

## SuperESD - UCLAMP0571P(ES)

## 1. Description

The UCLAMP0571P(ES) ESD protector is designed to replace multilayer varistors (MLVs) in portable applications such as cell phones, notebook computers, and PDA's. They feature large cross-sectional area junctions for conducting high transient currents, offer desirable electrical characteristics for board level protection, such as fast response time, lower operating voltage, lower clamping voltage and no device degradation when compared to MLVs. The UCLAMP0571P(ES) protects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events.

## 2. Features

- IEC 61000-4-2 Level 4 ESD Protection
  - $\pm 30\text{kV}$  Contact Discharge
  - $\pm 30\text{kV}$  Air Discharge
- 2000W Peak pulse Power (8/20us)
- Low clamping voltage
- Working voltage: 5V
- Low leakage current
- RoHS compliant
- Protecting one Uni-directional line
- Low Junction capacitance: 850pF Typ.

## 3. Applications

- Cell phone handsets and accessories
- Personal digital assistants
- Cordless phones
- Notebooks, desktops, and servers
- Portable instrumentation
- Digital cameras

## 4. Ordering Information

Part Number	Package	Marking	Material	Packing	Quantity per reel	Flammability Rating	Reel Size
UCLAMP0571P(ES)	DFN1610-2L	HA	Halogen free	Tape & Reel	3,000 PCS	UL 94V-0	7 inches

Table-1 Ordering information

## 5. Pin Configuration and Functions


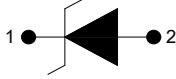
Pin	Name	Description	Outline	Circuit Diagram
1	IO	Connect to IO		
2	GND	Connect to GND		

Table-2 Pin configuration

## 6. Specification

### 6.1. Absolute Maximum rating

Over operating free-air temperature range (unless otherwise noted)

Parameters	Symbol	Min.	Max.	Unit
Peak pulse power (tp=8/20us)@25°C	P <sub>pk</sub>	-	2000	W
Peak pulse current (tp=8/20us)@25°C	I <sub>PP</sub>		110	A
ESD (IEC61000-4-2 air discharge) @25°C	V <sub>ESD</sub>	-	±30	kV
ESD (IEC61000-4-2 contact discharge) @25°C	V <sub>ESD</sub>	-	±30	kV
Junction temperature	T <sub>J</sub>	-	150	°C
Operating temperature	T <sub>OP</sub>	-55	125	°C
Storage temperature	T <sub>STG</sub>	-55	150	°C
Lead temperature	T <sub>L</sub>	-	260	°C

Table-3 Absolute Maximum rating

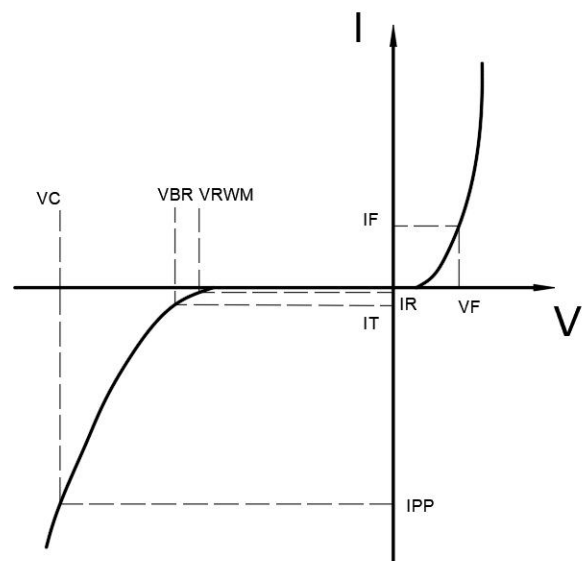
## 6.2. Electrical Characteristics

At TA = 25°C unless otherwise noted

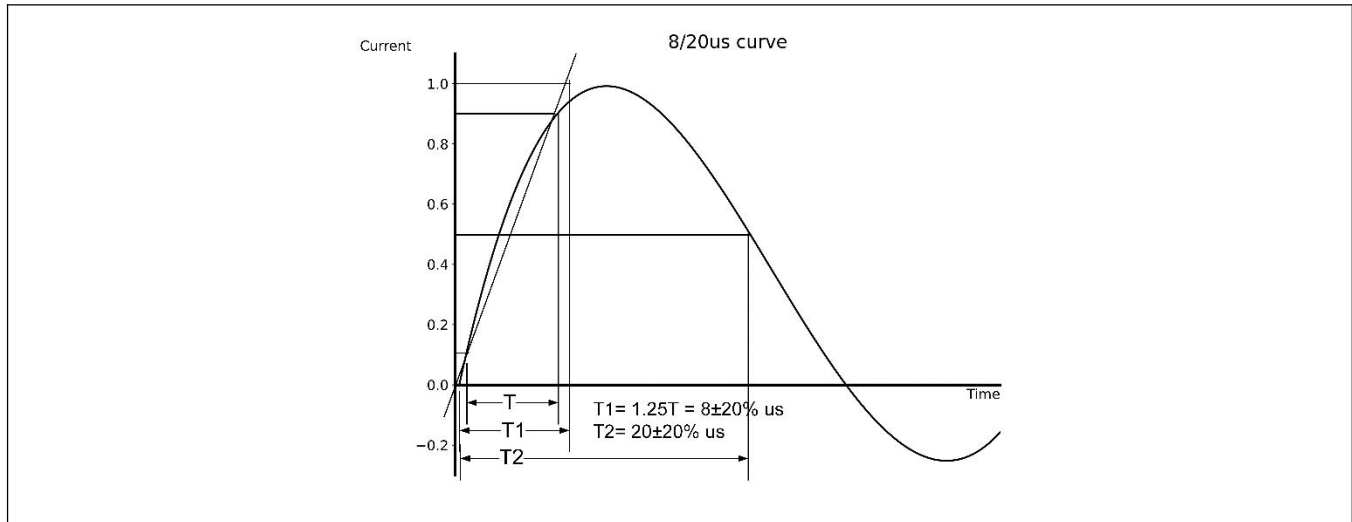
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	$V_{RWM}$				5.0	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	6.0	7.0	8.0	V
Reverse Leakage Current	$I_R$	$V_{RWM}=5.0V$			1.0	$\mu A$
Clamping Voltage	$V_C$	$I_{PP}=50A$ ; $t_p=8/20\mu s$		11.0	14.0	V
Clamping Voltage	$V_C$	$I_{PP}=80A$ ; $t_p=8/20\mu s$		13.0	15.0	V
Clamping Voltage	$V_C$	$I_{PP}=110A$ ; $t_p=8/20\mu s$		14.0	17.0	V
Junction Capacitance	$C_J$	IO-GND, $V_R=0V$ ; $f=1MHz$		850	1050	pF

Table-4 Electrical Characteristics

Symbol	Parameters
$V_{RWM}$	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 @ $I_{PP}$
$I_F$	Forward Current
$V_F$	Forward Voltage @ $I_F$

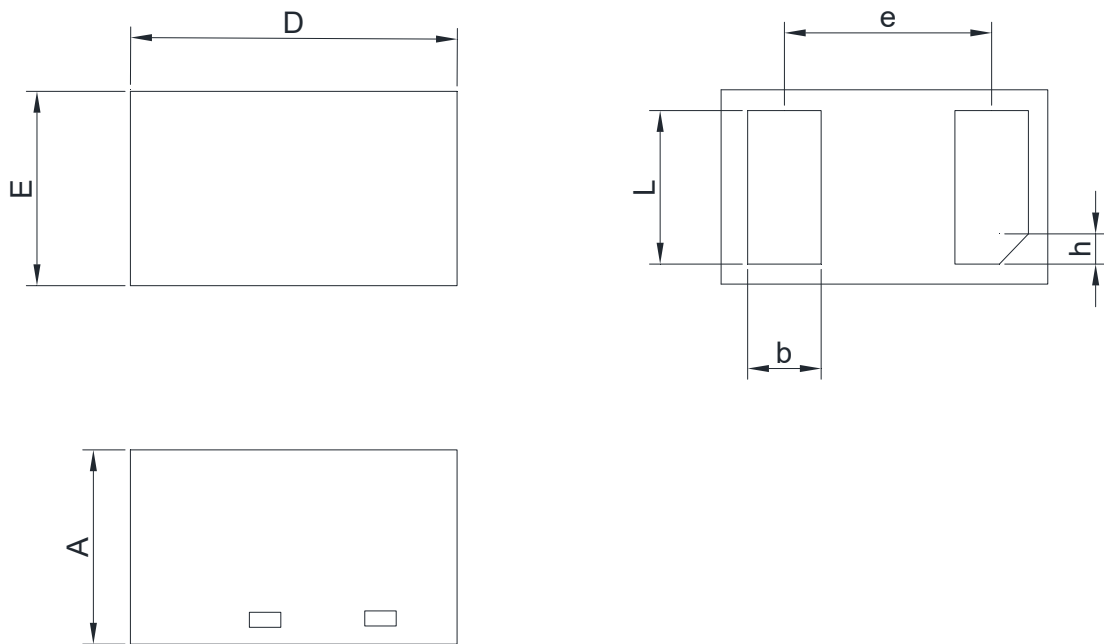


## 7. Typical Characteristic



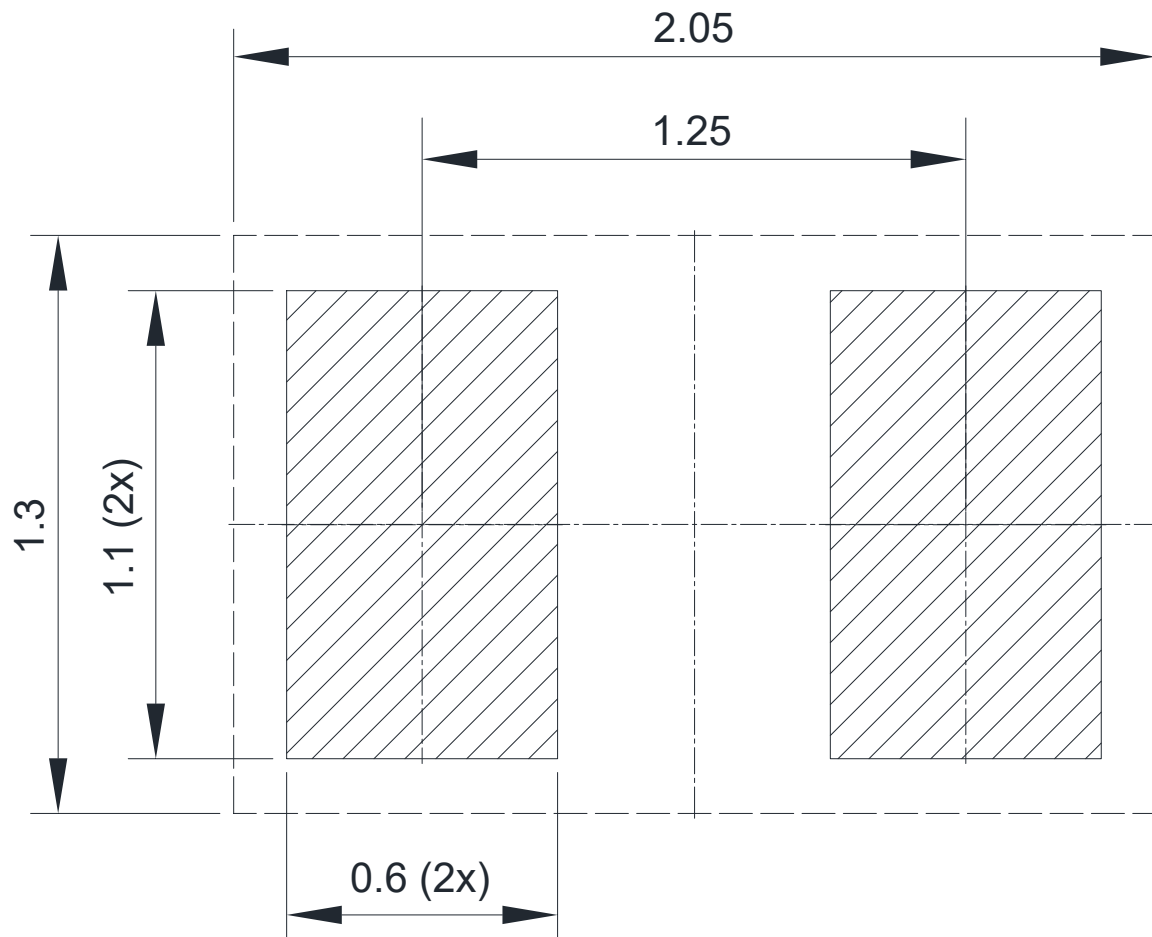
## 8. Dimension (DFN1610-2L)

POD(A)



SYMBOL	MIN (mm)	NOM (mm)	MAX (mm)
A	0.45	0.50	0.55
h	0.15	0.20	0.25
D	1.55	1.60	1.65
E	0.95	1.00	1.05
L	0.75	0.80	0.85
b	0.35	0.40	0.45
e	1.10BCS		

## 9. Recommended Soldering Footprint



DIMENSIONS: MILLIMETERS

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