

DFN2510-10L ESD 静电保护二极管

■ Features 特点

Un-directional ESD Protection 单向静电保护

Ultra-low capacitance 极低电容

■ Applications 应用

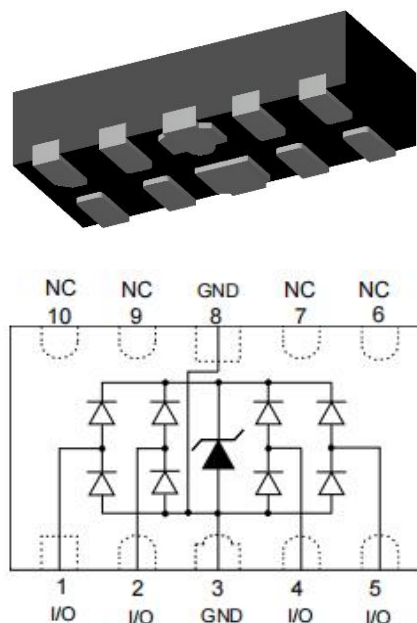
HDMI 高清数字多媒体

SIM Ports and Ethernet 用户识别和以太网

USB&ATM Interface 移动 U 盘及自动柜员机接口

Monitors and flat panel display 监视器和平板显示器

■ Internal Schematic Diagram 内部结构



■ Absolute Maximum Ratings 最大额定值

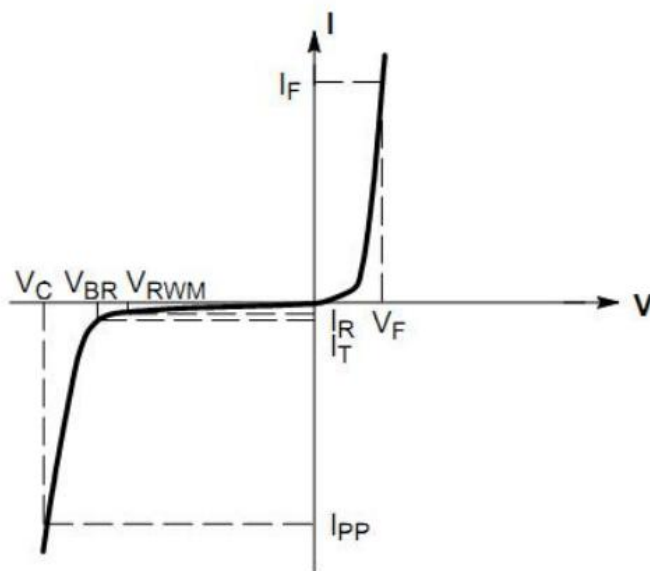
Characteristic 特性参数	Symbol 符号	Rat 额定值	Unit 单位
ESD (IEC61000-4-2 contact discharge) @25°C接触放电	V_{ESD}	± 15	KV
ESD (IEC61000-4-2 air discharge) @25°C空气放电	V_{ESD}	± 30	KV
Peak Pulse Power @25°C峰值脉冲功率	P_{PK}	100	W
Peak Pulse Current @25°C峰值脉冲电流	I_{PP}	4	A
Lead Temperature 管脚温度	T_L	260	°C
Lead Solder Time 管脚焊接时间	T_L	10	S
Operating Temperature 工作温度	T_{op}	-40~85	°C
Junction Temperature 结温	T_J	-55~150	°C
Storage Temperature 储存温度	T_{stg}	-55~150	°C

■ Electrical Characteristics 电特性

($T_A=25^{\circ}\text{C}$ unless otherwise noted 如无特殊说明, 温度为 25°C)

Characteristic Parameters 特性参数	Symbol 符号	Min 最小值	Typ 典型值	Max 最大值	Unit 单位	Condition 条件
Reverse Stand-off Voltage 反向工作电压	V_{RWM}			5	V	
Reverse Breakdown Voltage 反向击穿电压	V_{BR}	6			V	$I_{\text{T}}=1\text{mA}$
Reverse Leakage Current 反向漏电流	I_{R}			1	μA	$V_{\text{RWM}}=5\text{V}$
Clamping Voltage 钳位电压	V_{C}			11	V	$I_{\text{PP}}=1\text{A}$, $t_{\text{p}}=8/20\mu\text{s}$
Clamping Voltage 钳位电压	V_{C}			15	V	$I_{\text{PP}}=4\text{A}$, $t_{\text{p}}=8/20\mu\text{s}$
Diode Capacitance 二极管电容	C_{D}	I/O to GND Between I/O	0.6 0.3	0.75 0.4	pF	$V_{\text{R}}=0\text{V}$, $f=1\text{MHz}$

V_{RWM}	Reverse Working Voltage 反向工作电压
$V_{\text{R(BR)}}$	Reverse Breakdown Voltage 反向击穿电压@ $I_{\text{T}}=1\text{mA}$
I_{T}	Test Current 测试电流
I_{R}	Reverse Leakage Current 反向漏电流@ V_{RWM}
V_{C}	Clamping Voltage 钳位电压
I_{PP}	Reverse Peak Pulse Current 浪涌电流
C_{D}	Diode Capacitance 电容 $V_{\text{IO}}=0\text{V}$, $f = 1\text{MHz}$



■ Typical Characteristic Curve 典型特性曲线

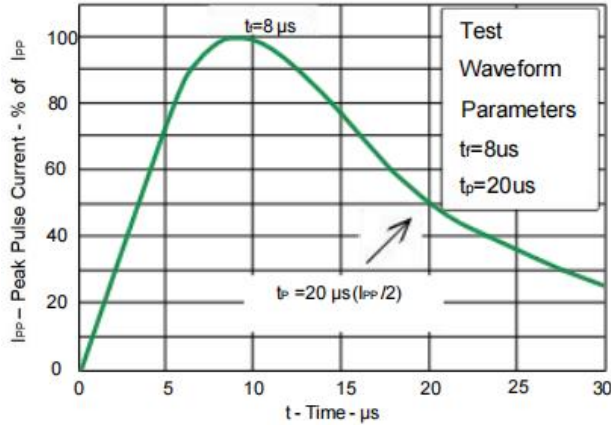


Fig 1. Pulse Waveform

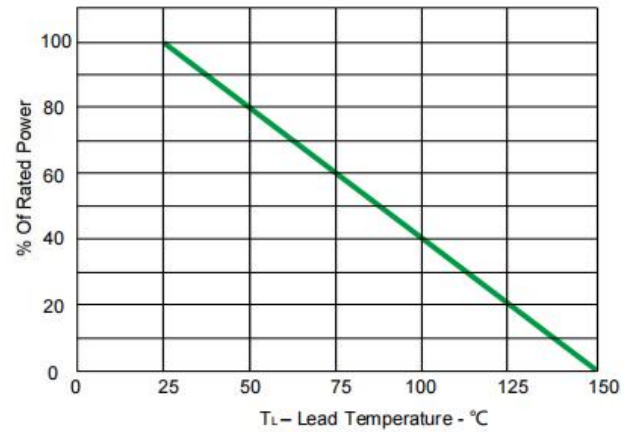


Fig 2. Power Derating Curve

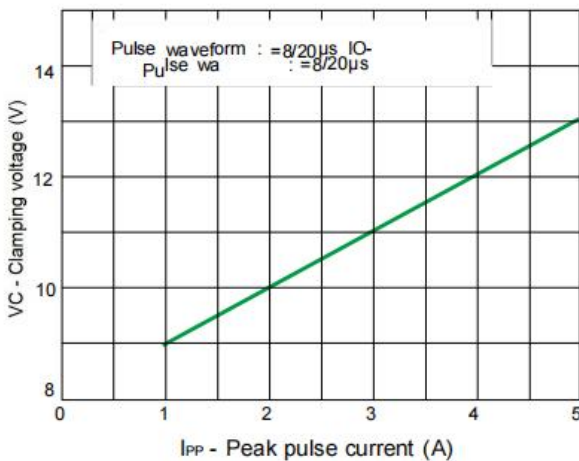


Fig 3. Clamping voltage vs. Peak pulse current

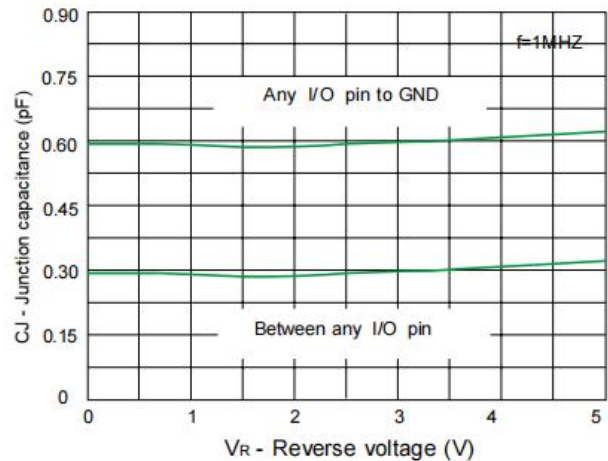


Fig 4. Capacitance vs. Reverse voltage

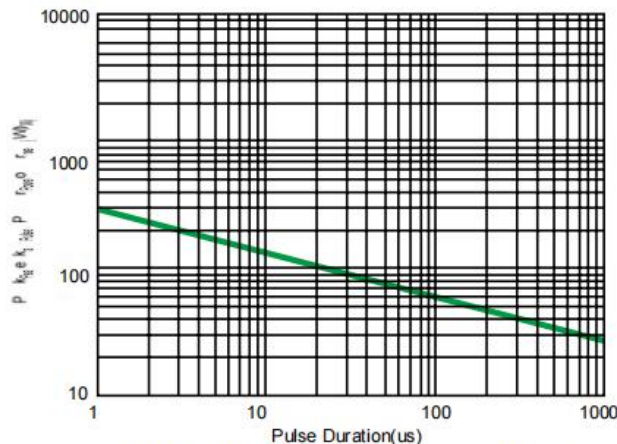


Fig 5. Non Repetitive Peak Pulse Power vs. Pulse time

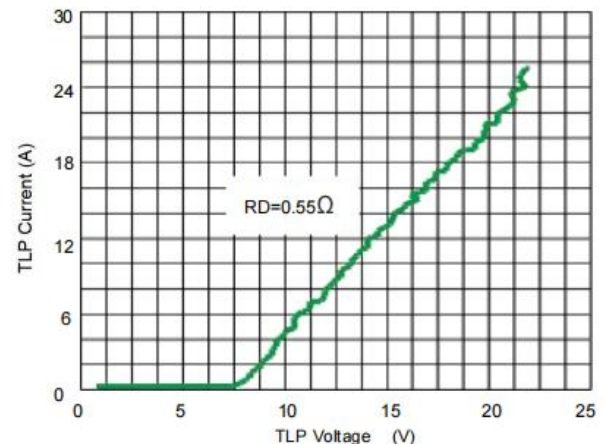
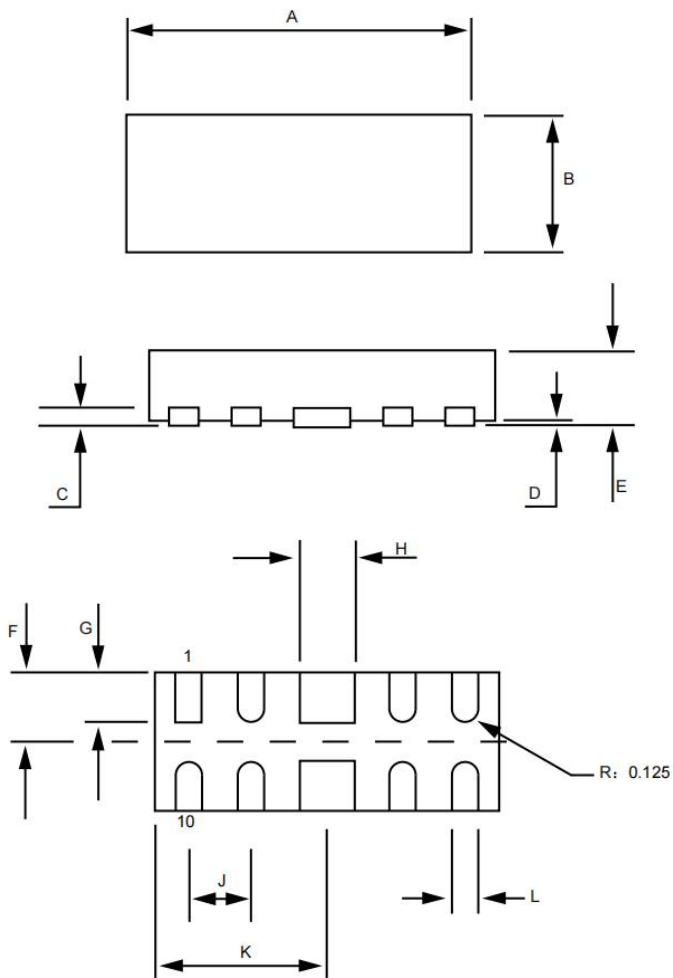


Fig 6. TLP Measurement

■ Dimension 外形封装尺寸



Dim	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	2.40	2.60	0.094	0.102
B	0.90	1.10	0.035	0.043
C	0.13		0.005	
D	0.00	0.05	0.00	0.002
E	0.50	0.65	0.020	0.026
F	0.45	0.55	0.017	0.022
G	0.30	0.425	0.012	0.017
H	0.35	0.45	0.014	0.018
J	0.5 BSC		0.020 BSC	
K	1.20	1.30	0.047	0.056
L	0.15	0.25	0.006	0.010