

# MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT

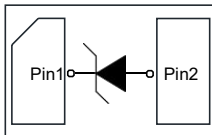


PLED

Product data sheet



**DFN1610-2L**



**Circuit diagram**

**Marking** H5N

**Feature**

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

**Applications**

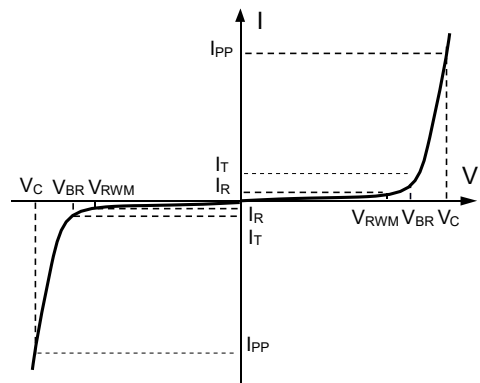
- Cell phone handsets and accessories
- Personal digital assistants (PDA's)
- Notebooks, desktops, and servers
- Portable instrumentation
- Cordless phones
- Digital cameras
- Peripherals
- MP3 players

**Mechanical Characteristics**

- Lead finish: 100% matte Sn(Tin)
- Mounting position: Any
- Qualified max reflow temperature:  $260^\circ\text{C}$
- Pure tin plating:  $7 \sim 17\ \mu\text{m}$
- Pin flatness:  $\leq 3\text{mil}$
- Device meets MSL3 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



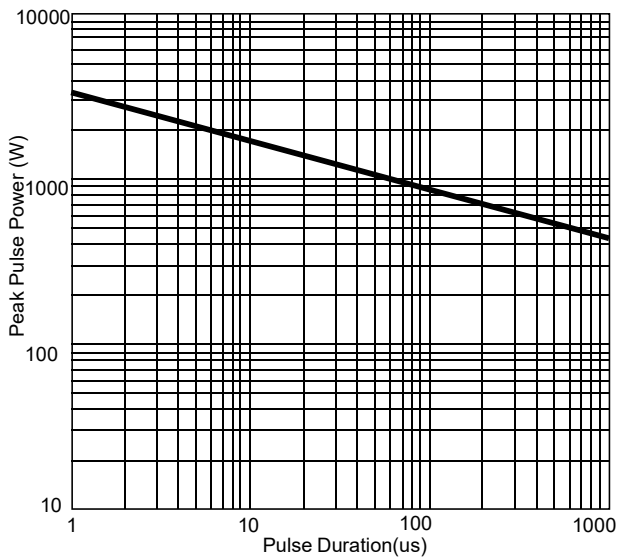
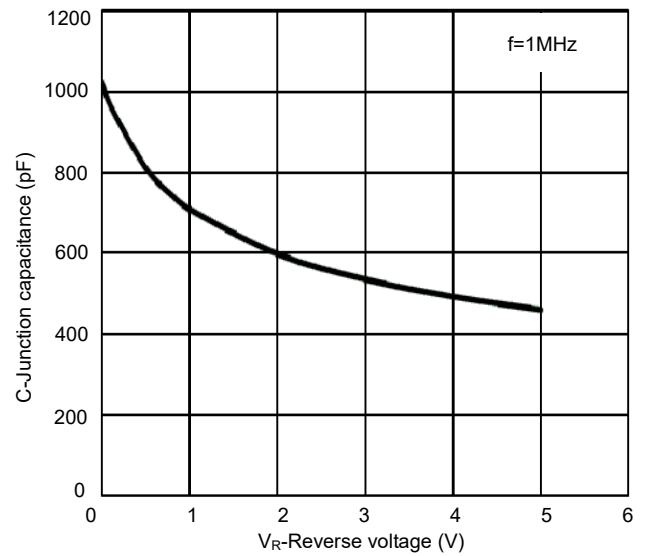
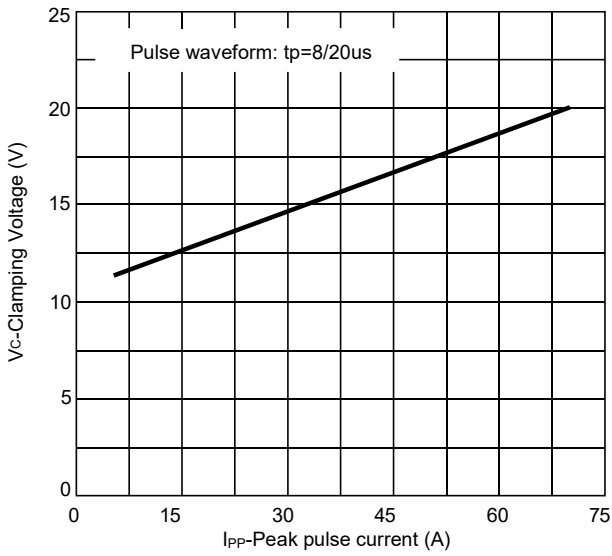
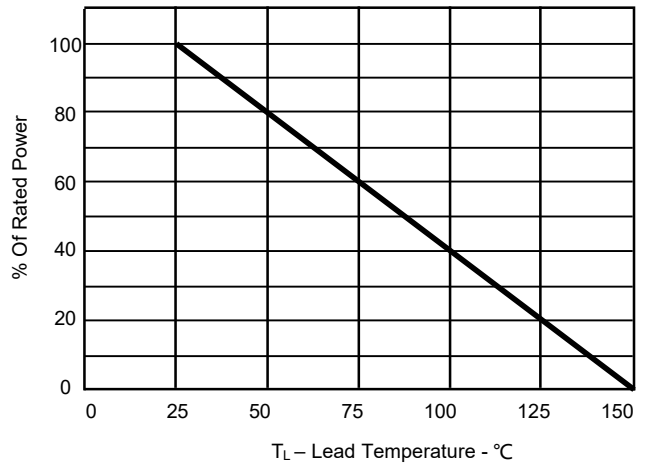
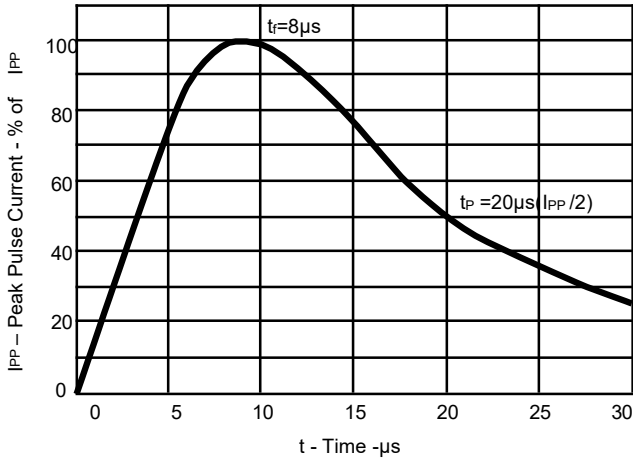
**Electrical characteristics per line@25°C ( unless otherwise specified)**

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

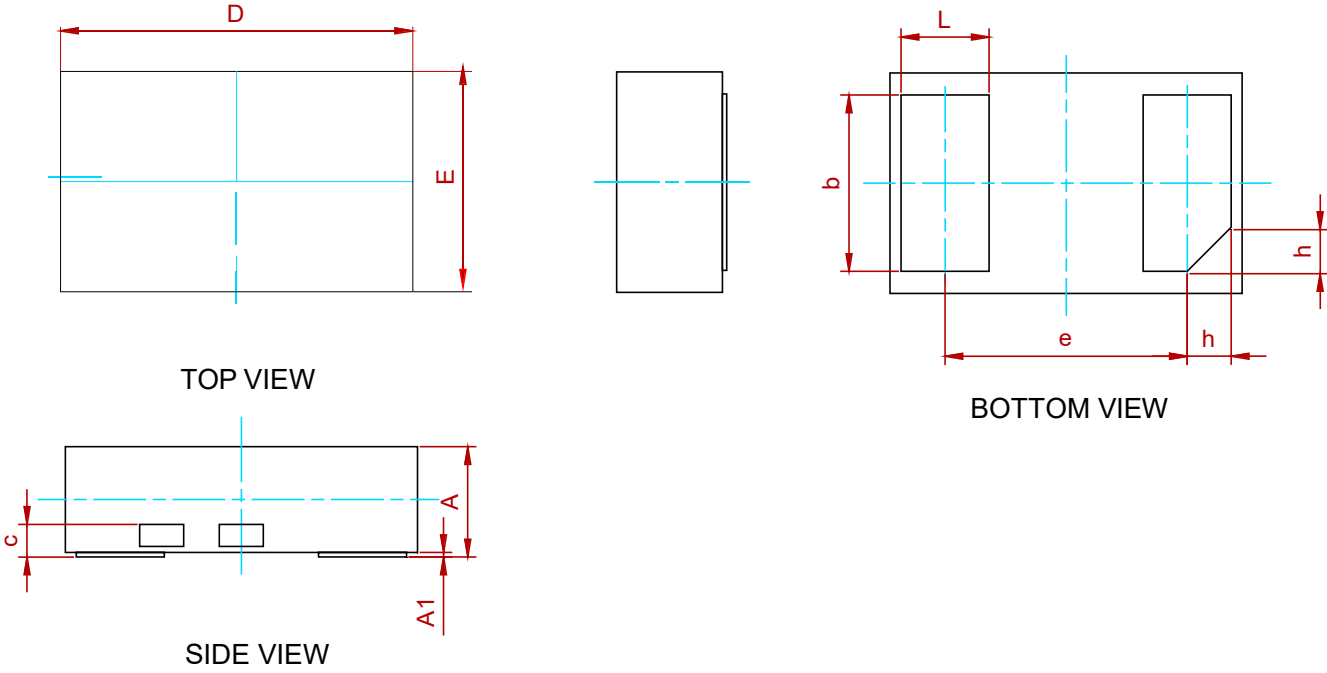
**Absolute maximum rating@25°C**

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)	°C
Operating Temperature	$T_J$	-55 to +150	°C
Storage Temperature	$T_{STG}$	-55 to +150	°C

**Typical Characteristics**

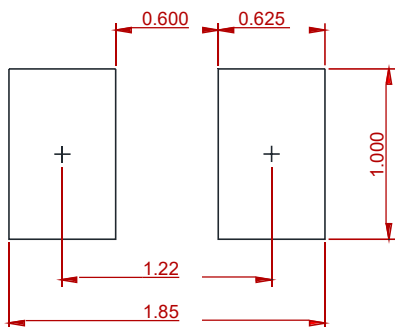


**PACKAGE MECHANICAL DATA**



Symbol	Dimensions in Millimeters		
	Min.	Typ.	Max.
A	0.45	0.50	0.55
A1	0.00	0.02	0.05
c	0.15 Ref.		
b	0.75	0.80	0.85
L	0.35	0.40	0.45
D	1.55	1.60	1.65
E	0.95	1.00	1.05
e	1.10 BSC		
h	0.20 Ref.		

**Recommend PCB Layout (Unit: mm)**



**Notes:**

This recommended land pattern is for reference purposes only. Please consult your manufacturing group to ensure your PCB design guidelines are met.

**REEL SPECIFICATION**

P/N	PKG	QTY
PTVSHC2EN5VU-MS	DFN1610-2L	3000

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