

## 描述 / Descriptions

DFN0603 塑封封装 ESD 保护二极管。  
DFN0603 Plastic Package ESD Protection Diode.

## 特征 / Features

超小封装，正常响应时间小于 1ns，防静电等级达到 30KV 以上，符合 IEC61000-4-2 的 4 级 ESD 保护项目，符合 AEC-Q101 标准高可靠性要求，无卤产品。

Ultra small package, Response Time is Typically < 1 ns, ESD > 30 kV per Human Body Model, IEC61000-4-2 Level 4 ESD Protection, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

## 用途 / Applications

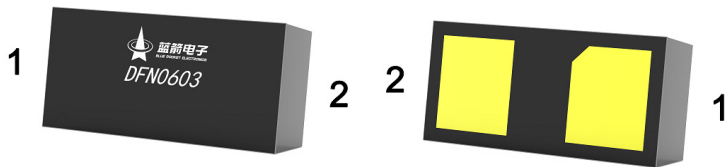
适用于手机音频、MP3 播放器、数码相机、便携式设备、移动电话等用户端，满足汽车应用的严格要求。

Suitable for cellular phones audio, MP3 players, Digital cameras, Portable devices, mobile telephone and other users, Meet the stringent requirements of automotive applications.

## 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 ( $t_p = 8/20\mu s$ )	$P_K$	35	W
Peak pulse current ( $t_p = 8/20\mu s$ )	$I_{PP}$	5.5	A
ESD according to IEC61000-4-2 air discharge	$V_{ESD}$	$\pm 30$	KV
ESD according to IEC61000-4-2 contact discharge		$\pm 30$	
Junction temperature	$T_J$	150	°C
Storage temperature	$T_{STG}$	-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
Reverse maximum working voltage	$V_{RWM}$				5.0	V
Reverse leakage current	$I_R$	$V_{RWM} = 5V$			0.5	$\mu A$
		$V_{RWM} = 3.5V$			0.3	$\mu A$
Reverse breakdown voltage <sup>1)</sup>	$V_{BR}$	$I_T = 1mA$	5.6			V
Clamping voltage <sup>2)</sup>	$V_C$	$I_{PP} = 1A$ $t_p = 8/20\mu s$			9.8	V
		$I_{PP} = 5.5A$ $t_p = 8/20\mu s$			12.5	V
Junction capacitance	$C_J$	$V_R = 0V$ $f = 1MHz$			15	pF

Notes:

- 1)  $V_{BR}$  is measured with a pulse test current  $I_T$  at an ambient temperature of 25°C.
- 2) Non-repetitive current pulse, according to IEC61000-4-5.

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

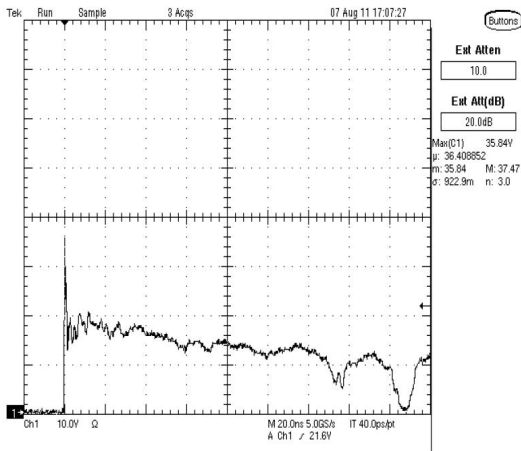


Fig1. ESD Clamping Voltage Screenshot

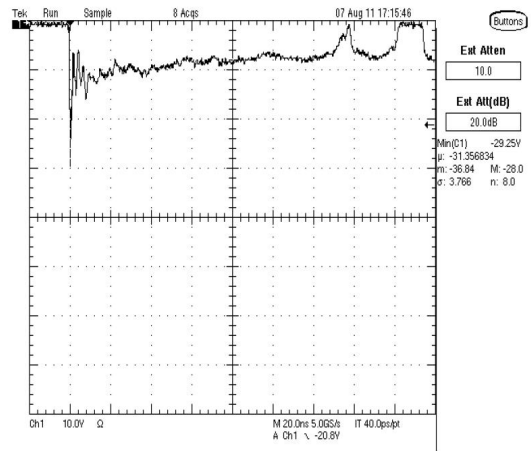


Fig2. ESD Clamping Voltage Screenshot

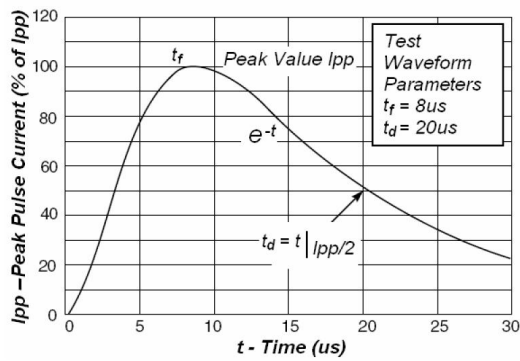
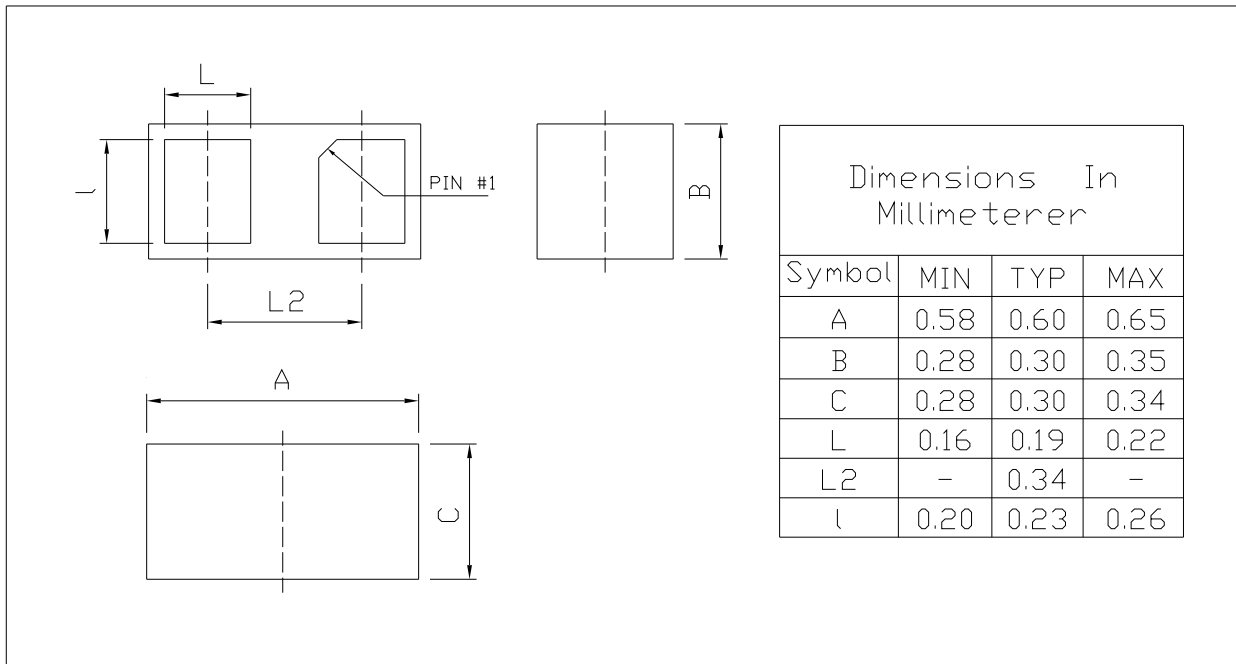


Fig3. Pulse Waveform

**外形尺寸图 / Package Dimensions**

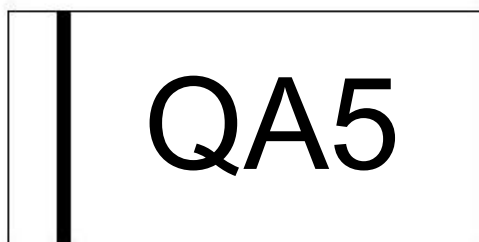
DFN0603

Unit:mm



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印章说明 / Marking Instructions



说明：

Q： 为汽车无卤产品标识

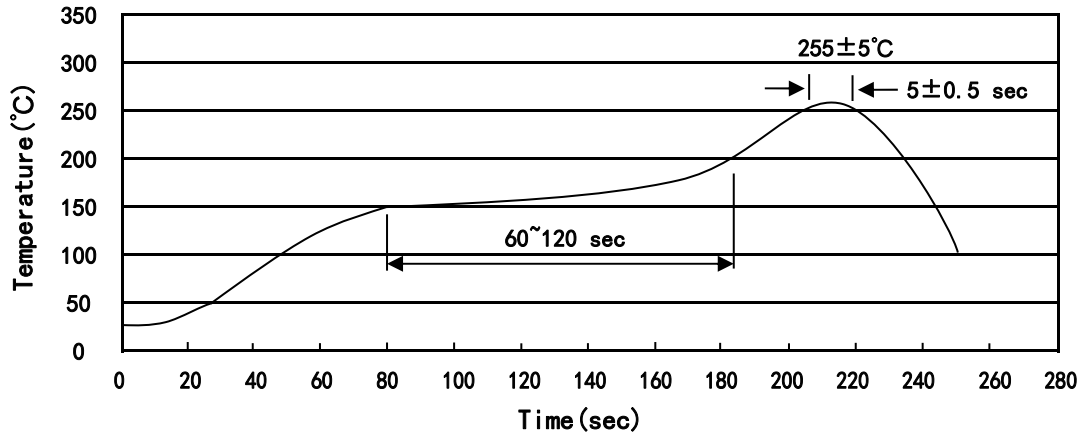
A5： 为型号代码

Note：

Q: Automobile halogen-free product Code

A5: 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 150~200°C，时间 60~120sec;
- 2、峰值温度 255±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:150~200°C, Time:60~120sec.
- 2.Peak Temp.:255±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
DFN0603	15,000	10	150,000	4	600,000	7" ×8	210×205×205	445×435×230

使用说明 / Notices