

Description

The ASL05H2U6 is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.



Mechanical Characteristics

- ◆ DFN1610-6L
- ◆ ROHS/ Compliant
- ◆ Halogen free
- ◆ Molding compound flammability rating: UL 94V-0
- ◆ Marking: Part number
- ◆ Packing: Tape and Reel per EIA 481

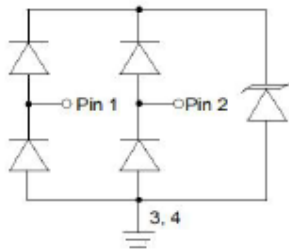
Features

- ◆ IEC 61000-4-2 (ESD)
 - ±12kV Contact Discharge
 - ±17kV Air Discharge
- ◆ IEC 61000-4-5 (Surge)
 - 4A (8/20us)
- ◆ IEC 61000-4-4 EFT Protection
 - 40A (5/50ns)
- ◆ Protects four I/O line
- ◆ Low leakage current
- ◆ AEC-Q101 qualified

Applications

- ◆ USB 2.0
- ◆ Monitors and Flat Panel Displays
- ◆ 10/100/1000 Ethernet
- ◆ Notebook Computers
- ◆ SIM ports
- ◆ ATM interface

Pin Configuration



Ordering Information

Part Number	Package	Material	Packing	Reel Size
ASL05H2U6	DFN1610-6L	Halogen free	3000/Tape & Reel	7 inch

Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameters	Symbol	Min.	Max.	Unit
Peak pulse power (tp=8/20us)@25°C	P _{pk}	-	60	W
Peak pulse current (tp = 8/20μs)	I _{pp}	-	4	A
ESD (IEC61000-4-2 air discharge) @25°C	V _{ESD}	-	±17	kV
ESD (IEC61000-4-2 contact discharge) @25°C	V _{ESD}	-	±12	kV
Operating temperature	T _{OP}	-55	125	°C
Storage temperature	T _{STG}	-55	150	°C
Lead temperature	T _L	-	260	°C

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_t=1\text{mA}$	6		9.5	V
Reverse Leakage Current	I_R	$V_{RWM}=5\text{V}$			1	μA
Clamping Voltage	V_C	$I_{PP}=1\text{A}$ $t_p=8/20\mu\text{s}$ Any I/O pin to Ground		8.5	10	V
Clamping Voltage	V_C	$I_{PP}=4\text{A}$ $t_p=8/20\mu\text{s}$ Any I/O pin to Ground		12	15	V
Junction Capacitance	C_J	$V_R=0\text{V}$, $f = 1\text{MHz}$ Any I/O pin to Ground		0.6	0.8	pF
		$V_R=0\text{V}$, $f = 1\text{MHz}$ Between I/O pins		0.3	0.4	



Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)

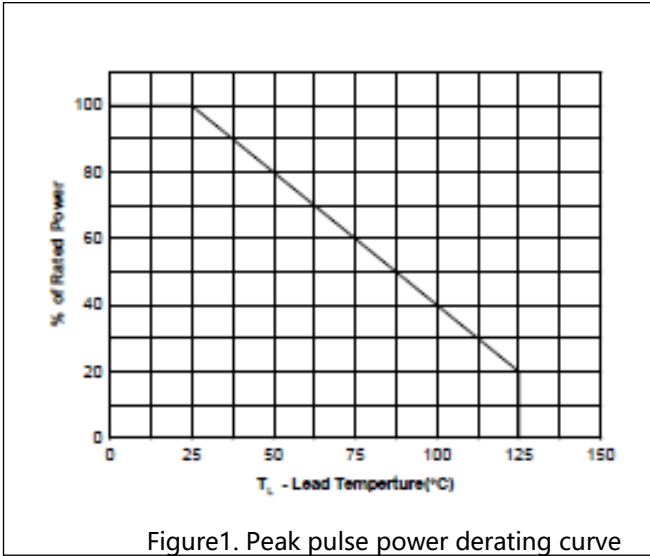


Figure1. Peak pulse power derating curve

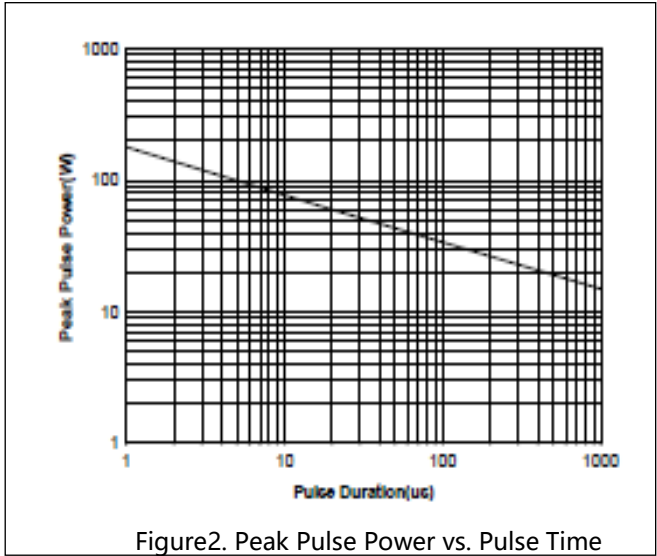


Figure2. Peak Pulse Power vs. Pulse Time

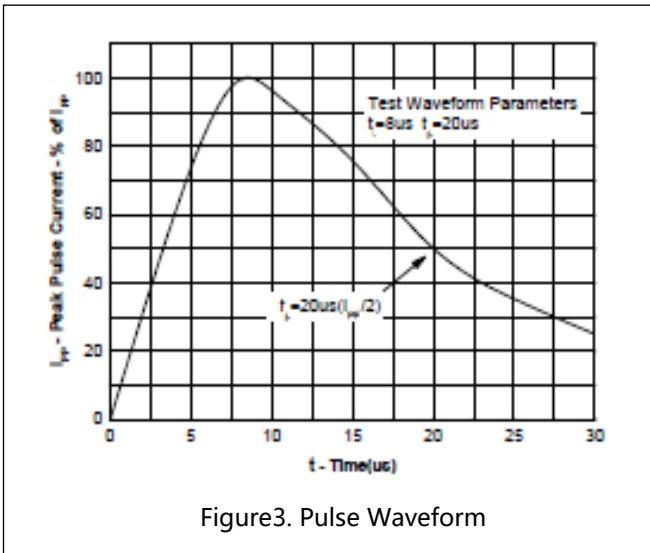


Figure3. Pulse Waveform

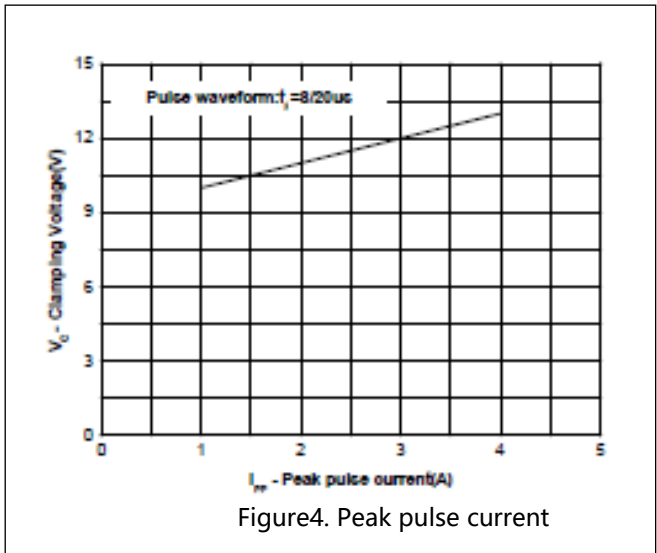
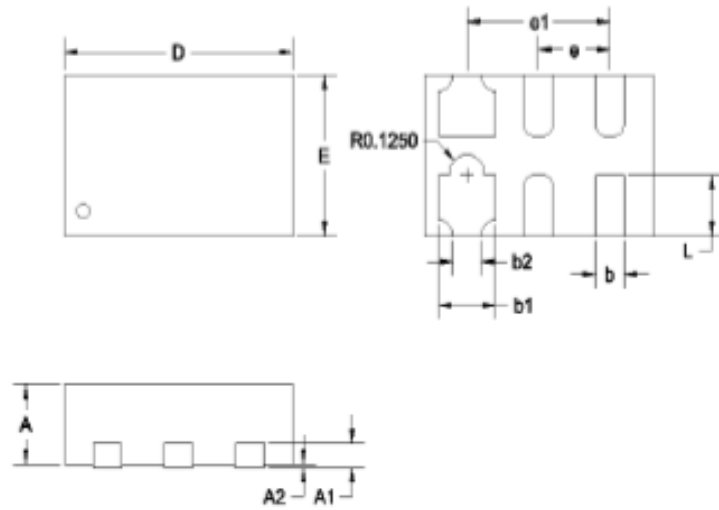


Figure4. Peak pulse current

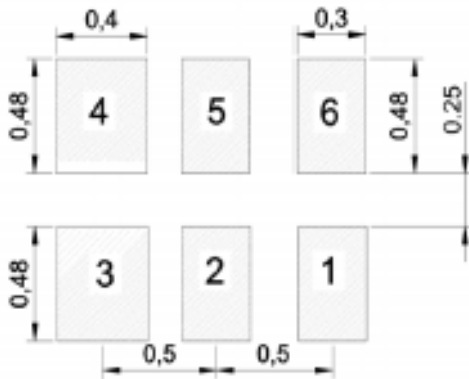
Package Outline Drawing



Units in millimeters

Symbols	Min	Nom	Max
A	0.45	0.50	0.55
A1	0.15REF		
A2	0.00	0.02	0.05
D	1.55	1.60	1.65
E	0.95	1.00	1.05
L	0.33	0.38	0.43
b	0.15	0.20	0.25
b1	0.35	0.40	0.45
b2	0.20REF		
e	0.50BSC		
e1	1.00BSC		

Recommended Land Pattern



Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference only

Revision history of Specification

Version	Change Items	Effective Date
1.0	Initial Release	13-Aug-2021