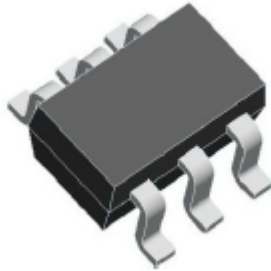


## Description

The CSL05D2U 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

- ◆ SOT23-6L
- ◆ ROHS/ Compliant
- ◆ Halogen free
- ◆ Molding compound flammability rating: UL 94V-0
- ◆ Marking: Part number
- ◆ Packing: Tape and Reel per EIA 481

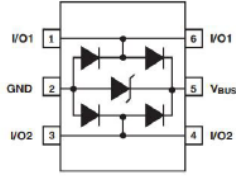
## Features

- ◆ IEC 61000-4-2 (ESD)
  - ±12kV Contact Discharge
  - ±17kV Air Discharge
- ◆ IEC 61000-4-4 (EFT)
  - 40A(5/50ns)
- ◆ HIEC 61000-4-5 (Surge)
  - 4A (8/20us)
- ◆ Protects four I/O line
- ◆ Ultra-low capacitance:  $C_j=0.6\text{pF}$  Typ
- ◆ Low clamping voltage
- ◆ Low leakage current
- ◆ Solid-state silicon technology

## APPLICATIONS

- ◆ Cellular Handsets & Accessories
- ◆ Cordless Phones
- ◆ Personal Digital Assistants (PDA' s)
- ◆ Portable Instrumentation
- ◆ Notebooks & Handhelds
- ◆ Digital Cameras

### Pin Configuration



### Ordering Information

Part Number	Package	Marking	Packing	Reel Size
CSL05D2U	SOT23-6L	Halogen free	3000/Tape & Reel	7 inch

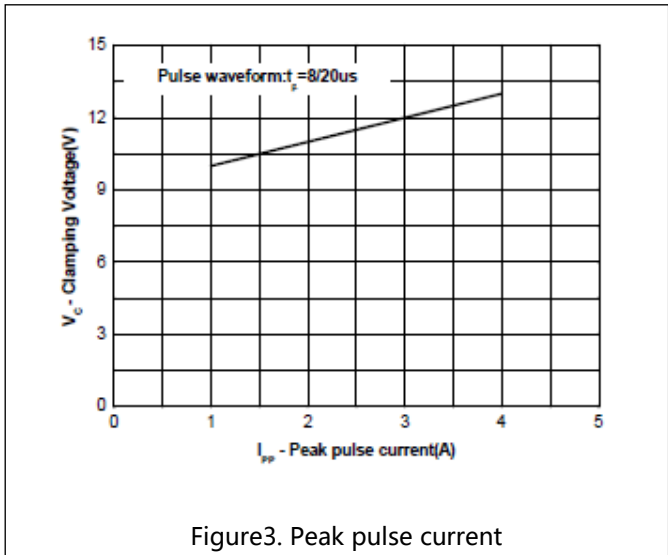
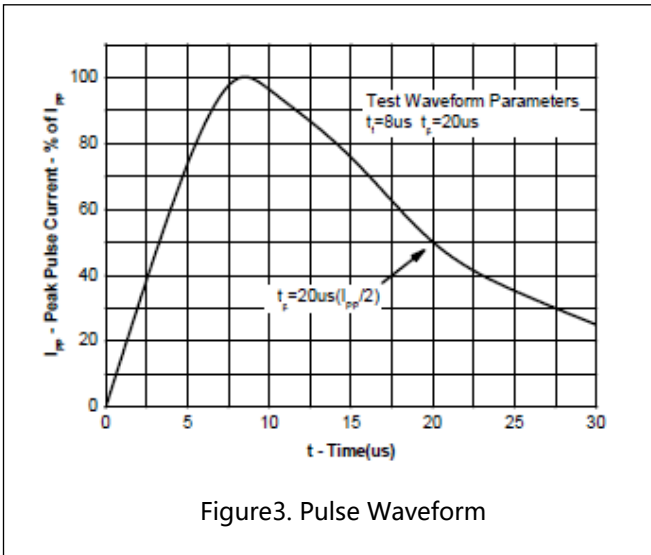
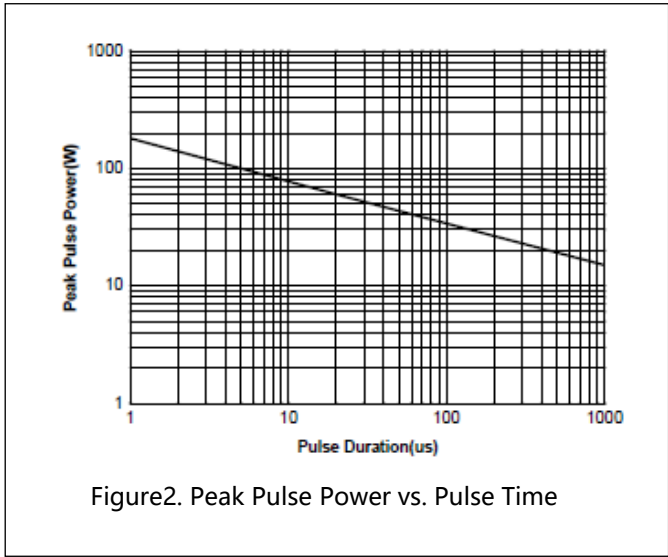
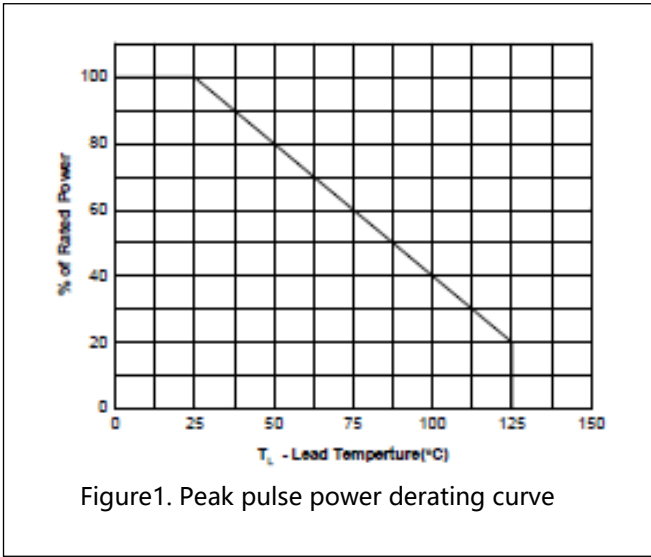
### Absolute Maximum Ratings ( $T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameters	Symbol	Min.	Max.	Unit
Peak pulse power ( $t_p=8/20\mu\text{s}$ )@25°C	$P_{pk}$	-	60	W
Peak pulse current ( $t_p=8/20\mu\text{s}$ )@25°C	$I_{pp}$	-	4	A
ESD (IEC61000-4-2 air discharge) @25°C	$V_{ESD}$	-	$\pm 17$	kV
ESD (IEC61000-4-2 contact discharge) @25°C	$V_{ESD}$	-	$\pm 12$	kV
Junction temperature	$T_J$	-	125	°C
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	$\mu\text{A}$
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	

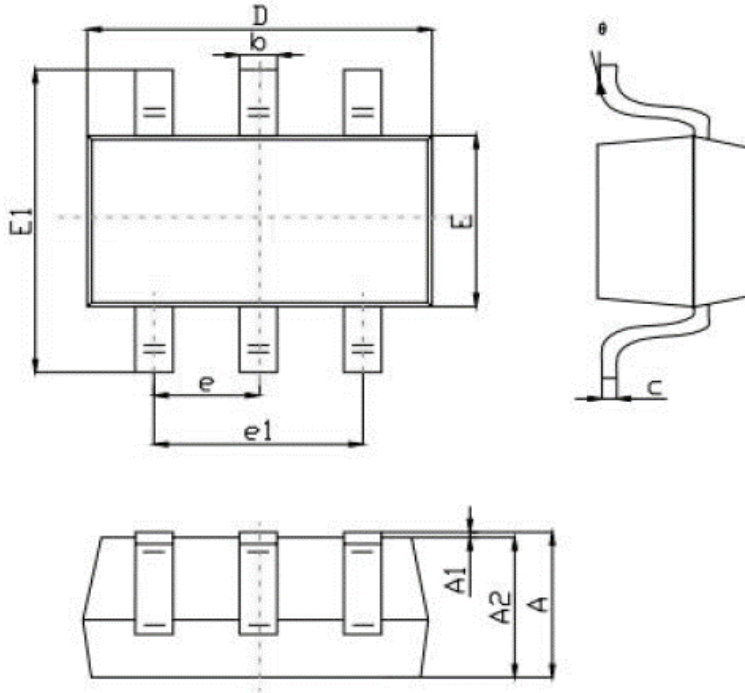
Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise Specified)



Applications Information

Typical Interface Application

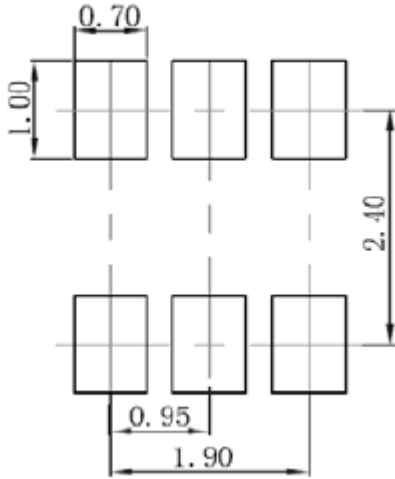
Package Outline Drawing



Units in millimeters

SYMBOL	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	1.050	1.250	0.041	0.049
A1	0.000	0.100		0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
	0°	8°	0°	8°

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