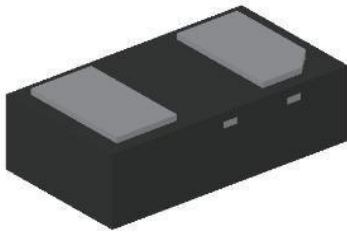


Description

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



Mechanical Data

- ◆Cell Phone Handsets and Accessories
- ◆Microprocessor based equipment
- ◆Personal Digital Assistants
- ◆Notebooks / Desktops / Servers
- ◆Portable Instrumentation
- ◆Peripherals & Pagers

Features

- ◆IEC 61000-4-2 (ESD)
 - ±30kV Contact Discharge
 - ±30kV Air Discharge
- ◆2000W Peak pulse Power (8/20us)
- ◆IEC 61000-4-4 EFT Protection
 - 40A (5/50ns)
- ◆Halogen free and RoHS compliant
- ◆Protects one power or I/O
- ◆Transient protection for high-speed data lines
- ◆Low leakage current

Ordering Information

Part Number	Package		Material	Packing	Quantity per reel		Flammability Rating	Reel Size
CSHxxHUB	DFN1610-2L		Halogen free	Tape & Reel	3,000 PCS		UL 94V-0	7 inches
Marking for the CSHxxHUB series								
V _{RWM}	4.5V	5V	7V	12V	15V	18V	24V	36V
Marking	04P	05P	07P	12P	15P	18P	24P	36P

Table-1 ordering information

Pin Configuration and Functions

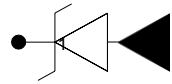
Pin	Name	Description	Outline	Circuit Diagram
1	IO	Connect to IO		
2	GND	Connect to GND		

Table-2 Pin configuration

Absolute Maximum rating

Over operating free-air temperature range (unless otherwise noted)

Parameters	Symbol	Min.	Max.	Unit
Peak pulse power (tp=8/20us)@25°C	P _{pk}	-	1500	W
Peak pulse current (tp=8/20us)@25°C	I _{pp}		Refer to Table-4	A
ESD (IEC61000-4-2 air discharge) @25°C	V _{ESD}	-	±30	kV
ESD (IEC61000-4-2 contact discharge) @25°C	V _{ESD}	-	±30	kV
Junction temperature	T _J	-	125	°C
Operating temperature	T _{OP}	-40	125	°C
Storage temperature	T _{STG}	-55	150	°C
Lead temperature	T _L	-	260	°C

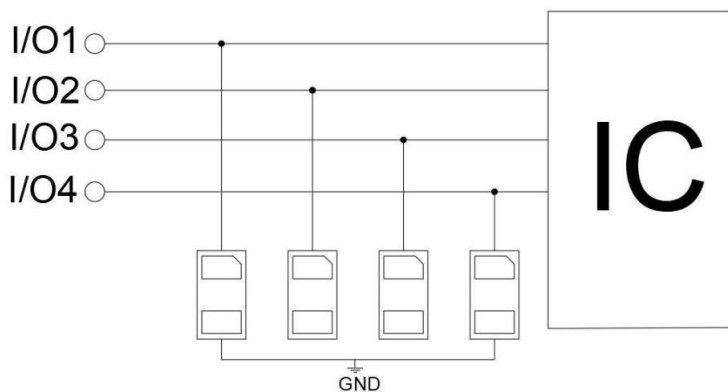
Table-3 Absolute Maximum rating

Electrical Characteristics (At TA = 25°C unless otherwise noted)

Part Number	VRWM (max.) (V)	VBR(min.) (V)	VCL@I=1A (max.) (V)	IPP (max.) (A)	VCL@I=IPP(max.) (V)	IR (max.) (uA)	CJ (typ.) (pF)
CSH04HUB	4.5	4.8	6.0	180	15.0	1.0	500
CSH05HUB	5.0	6.0	10.0	90	17.0	1.0	860
CSH07HUB	7.0	7.5	15.0	80	20.0	1.0	760
CSH12HUB	12.0	13.3	19.0	60	30.0	1.0	360
CSH15HUB	15.0	16.5	25.0	50	40.0	1.0	320
CSH18HUB	18.0	20.0	33.0	40	44.0	1.0	260
CSH24HUB	24.0	26.0	40.0	25	50.0	1.0	200
CSH36HUB	36.0	39.0	65.0	10	70.0	1.0	160

Table-4 Electrical Characteristics

Typical Application



Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

Figure 1. Pulse rating curve

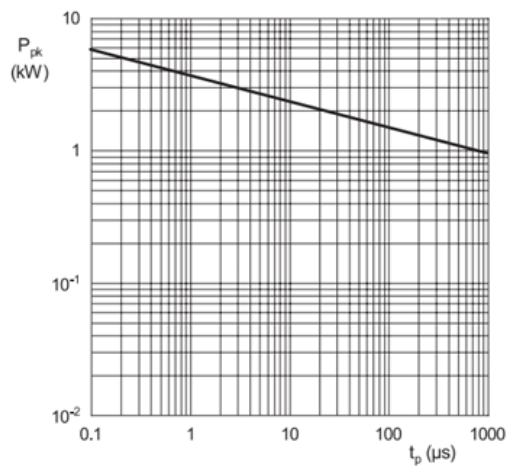


Figure 2 Peak pulse power derating curve

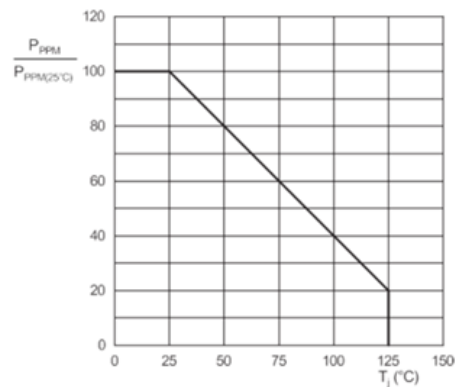


Figure 3 Pulse waveform

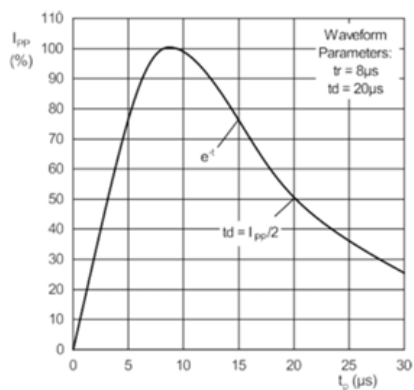
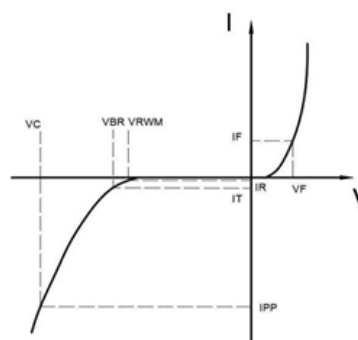
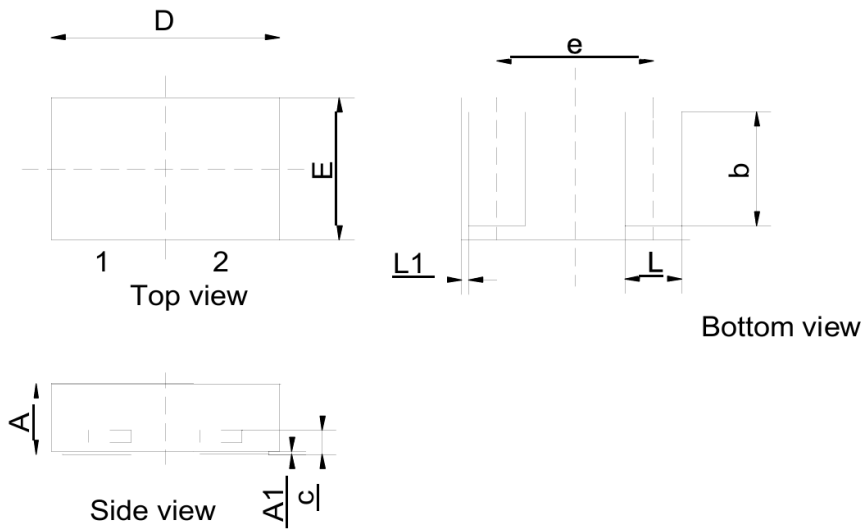


Figure 4 Parameters



Dimension



Units in millimeters

SYMBOL	MIN	NOM	MAX
A	0.450	0.500	0.550
A1	0.000	0.020	0.050
b	0.750	0.850	0.950
c	0.080	0.140	0.200
D	1.550	1.600	1.650
e	1.100BSC		
E	0.950	1.000	1.050
L	0.350	0.400	0.450
L1	0.060BSC		

Table-5 product dimensions