

描述 / Descriptions

DFN2×2-3L 塑封封装 TVS 二极管。

TVS Array in a DFN2×2-3L Plastic Package.

特征 / Features

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。

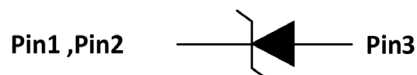
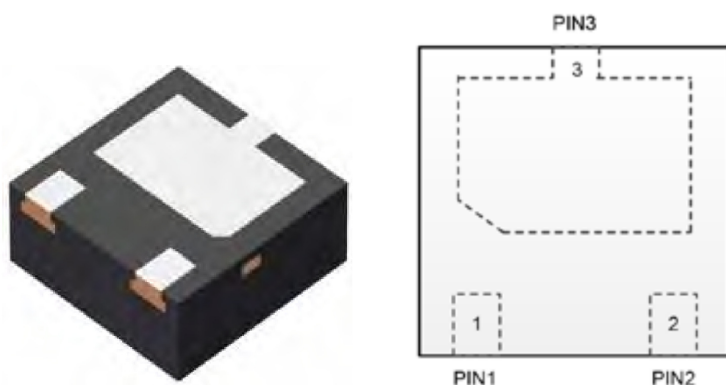
Small package, Response Time is Typically < 1 ns, ESD > 30 kV per Human Body Model, IEC61000-4-2 Level 4 ESD Protection, HF Product.

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)，±30kV (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), ± 30kV (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 _{PP}	5100	W
Peak Pulse Current (tp = 8/20μs)	I _{PP}	150	A
ESD per IEC 61000-4-2 (Air)	V _{ESD1}	±30	kV
ESD per IEC 61000-4-2 (Contact)	V _{ESD2}	±30	kV
Operating Temperature	T _{OPR}	-55 to +150	°C
Storage Temperature	T _{STG}	-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 _{RWM}				24	V
Reverse Breakdown Voltage	V _{BR}	I _t =1mA	26		32	V
Reverse Leakage Current	I _R	V _{RWM} =24V T=25°C			1	μA
Clamping Voltage	V _C	I _{PP} =150A t _p =8/20μS			34	V
Capacitance. Any I/O pin to GND	C _J	V _R =0V f=1MHz		660		pF

电参数曲线图 / Electrical Characteristic Curve

Fig.1 Non-Repetitive Pulse Power vs.Pulse Time

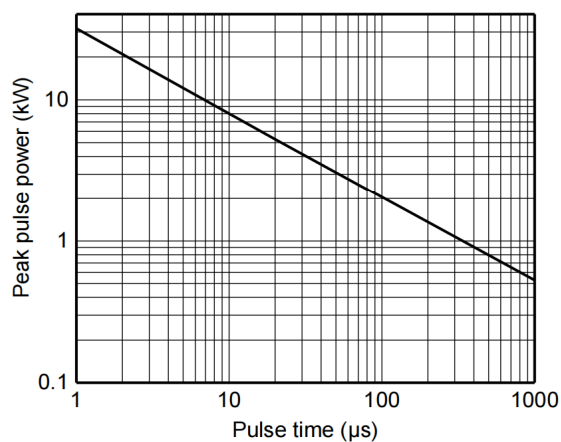


Fig.2 Pulse Waveform

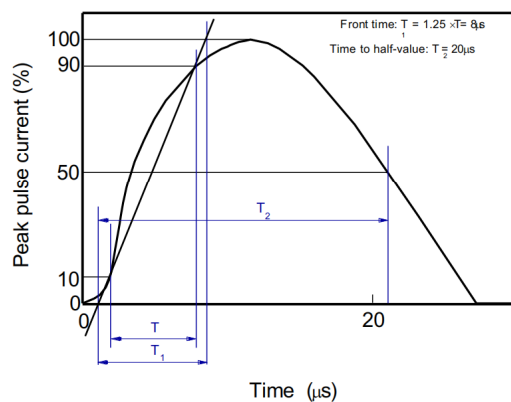


Fig.3 Contact discharge current waveform per IEC61000-4-2

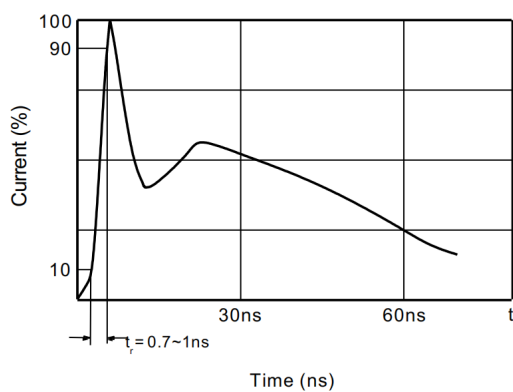
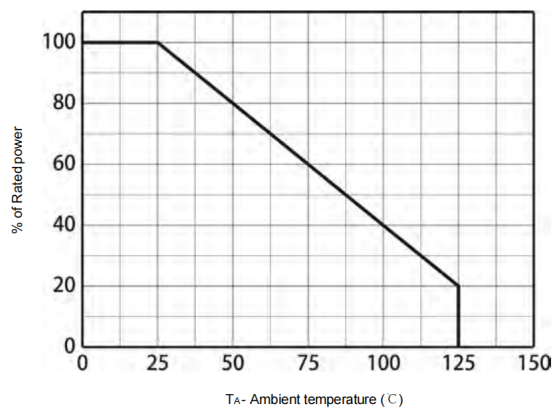
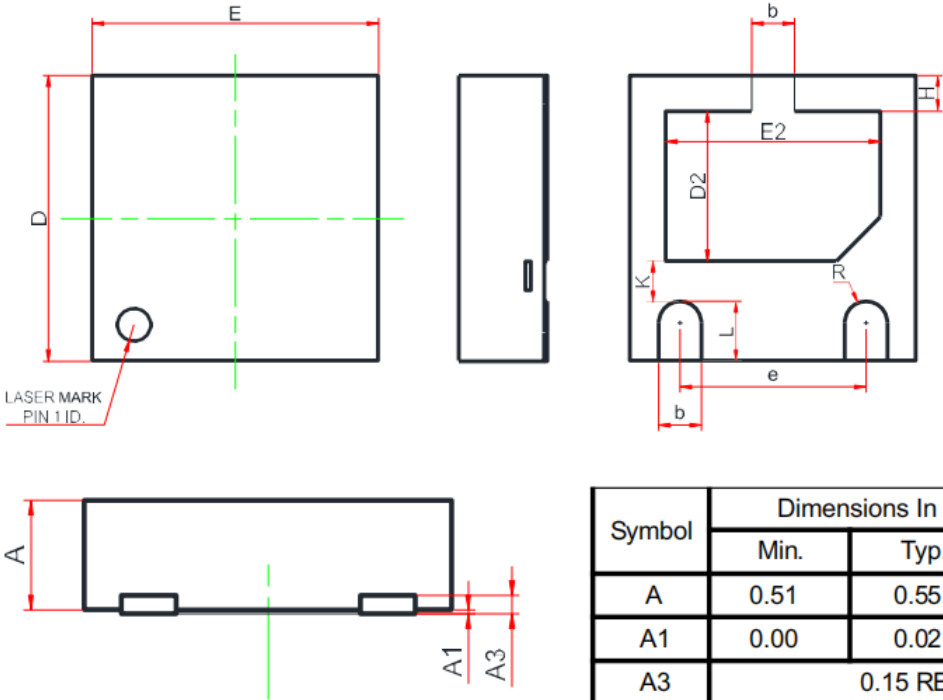


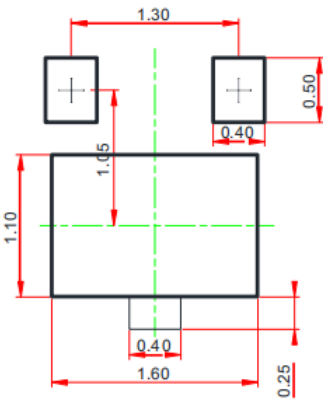
Fig.4 Power derating vs.Ambient temperature



外形尺寸图 / Package Dimensions

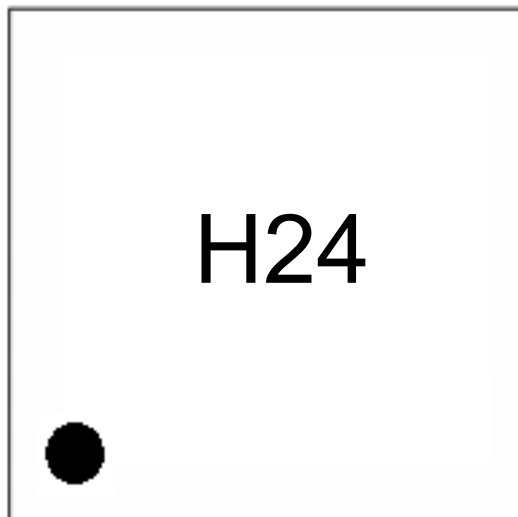


Soldering Footprint



Symbol	Dimensions In Millimeters		
	Min.	Typ.	Max.
A	0.51	0.55	0.60
A1	0.00	0.02	0.05
A3	0.15 REF.		
b	0.25	0.30	0.35
D	1.90	2.00	2.10
E	1.90	2.00	2.10
D2	0.85	1.00	1.10
E2	1.35	1.50	1.60
e	1.20	1.30	1.40
H	0.20	0.25	0.30
K	0.20	0.30	0.40
L	0.35	0.40	0.45
R	0.15	-	-

印章说明 / Marking Instructions



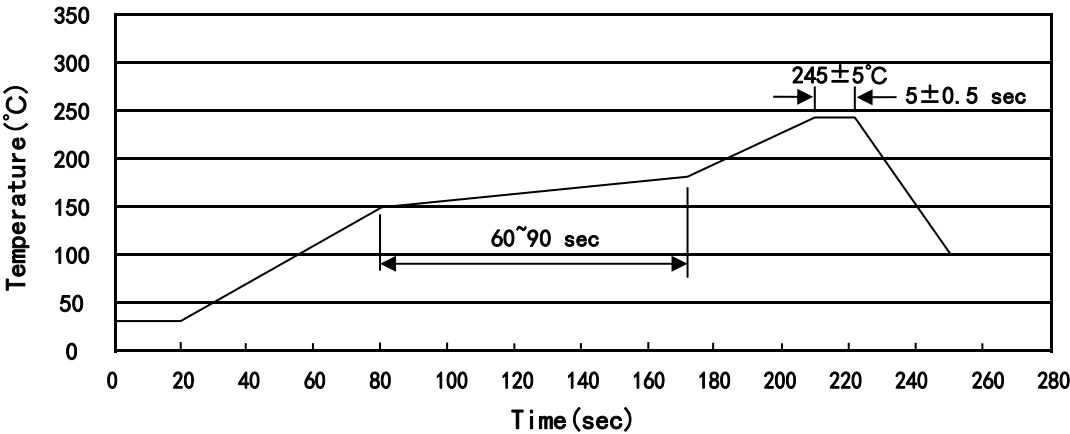
说明：

H24： 为型号代码

Note:

H24: 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 ~ 180℃，时间 60 ~ 90sec;
- 2、峰值温度 245±5℃，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2 ~ 10℃/sec.

Note:

- 1.Preheating:150~180℃, Time:60~90sec.
- 2.Peak Temp.:245±5℃, Duration:5±0.5sec.
3. Cooling Speed: 2~10℃/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：260±5℃ 时间：10±1 sec. Temp.:260±5℃ 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 ³)		
	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
DFN2×2-3L	4,000	10	40,000	4	160,000	7" ×8	210×205×205	445×435×230

使用说明 / Notices