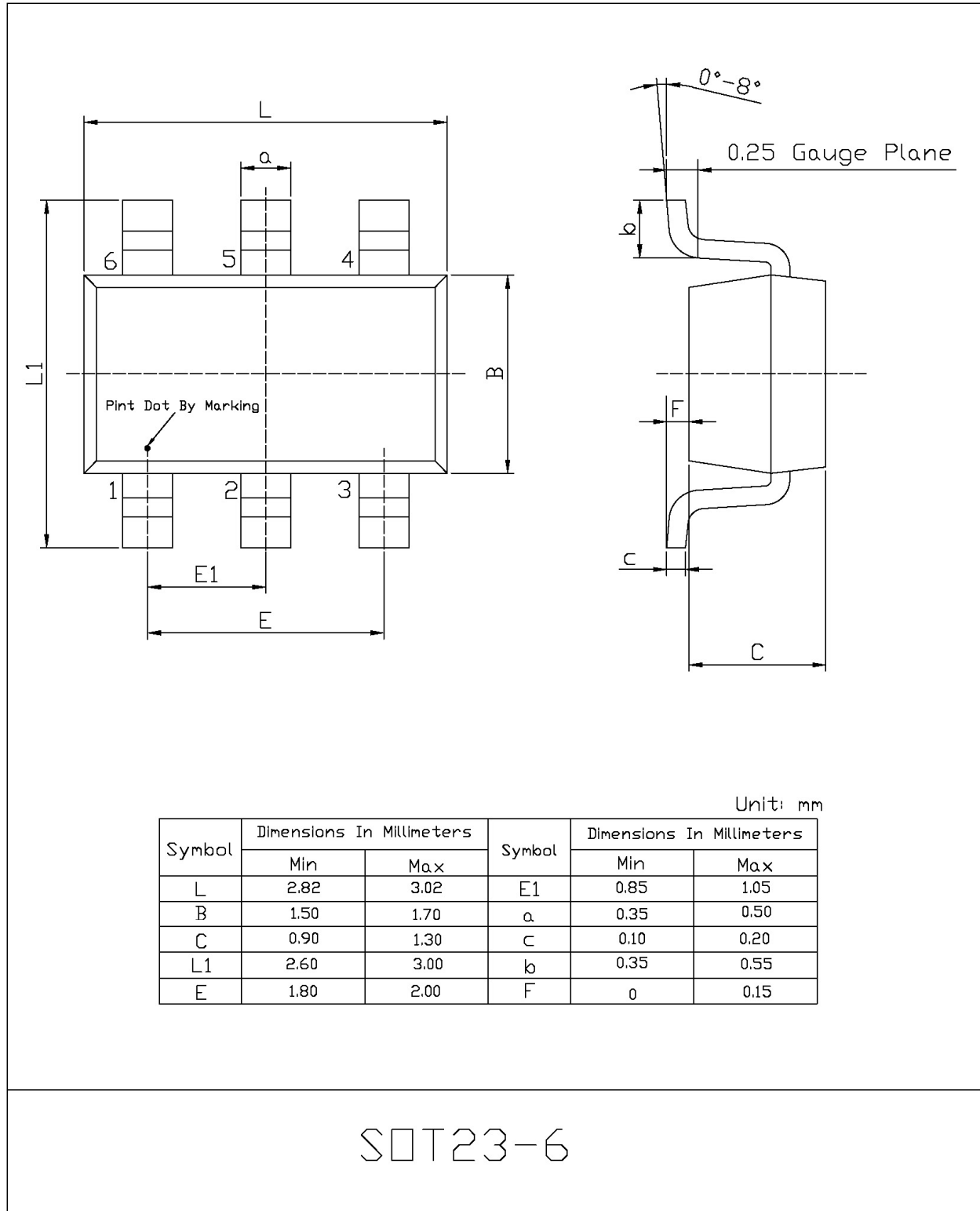
**电性能参数 / Electrical Characteristics(Ta=25°C)**

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
Reverse Stand-Off Voltage	V <sub>RWM</sub>	I <sub>t</sub> =1mA			5.0	V
Reverse Breakdown Voltage	V <sub>BR</sub>	I <sub>t</sub> =1mA	6.0			V
Reverse Leakage Current	I <sub>R</sub>	V <sub>RWM</sub> =5V T=25°C			0.1	μA
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> =1.0A t <sub>p</sub> =8/20μS			10	V
	V <sub>C</sub>	I <sub>PP</sub> =4.0A t <sub>p</sub> =8/20μS			14	V
Capacitance. Any I/O pin to GND	C <sub>J</sub>	V <sub>R</sub> =0V f=1MHz		0.45	0.60	pF
Capacitance. Any I/O pin to I/O	C <sub>J</sub>	V <sub>R</sub> =0V f=1MHz		0.22	0.30	pF
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =15mA			1.2	V

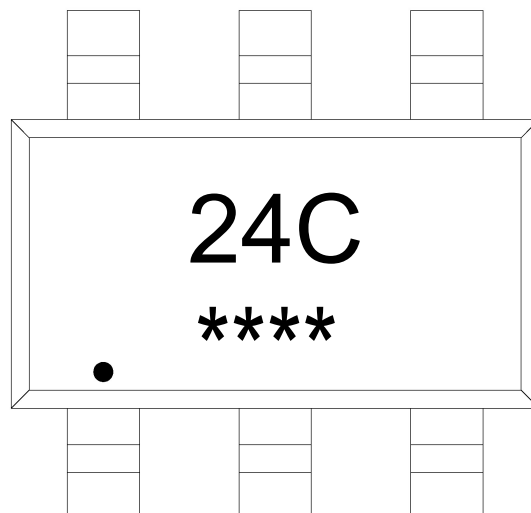
**电参数曲线图 / Electrical Characteristic Curve**



外形尺寸图 / Package Dimensions



**印章说明 / Marking Instructions**



说明：

24C： 为型号代码

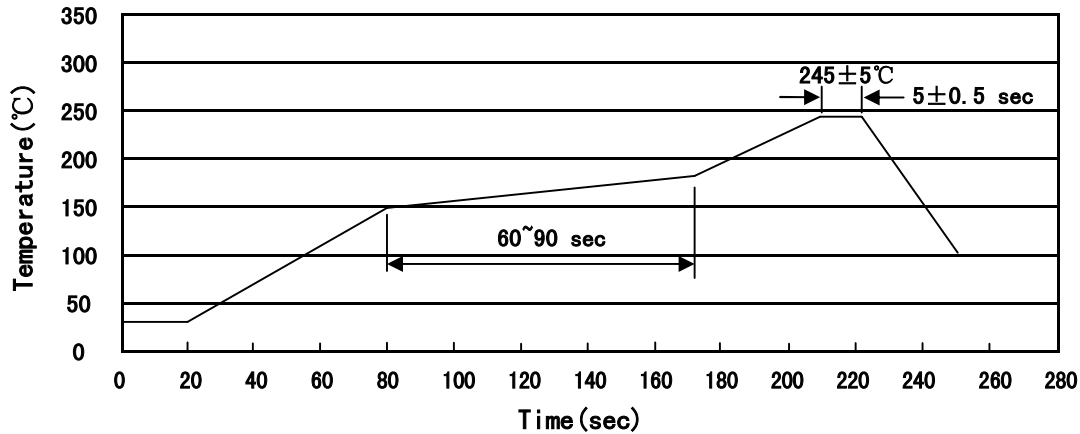
\*\*\*\*： 为生产批号代码，随生产批号变化

Note:

24C: 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
SOT23-5/6	3,000	10	30,000	4	120,000	7" ×8	210×205×205	445×230×435

**使用说明 / Notices**