

# BRES5V0L1A2Z

Rev.C Jun.-2018

## 描述 / Descriptions

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

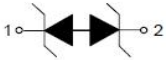
## 特征 / Features

超小封装, 低电容  $C_d = 9\text{pF}$ , ESD 防护能力高达  $\pm 30\text{ kV}$ , 符合 IEC 61000-4-2 项目。无卤产品。  
Ultra small package, Low diode capacitance  $C_d = 9\text{ pF}$ , ESD protection up to  $\pm 30\text{ kV}$  according IEC 61000-4-2. HF Product.

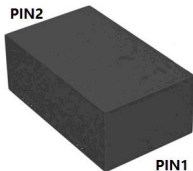
## 用途 / Applications

适用于手机及配件, 便携式电子产品, 通信系统, 计算机及周边设备。  
Suitable for cellular handsets and accessories, Portable electronics, Communication systems, Computers and peripherals.

## 内部等效电路 / Equivalent Circuit



## 引脚排列 / Pinning



PIN1:Cathode

PIN2:Anode

## 放大及印章代码 / $h_{FE}$ Classifications & 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 ( $t_p = 8/20\mu s$ )	$P_{pp}$	70	W
Peak pulse current ( $t_p = 8/20\mu s$ )	$I_{pp}$	6.0	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	$T_J$	125	°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	$V_{RWM}$				$\pm 5.0$	V
Reverse leakage current	$I_R$	$V_{RWM} = 5V$			1	uA
Reverse breakdown voltage <sup>3)</sup>	$V_{BR}$	$I_R = \pm 1.0mA$	$\pm 5.1$			V
Clamping voltage <sup>1,2)</sup>	$V_{CL}$	$I_{PP} = 1.0A$			8	V
		$I_{PP} = 6.0A$			12	
Diode capacitance <sup>4)</sup>	$C_J$	$V_R = 0V \quad f = 1MHz$		9	12	pF
		$V_R = 5.0V \quad f = 1MHz$		6	8	
Dynamic resistance <sup>5)</sup>	$R_{dyn}$			0.28		$\Omega$

Notes:

[1] Non-repetitive current pulse 8/20  $\mu s$  exponentially decaying waveform according to IEC 61000-4-5.

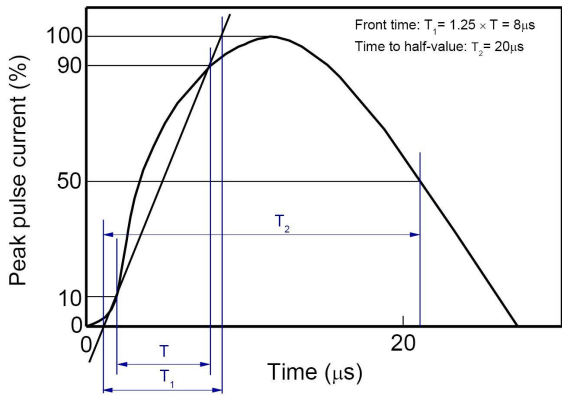
[2] Measured from pin 1 to pin 2.

[3] Breakdown voltage is always symmetrical within the characterized range, which means no difference breakdown voltage from pin 1 to pin 2 and vice versa.

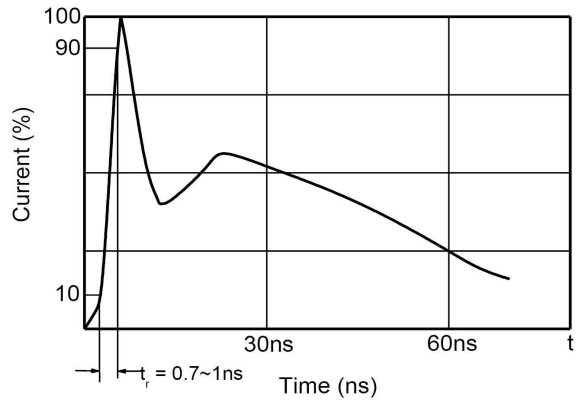
[4] This parameter is guaranteed by design.

[5] Calculated from S-parameter values.

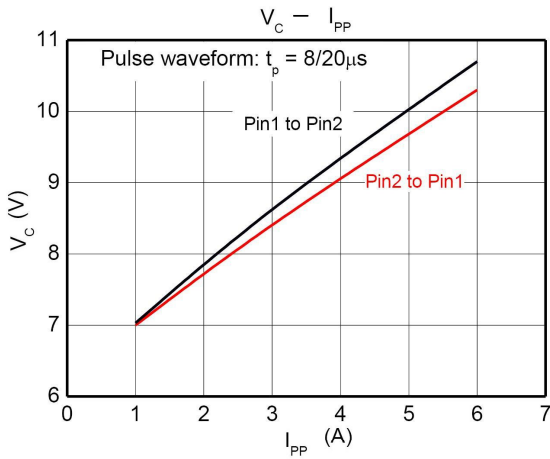
电参数曲线图 / Electrical Characteristic Curve



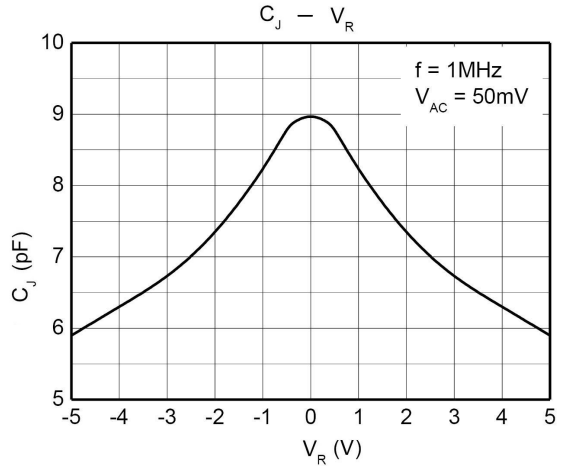
8/20 $\mu\text{s}$  waveform per IEC61000-4-5



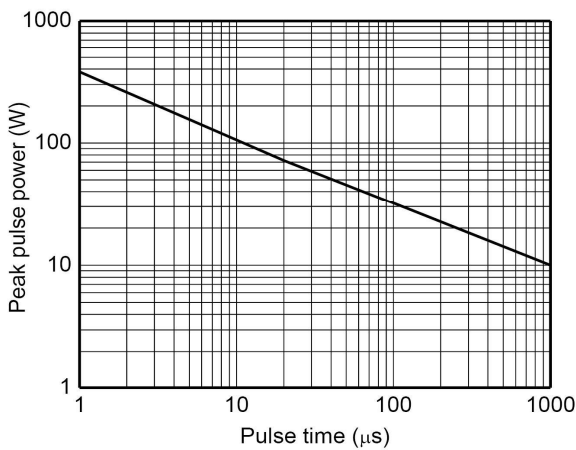
Contact discharge current waveform per IEC61000-4-2



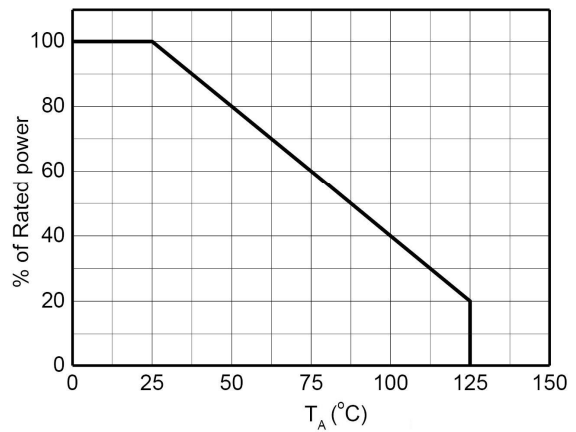
Clamping voltage vs. Peak pulse current



Capacitance vs. Reverse voltage

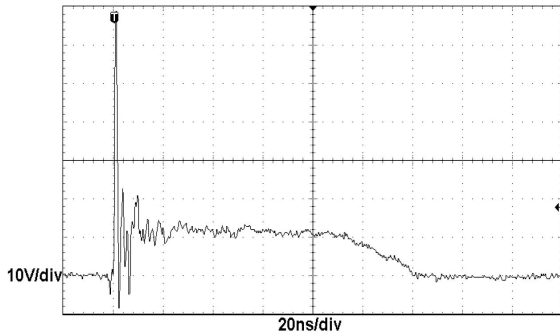


Non-repetitive peak pulse power vs. Pulse time

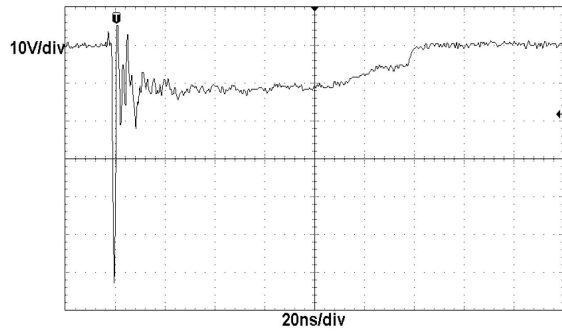


Power derating vs. Ambient temperature

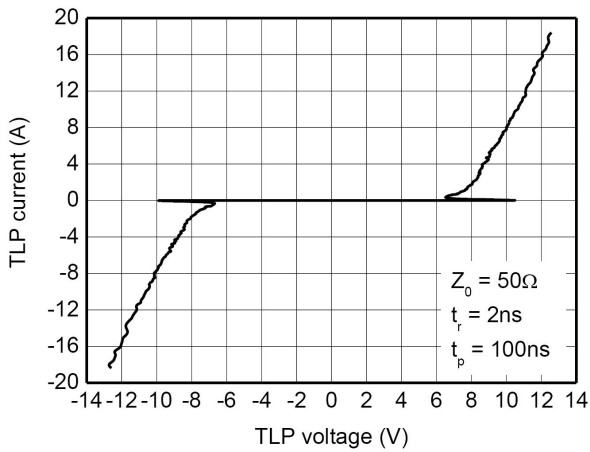
电参数曲线图 / Electrical Characteristic Curve



ESD clamping  
(+8kV contact discharge per IEC61000-4-2)



ESD clamping  
(-8kV contact discharge per IEC61000-4-2)

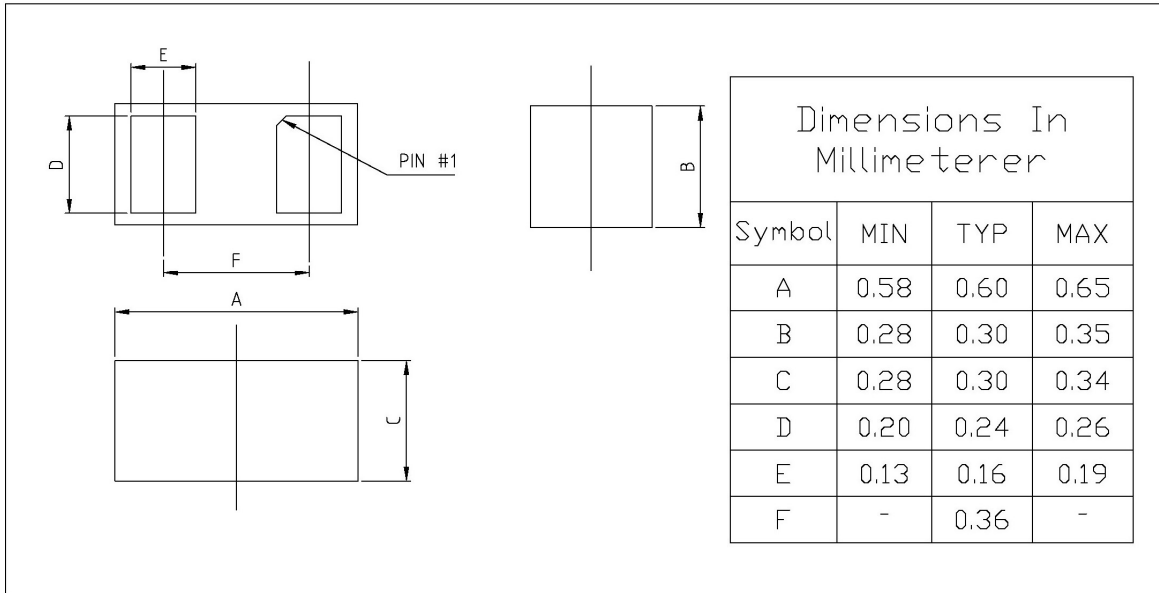


TLP Measurement

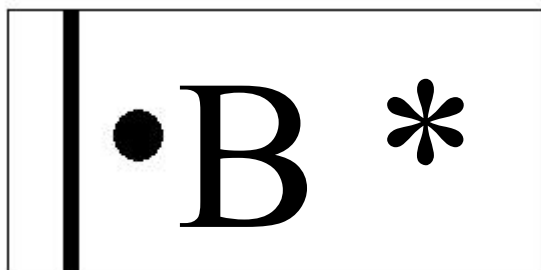
外形尺寸图 / Package Dimensions

DFN0603-2L

Unit:mm



印章说明 / Marking Instructions



说明：

B： 为型号代码

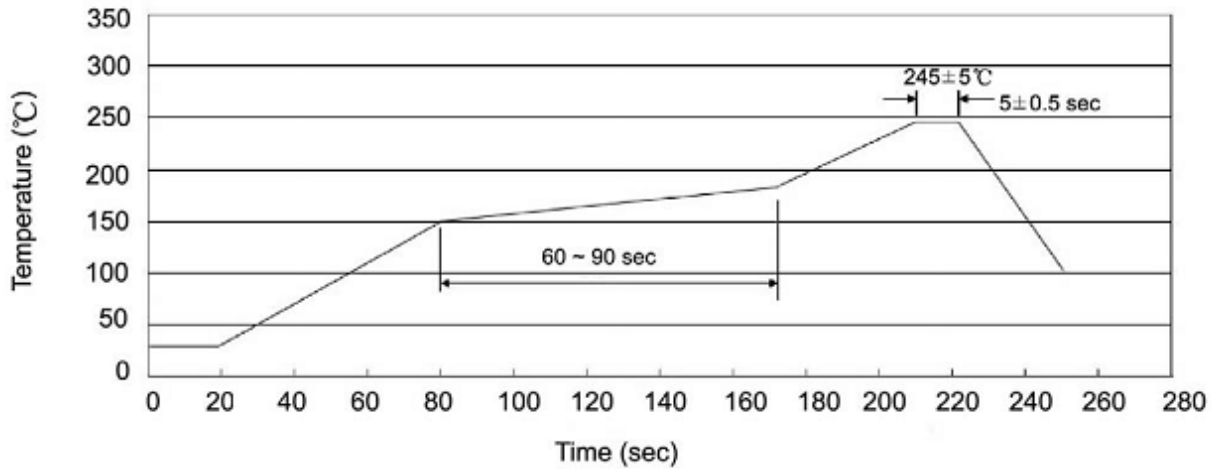
\*： 为生产批号代码，随生产批号变化

Note：

B： Product Type.

\*： 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
DFN0603-2L	15,000	10	150,000	6	900,000	7" x8	180×120×180	390×385×205

**使用说明 / Notices**