

Description

The CSH03LB is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time. The CSH03LB is suited for using in cellular phones, portable devices, digital cameras, power supplies and many other portable applications.



Mechanical Characteristics

- ◆ DFN0603-2L
- ◆ ROHS/ Compliant
- ◆ Halogen free
- ◆ Molding compound flammability rating: UL 94V-0
- ◆ Marking: Part number
- ◆ Packing: Tape and Reel per EIA 481

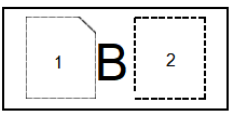
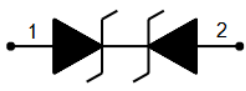
Features

- ◆ IEC 61000-4-2 (ESD)
 - ±25kV Contact Discharge
 - ±25kV Air Discharge
- ◆ IEC 61000-4-5 (Lightning)
 - 8A (8/20us)
- ◆ IEC 61000-4-4 EFT Protection
 - 40A (5/50ns)
- ◆ Halogen free and RoHS compliant
- ◆ Protects one directional I/O line
- ◆ Transient protection for high-speed data lines
- ◆ Low clamping voltage
- ◆ Low leakage current

Applications

- ◆ Cell Phone Handsets and Accessories
- ◆ Microprocessor based equipment
- ◆ Personal Digital Assistants
- ◆ Notebooks / Desktops / Servers
- ◆ Portable Instrumentation
- ◆ Peripherals & Pagers
- ◆ Switch Systems
- ◆ 10/100/1000 Ethernet
- ◆ WAN/LAN Equipment

Dimensions and Pin Configuration

Pin	Name	Description	Outline	Circuit Diagram
1	IO1	Connect to IO		
2	IO2	Connect to IO		

Ordering Information

Part Number	Package	Marking	Packing	Reel Size
CSH03LB	DFN0603-2L	B	15000/Tape & Reel	7 inch

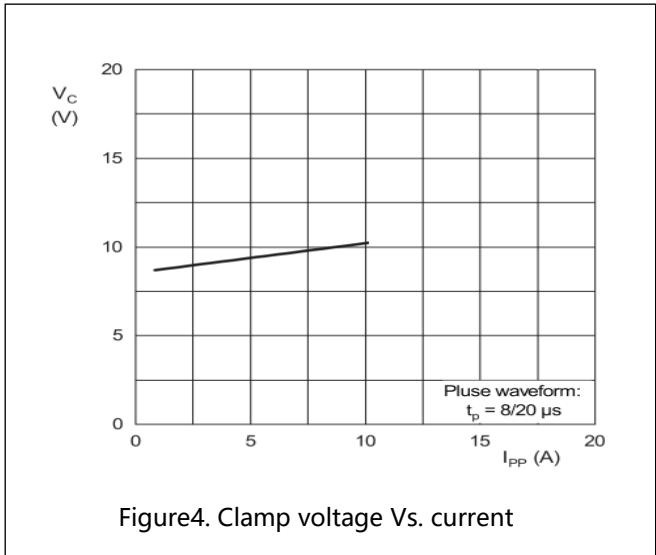
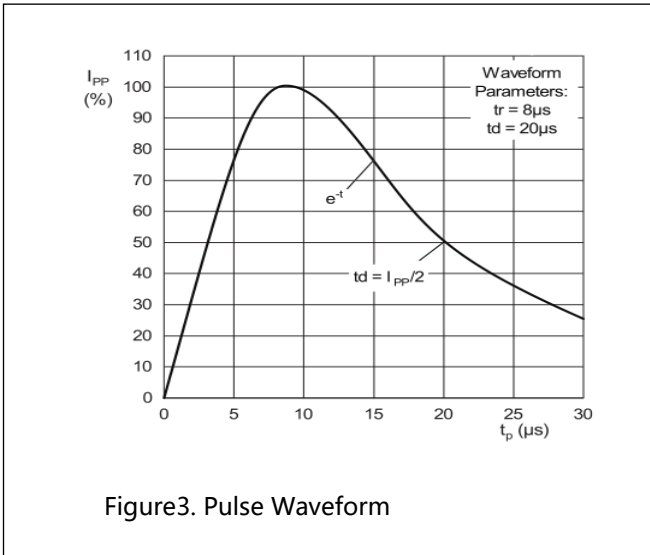
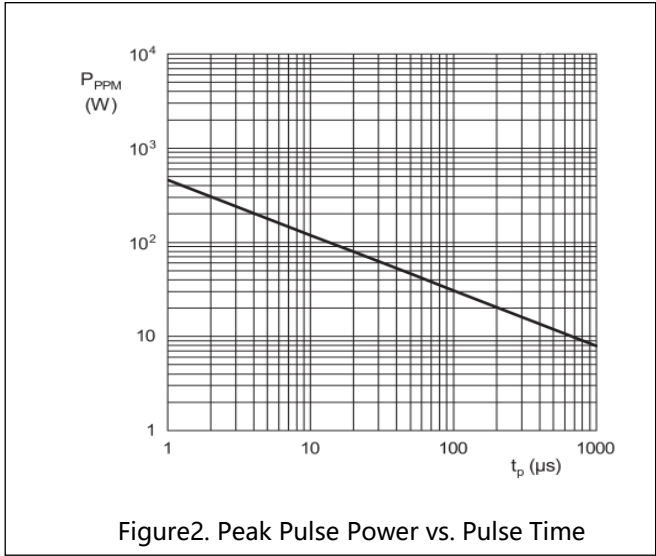
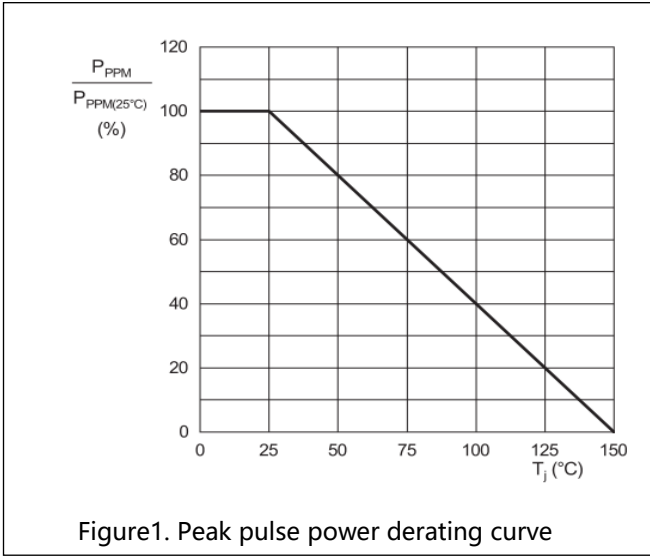
Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameters	Symbol	Min.	Max.	Unit
Peak pulse power ($t_p=8/20\mu\text{s}$)@ 25°C	P_{pk}	-	80	W
Peak pulse current ($t_p=8/20\mu\text{s}$)@ 25°C	I_{pp}	-	8	A
ESD (IEC61000-4-2 air discharge) @ 25°C	V_{ESD}	-	± 25	kV
ESD (IEC61000-4-2 contact discharge) @ 25°C	V_{ESD}	-	± 25	kV
Junction temperature	T_J	-	125	$^{\circ}\text{C}$
Operating temperature	T_{OP}	-40	125	$^{\circ}\text{C}$
Storage temperature	T_{STG}	-55	150	$^{\circ}\text{C}$
Lead temperature	T_L	-	260	$^{\circ}\text{C}$

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

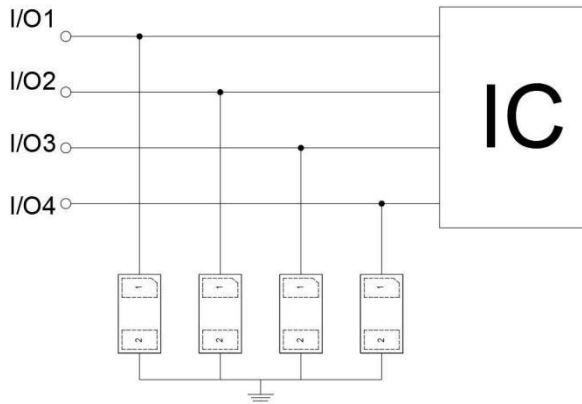
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$	3.7			V
Reverse Leakage Current	I_R	$V_{RWM}=5\text{V}$			1	μA
Clamping Voltage	V_C	$I_{PP}=1\text{A}; t_p=8/20\mu\text{s}$		7.0		V
Clamping Voltage	V_C	$I_{PP}=8\text{A}; t_p=8/20\mu\text{s}$		10.0		V
Junction Capacitance	C_J	I/O to GND; $V_R=0\text{V}; f=1\text{MHz}$		15		pF

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

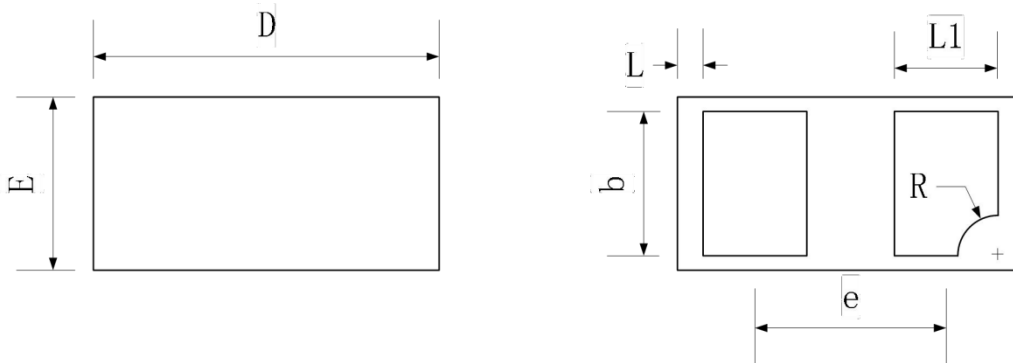


Applications Information

Typical Interface Application



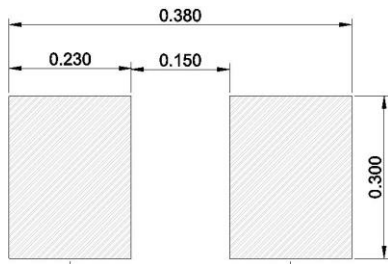
Package Outline Drawing



Units in millimeters

SYMBOL	MIN	NOM	MAX
D	0.570	0.600	0.635
E	0.270	0.300	0.330
b	0.210	0.250	0.280
e	0.350BSC		
L	0.030	0.045	0.060
L1	0.180REF		
R	0.050	0.076	0.150

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