

# BRSY7V0M1U2YV

Rev.A Nov.-2023

## 描述 / Descriptions

DFN1610-2L 塑封封装单线程单向 ESD 保护二极管。

DFN1610-2L Plastic Package 1-Line, Uni-directional , 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，无卤产品。

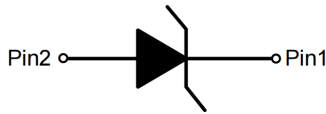
Ultra small package, Response Time is Typically<1ns, ESD>30kV per Human Body Model, IEC61000-4-2 Level 4 ESD Protection, HF Product.

## 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。

Suitable for cellular phones audio, MP3 players, Digital cameras, Portable devices, mobile telephone and other users.

## 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.

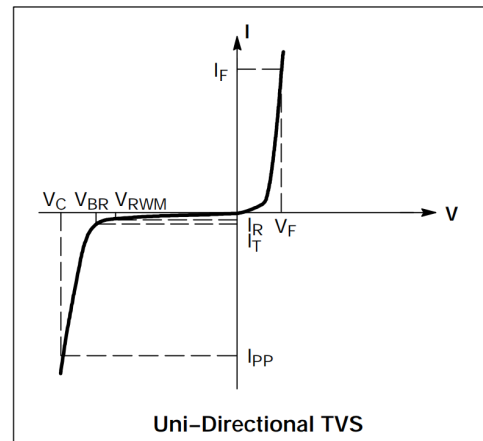
**极限参数 / Absolute Maximum Ratings**

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Peak Pulse Current( $t_p = 8/20\mu s$ )	$I_{PP}$	100	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	$^{\circ}C$
Storage Temperature	$T_{STG}$	-55~+150	$^{\circ}C$

**电性能参数 / Electrical Characteristics( $T_a=25^{\circ}C$ )**

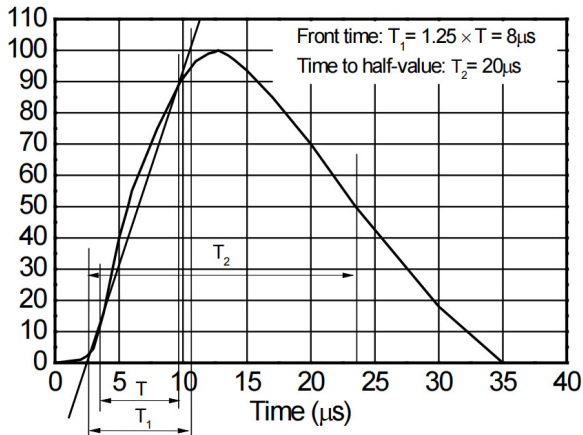
**Electrical performance curve**

Symbol	Parameter
$V_{RWM}$	Peak Reverse Working Voltage
$I_R$	Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$P_{PP}$	Peak Pulse Power
$C_J$	Junction Capacitance
$I_F$	Forward Current
$V_F$	Forward Voltage @ $I_F$

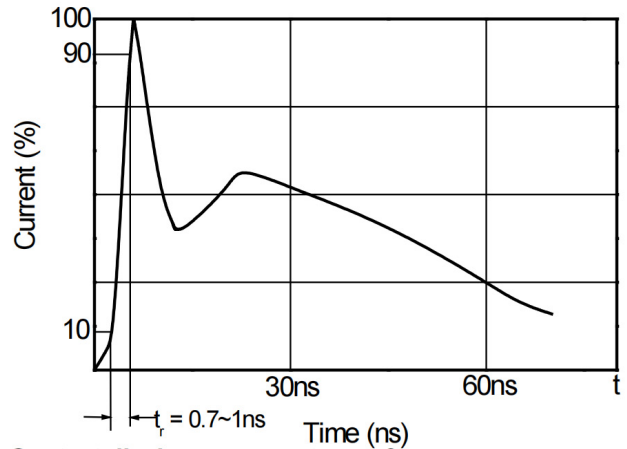


参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Reverse maximum working voltage	$V_{RWM}$	$I_R=0.2\mu A$			7	V
Reverse leakage current	$I_R$	$V_R=7V$			0.2	$\mu A$
Reverse breakdown voltage	$V_{BR}$	$I_T=1mA$	7.5	8.5	9.5	V
Clamping voltage	$V_{CL(PIN1-PIN2)}$	$I_{PP}=100A$ $t_p=8/20\mu s$		15.5	17	V
Clamping voltage	$V_{CL(PIN2-PIN1)}$	$I_{PP}=100A$ $t_p=8/20\mu s$		6	8	V
Forward Voltage	$V_F$	$I_F=10mA$		0.7		V
Junction Capacitance	$C_J$	$V_R=0V$ $f=1MHz$		700	900	pF

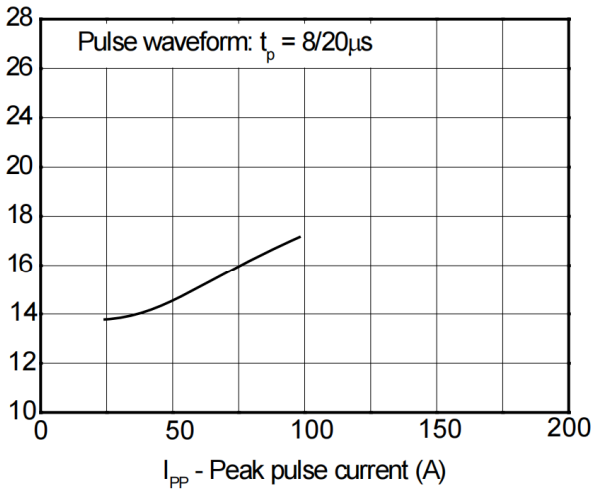
**电参数曲线图 / Electrical Characteristic Curve(Ta=25°C)**



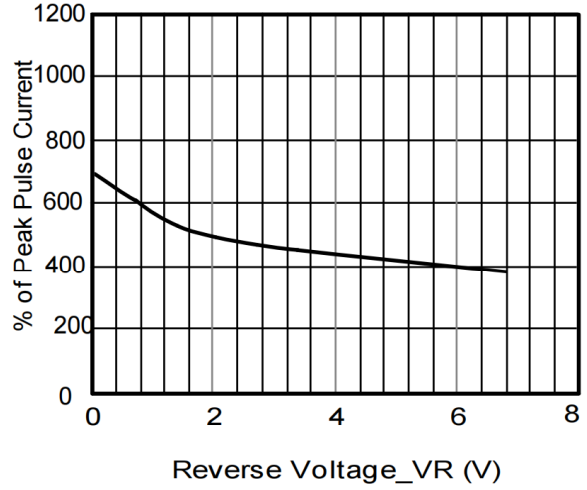
**8/20µs waveform per IEC61000-4-5**



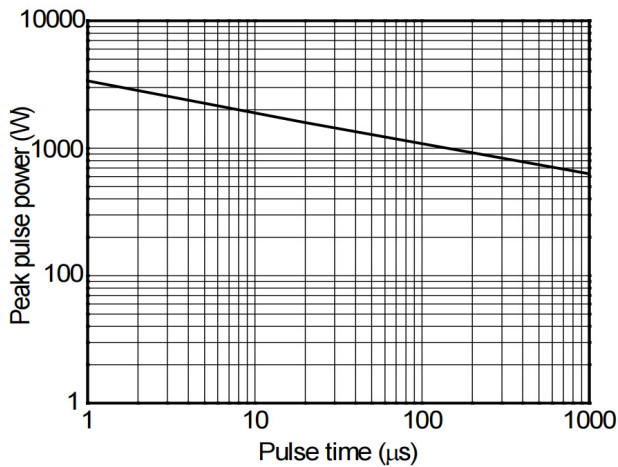
**Contact discharge current waveform per IEC61000-4-2**



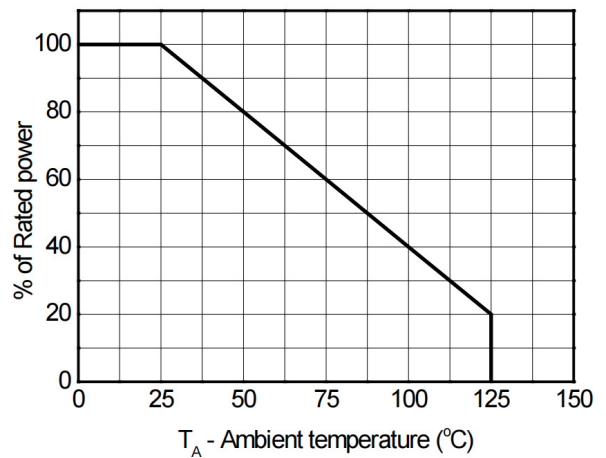
**Clamping voltage vs. Peak pulse current**



**Capacitance vs. Reverse voltage**



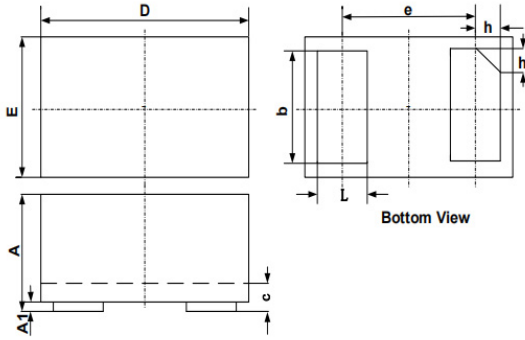
**Non-repetitive peak pulse power vs. Pulse time**



**Power derating vs. Ambient temperature**

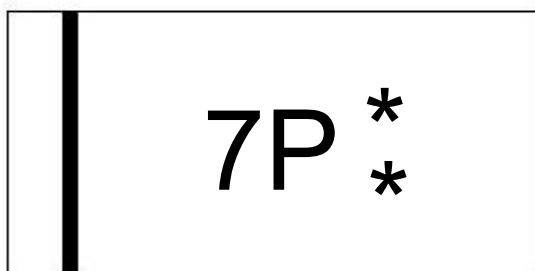
**外形尺寸图 / Package Dimensions**

DFN1610



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.45	0.50	0.55	0.018	0.020	0.022
A1	0.00	0.02	0.05	0.000	0.001	0.002
b	0.75	0.80	0.85	0.030	0.032	0.034
c	0.10	0.15	0.20	0.004	0.006	0.008
D	1.55	1.60	1.65	0.062	0.064	0.066
e	1.10 BSC			0.044 BSC		
E	0.95	1.00	1.05	0.038	0.040	0.042
L	0.35	0.40	0.45	0.014	0.016	0.018
h	0.15	0.20	0.25	0.006	0.008	0.010

**印章说明 / Marking Instructions**



说明：

7P： 为型号代码

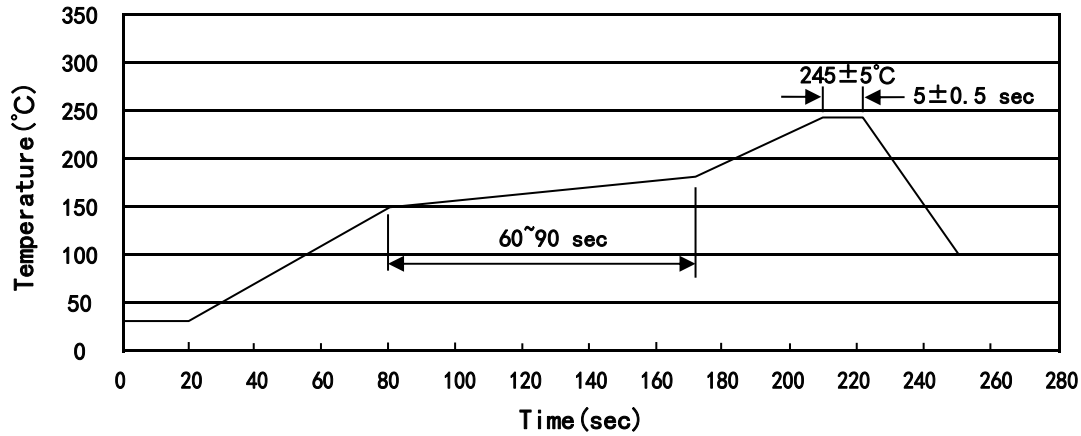
\*\*： 为生产批号代码，随生产批号变化

Note：

7P： 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

使用说明 / Notices