

## 1. Features

- Low capacitance:160pF(max.)
- Reverse stand-off voltage:7V
- IEC 61000-4-2 (ESD Air):  $\pm 30\text{kV}$   
IEC 61000-4-2 (ESD Contact):  $\pm 30\text{kV}$   
IEC 61000-4-5 (Lightning 8/20 $\mu\text{s}$ ): 18A

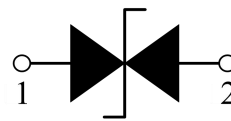
## 2. Pin Description



## 3. Applications

- Cellular Handsets and Accessories
- Display Ports
- USB Ports
- PCI Express and Serial SATA Ports

## 4. Schematic Diagram



## 5. Order Information

Type	Package	Size (mm)	Delivery Form	Delivery Quantity
SCS313L160	DFN1006	1.00x0.60x0.50	7" T&R	10,000

## 6. Limiting Values( $T_A = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

Symbol	Parameter	Conditions	Min	Max	Unit
$V_{\text{ESD}}$	Electrostatic Discharge Voltage	IEC 61000-4-2; Contact Discharge	-	$\pm 30$	kV
		IEC 61000-4-2; Air Discharge	-	$\pm 30$	kV
$P_{\text{PP}}$	Peak Pulse Power	$t_P=8/20\mu\text{s}$	-	300	W
$I_{\text{PP}}$	Peak Pulse Current	$t_P=8/20\mu\text{s}$	-	18	A
$T_{\text{OP}}$	Operating Temperature	-	-55	125	$^{\circ}\text{C}$
$T_{\text{STRG}}$	Storage Temperature Range	-	-55	150	$^{\circ}\text{C}$

## 7. Electrical Characteristics( $T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Conditions	Min	Typ.	Max	Unit
$V_{\text{RWM}}$	Reverse Working Voltage	$T_A = 25\text{ }^{\circ}\text{C}$	-	-	7.0	V
$V_{\text{BR}}$	Breakdown Voltage	$I_{\text{R}} = 1\text{ mA}$	7.5	-	-	V
$I_{\text{R}}$	Reverse Leakage Current	$V_{\text{RWM}} = 7\text{V}$	-	-	0.5	$\mu\text{A}$
$V_{\text{C}}$	Clamping Voltage	$I_{\text{PP}}=5\text{A}, t_P=8/20\mu\text{s}$	-	-	13	V
		$I_{\text{PP}}=18\text{A}, t_P=8/20\mu\text{s}$	-	-	17	V
$C_{\text{J}}$	Junction Capacitance	$V_{\text{R}} = 0\text{V}, f = 1\text{ MHz}$	-	-	160	pF

## 8. Typical Characteristics

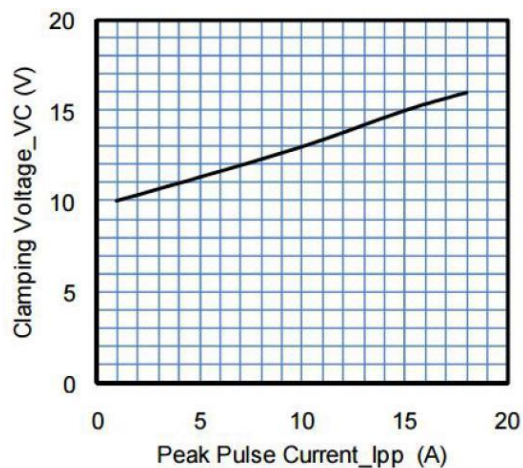


Fig.1 Clamping Voltage vs Peak Pulse Current

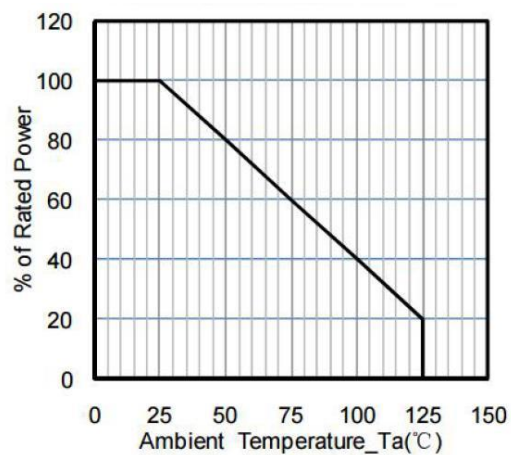


Fig.2 Power Derating Curve

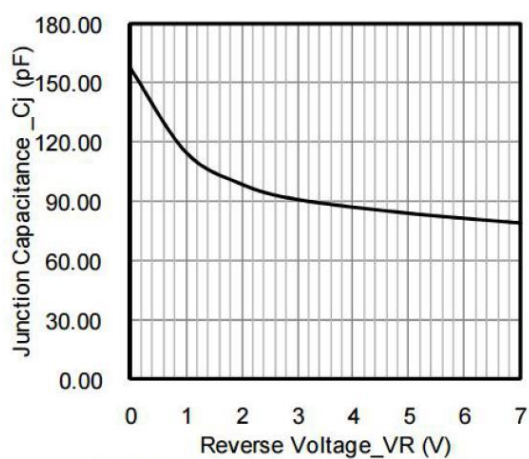


Fig.3 Junction Capacitance vs Reverse Voltage

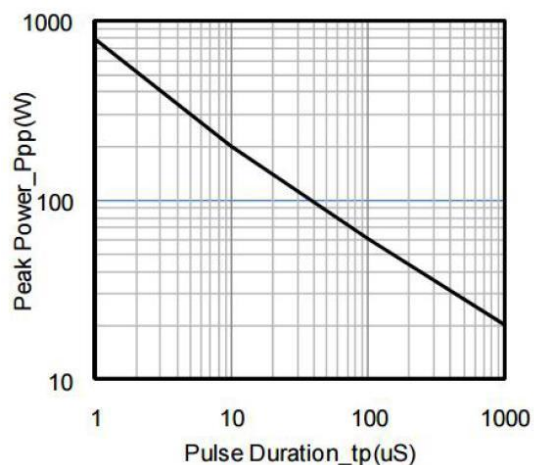


Fig.4 Peak Pulse Power vs Pulse Time

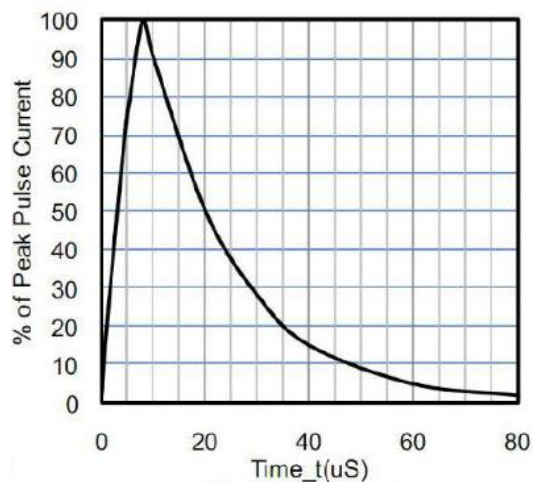


Fig.5 8/20 Pulse Waveform

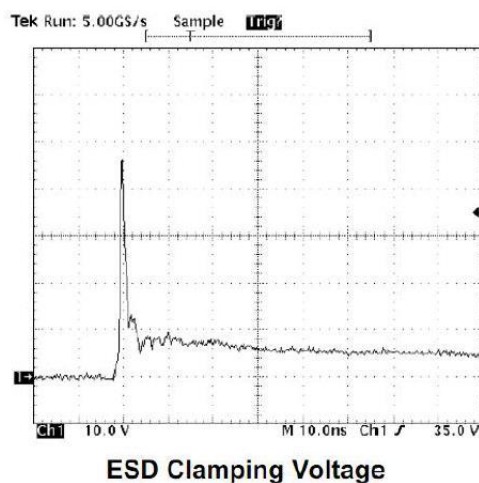
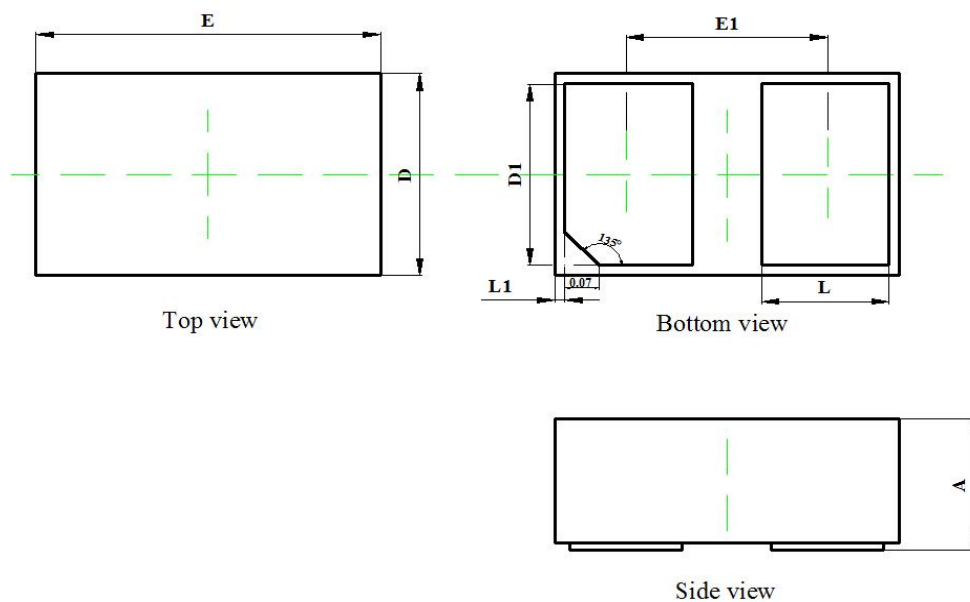


Fig.6 IEC61000-4-2 +8kV Pulse Waveform

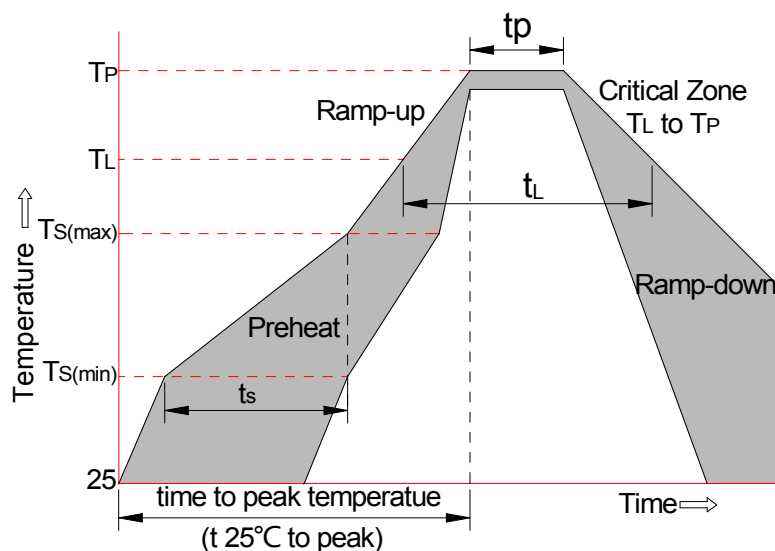
## 9. Package Dimension

**DFN1006 Package Outline**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
<b>A</b>	0.450	0.550	0.018	0.022
<b>D</b>	0.550	0.650	0.022	0.026
<b>E</b>	0.950	1.050	0.037	0.041
<b>D1</b>	0.450	0.550	0.018	0.022
<b>E1</b>	0.550	0.650	0.022	0.026
<b>L</b>	0.200	0.300	0.008	0.012
<b>L1</b>	0.070	0.170	0.003	0.007

## 10. Soldering Parameters



Reflow Condition		Pb-Free Assembly
Pre-heat	-Temperature Min ( $T_{s(min)}$ )	+150°C
	-Temperature Max( $T_{s(max)}$ )	+200°C
	-Time (Min to Max) ( $t_s$ )	60-180 secs.
Average ramp up rate (Liquid us Temp ( $T_L$ ) to peak)		3°C/sec. Max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature( $T_L$ )(Liquid us)	+217°C
	-Temperature( $t_L$ )	60-150 secs.
Peak Temp ( $T_p$ )		+260(+0/-5)°C
Time within 5°C of actual Peak Temp ( $t_p$ )		30 secs. Max
Ramp-down Rate		6°C/sec. Max
xTime 25°C to Peak Temp ( $T_p$ )		8 min. Max
Do not exceed		+260°C