

# MSKSEMI

SEMICONDUCTOR



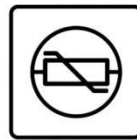
ESD



TVS



TSS



MOV



GDT



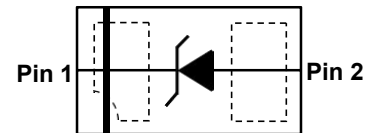
PLED

Product data sheet

[www.msksemi.com](http://www.msksemi.com)

## Feature

1600W Peak pulse power per line ( $t_P = 8/20\mu s$ )  
DFN1610-2 package  
Response time is typically  $< 1$  ns  
Protect one I/O or power line  
Low clamping Voltage  
RoHS compliant  
Transient protection for data lines to IEC 61000-4-2(ESD)  
 $\pm 30KV$ (air),  $\pm 30KV$ (contact); IEC 61000-4-4 (EFT) 80A (5/50ns)  
IEC 61000-4-5 (Lightning) 130A (8/20us)



Circuit Diagram

DFN1610-2

## Applications

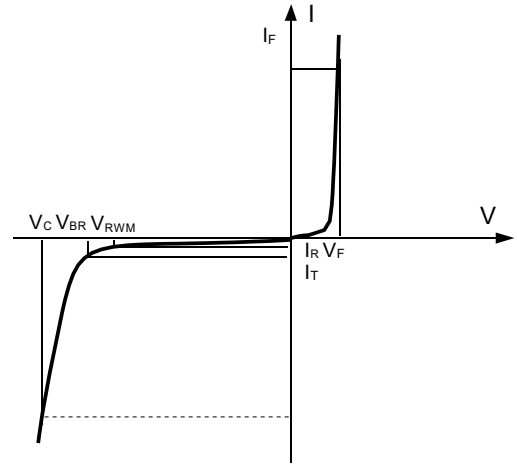
Cell phone handsets and accessories  
Personal digital assistants (PDA's)  
Notebooks, desktops, and servers  
Portable instrumentation  
Cordless phones  
Digital cameras  
Peripherals  
MP3 players

## Mechanical Characteristics

Lead finish: 100% matte Sn(Tin)  
Mounting position: Any  
Qualified max reflow temperature: 260°C  
Pure tin plating: 7 ~ 17 um  
Pin flatness:  $\leq 3$ mil  
Device meets MSL 3 requirements

**Electronics Parameter**

Symbol	Parameter
$V_{RWM}$	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 @ $I_{PP}$
$P_{PP}$	Peak Pulse Power
$C_J$	Junction Capacitance
$I_F$	Forward Current
$V_F$	Forward Voltage @ $I_F$



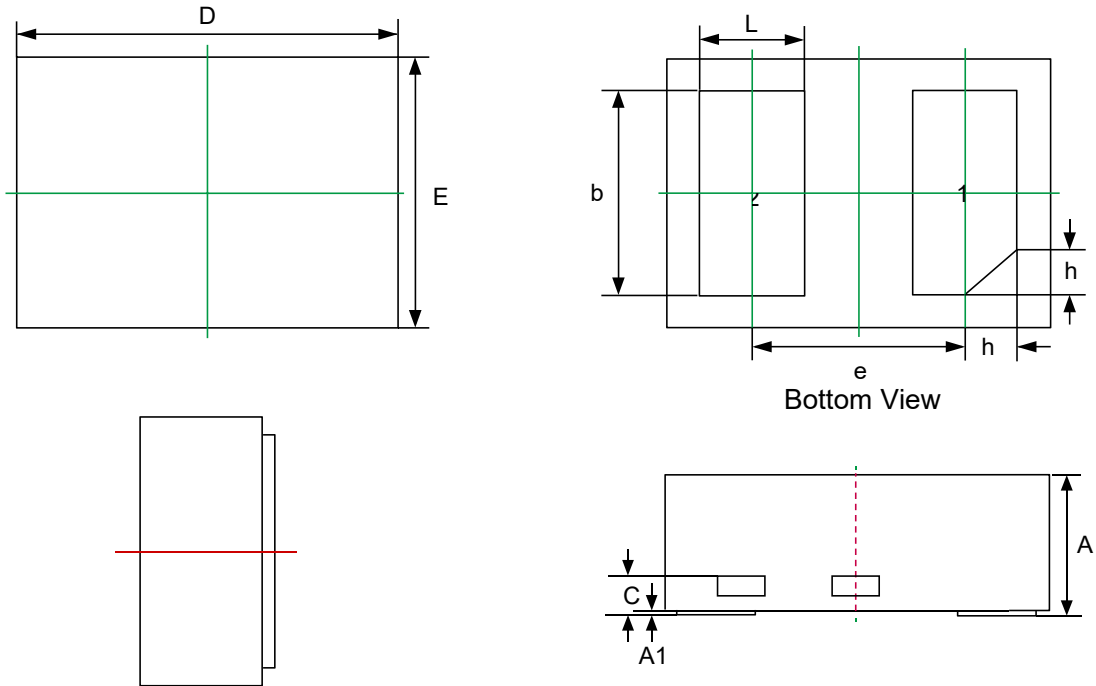
**Electrical characteristics per line@25°C ( unless otherwise specified)**

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	$V_{RWM}$				5	V
Breakdown Voltage	$V_{BR}$	$I_t = 1\text{mA}$	6	7	8	V
Reverse Leakage Current	$I_R$	$V_{RWM} = 5\text{V}$			2	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP} = 20\text{A}$ $t_P = 8/20\mu\text{s}$		8	9	V
Clamping Voltage	$V_C$	$I_{PP} = 70\text{A}$ $t_P = 8/20\mu\text{s}$		10	11	V
Clamping Voltage	$V_C$	$I_{PP} = 130\text{A}$ $t_P = 8/20\mu\text{s}$		12.5	14	V
Junction Capacitance	$C_J$	$V_R = 0\text{V}$ $f = 1\text{MHz}$	800	1000	1200	pF

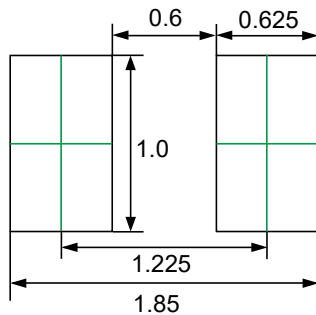
**Absolute maximum rating@25°C**

Rating	Symbol	Value	Units
Peak Pulse Power ( $t_P = 8/20\mu\text{s}$ )	$P_{PP}$	1600	W
Lead Soldering Temperature	$T_L$	260 (10 sec)	$^{\circ}\text{C}$
Operating Temperature	$T_J$	-55 to +150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 to +150	$^{\circ}\text{C}$

**Product dimension (DFN1610-2)**



Dim	Millimeters	
	MIN	MAX
A	0.45	0.60
A1	--	0.05
b	0.75	0.85
c	0.10	0.20
D	1.55	1.65
e	1.10BSC	
E	0.95	1.05
L	0.35	0.45
h	0.15	0.25



Recommended Soldering Pad

**REEL SPECIFICATION**

P/N	PKG	QTY
UCLAMP0571P-MS	DFN1610-2	3000

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