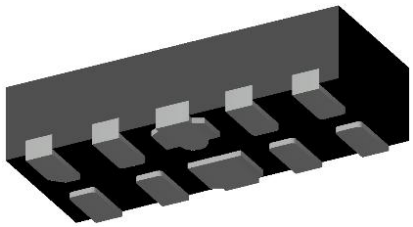
DFN2510-10L ESD 静电保护二极管



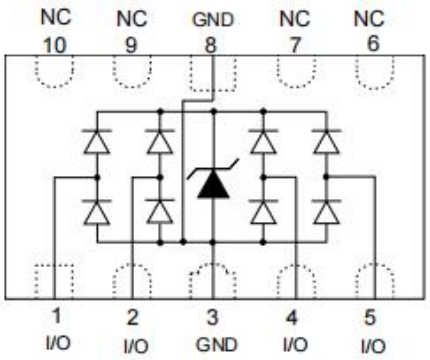
■Features 特点

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

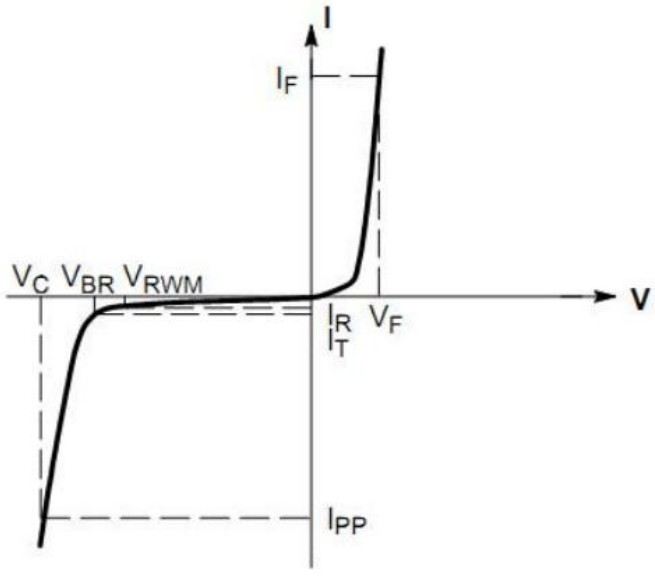
Characteristic 特性参数	Symbol 符号	Rat 额定值	Unit 单位
ESD (IEC61000-4-2 contact discharge) @25℃接触放电	V_{ESD}	±15	KV
ESD (IEC61000-4-2 air discharge) @25℃空气放电	V_{ESD}	±30	KV
Peak Pulse Power @25℃峰值脉冲功率	P_{PK}	100	W
Peak Pulse Current @25℃峰值脉冲电流	I_{PP}	4	A
Lead Temperature 管脚温度	T_L	260	℃
Lead Solder Time 管脚焊接时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

■Electrical Characteristics 电特性

(T_A=25℃ unless otherwise noted 如无特殊说明，温度为 25℃)

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_T=1mA
Reverse Leakage Current 反向漏电流	I_R			1	μA	V_{RWM}=5V
Clamping Voltage 钳位电压	V_C			11	V	I_{PP}=1A, tp=8/20μs
Clamping Voltage 钳位电压	V_C			15	V	I_{PP}=4A, tp=8/20μs
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_R=0V, f=1MHz

V_{RWM}	Reverse Working Voltage 反向工作电压
$V_{R(BR)}$	Reverse Breakdown Voltage 反向击穿电压@I_T=1mA
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_{IO}=0V, f = 1MHz



■Typical Characteristic Curve 典型特性曲线

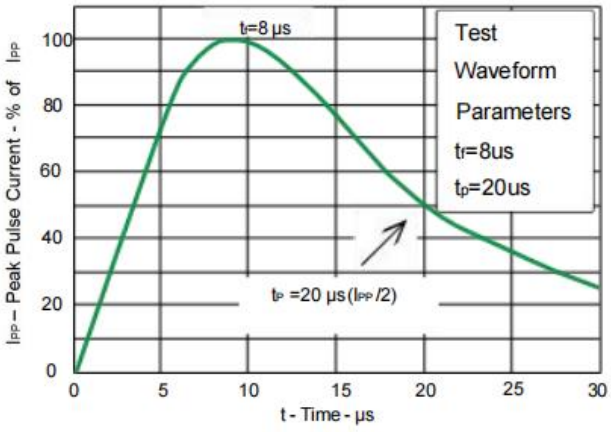


Fig 1.Pulse Waveform

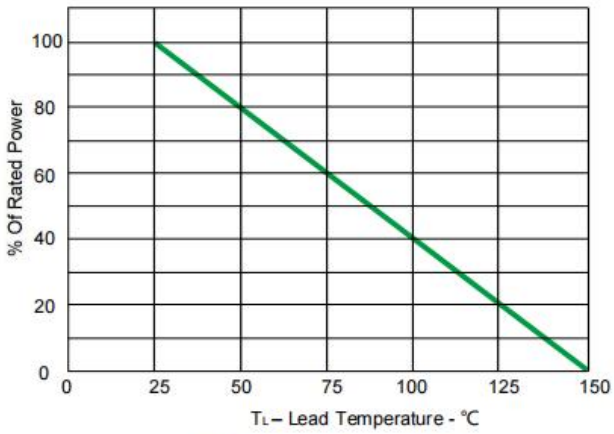


Fig 2.Power Derating Curve

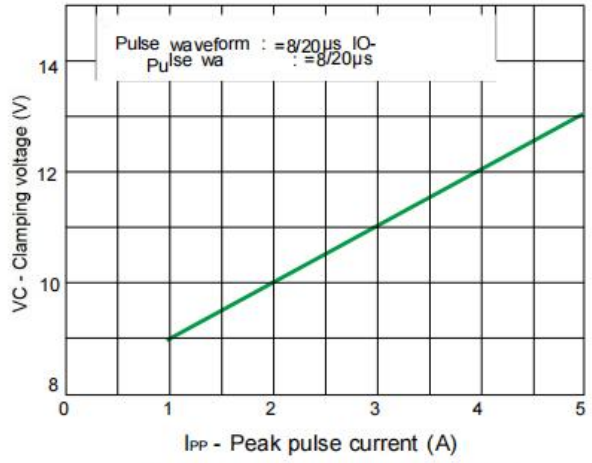


Fig 3. Clamping voltage vs. Peak pulse current

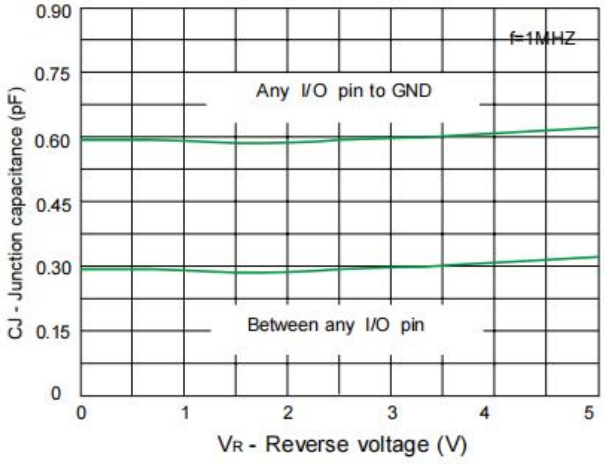


Fig 4 . Capacitance vs. Reveres voltage

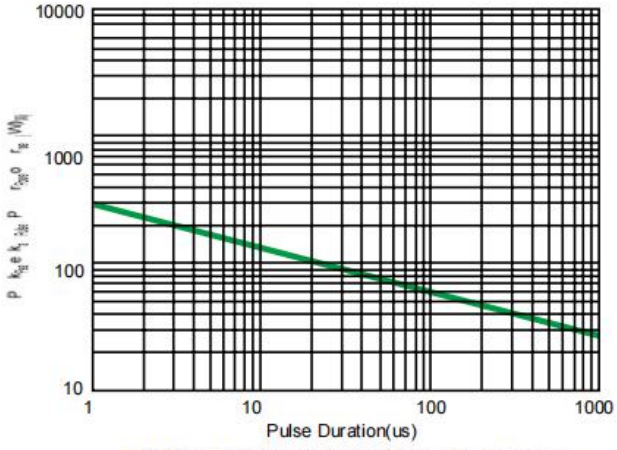


Fig 5.Non Repetitive Peak Pulse Power vs. Pulse time

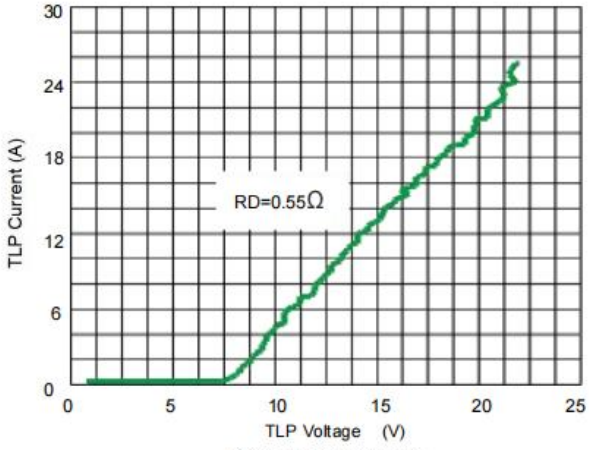
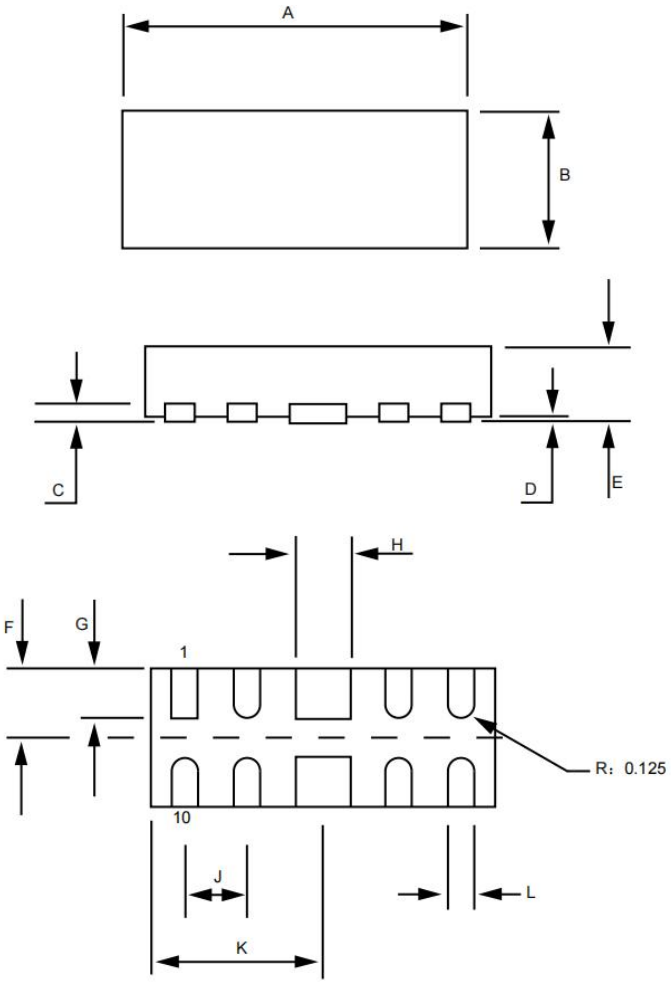


Fig 6. TLP Measurement

■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