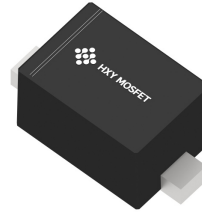




Discription

The HESDUC5VU1CL-B protects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events. Excellent clamping capability, low leakage, low capacitance, and fast response time provide best in class protection on designs that are exposed to ESD.

It gives designer the flexibility to protect one bi-directional line in applications where arrays are not practical.



SOD-523

Features

- ★ IEC 61000-4-2 Level 4 ESD Protection
 - $\pm 10\text{kV}$ Contact Discharge
 - $\pm 15\text{kV}$ Air Discharge
- ★ 80W Peak pulse Power (8/20us)
- ★ Low clamping voltage
- ★ Working voltage: 5V
- ★ Low leakage current
- ★ RoHS compliant
- ★ Protecting one Uni-directional lines
- ★ Junction capacitance: 0.6pF Typ.



Circuit Diagram

Applications

- ★ Cellular handsets and accessories
- ★ Portable Digital Assistants
- ★ Notebooks & Handhelds
- ★ Digital Cameras
- ★ MP3 Players
- ★ Peripherals

Ordering Information

Product ID	Pack	Qty(PCS)
HESDUC5VU1CL-B	SOD-523	3000

Absolute Ratings($T_{amb} = 25^{\circ}\text{C}$)

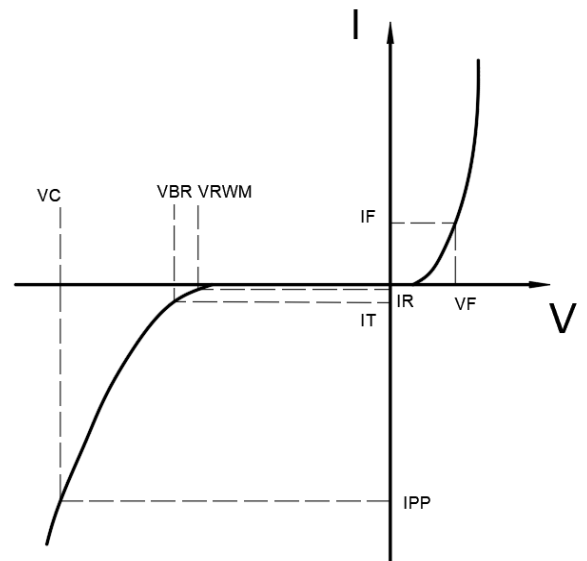
Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power ($t_p = 8/20 \mu s$)	80	W
T_L	Maximum lead temperature for soldering during 10s	260	$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	-55 to +150	$^{\circ}\text{C}$
T_{op}	Operating Temperature Range	-40 to +125	$^{\circ}\text{C}$
T_j	Maximum junction temperature	150	$^{\circ}\text{C}$
I_{PP}	Peak pulse current ($t_p = 8/20\mu s$)@ 25°C	4	A
V_{ESD}	ESD (IEC61000-4-2 air discharge) @ 25°C	± 15	KV
V_{ESD}	ESD (IEC61000-4-2 contact discharge) @ 25°C	± 10	KV



Electrical Characteristics Ratings at 25°C unless otherwise noted

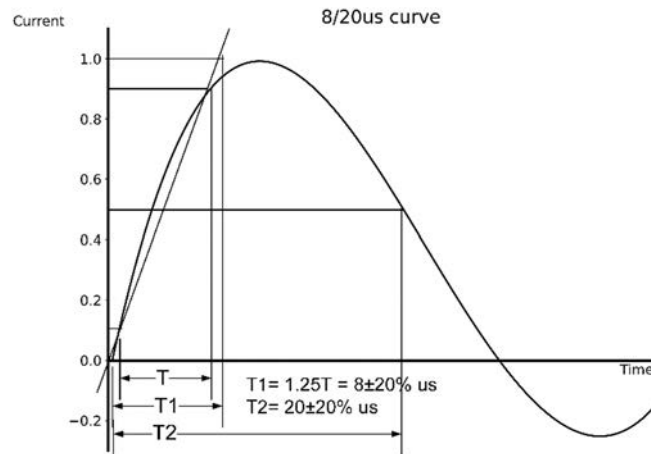
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	6.0			V
Reverse Leakage Current	I_R	$V_{RWM}=5V$			1	μA
Clamping Voltage	V_C	$I_{PP}=1A$; $t_p=8/20\mu s$		15		V
Clamping Voltage	V_C	$I_{PP}=4A$; $t_p=8/20\mu s$		20		V
Junction Capacitance	C_J	I/O to GND; $V_R=0V$; $f=1MHz$		0.6		pF

Symbol	Parameters
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}
I_F	Forward Current
V_F	Forward Voltage @ I_F

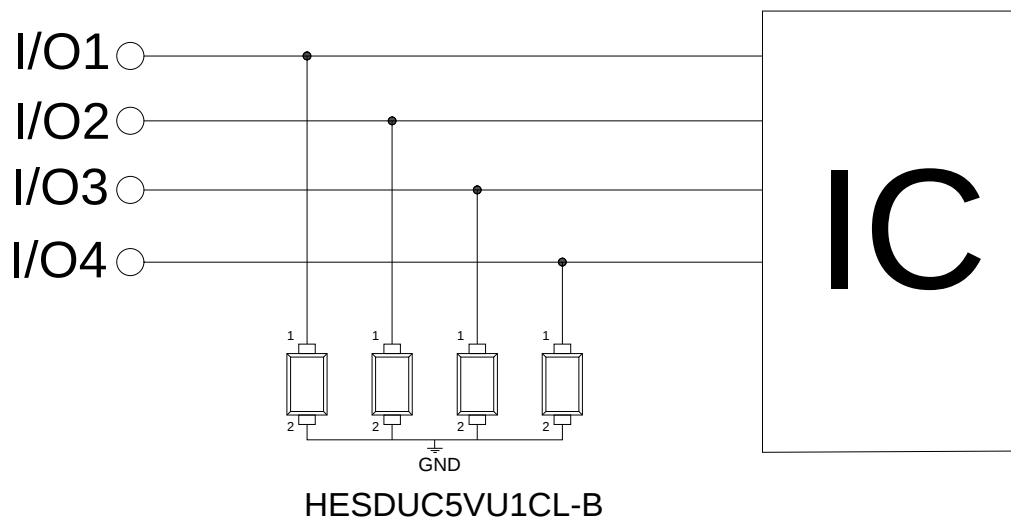




Typical Characteristics

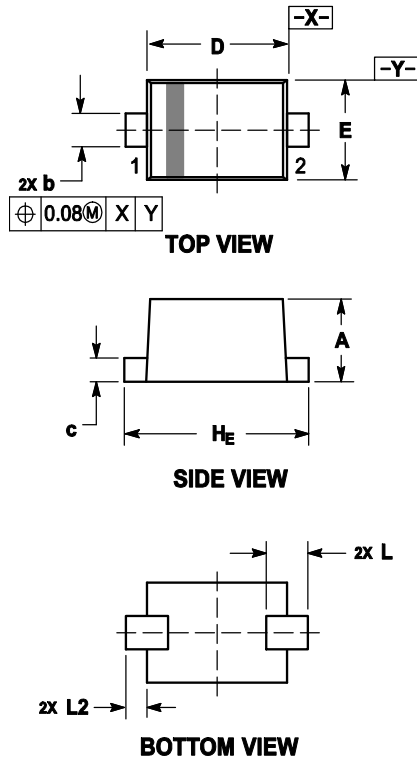


Typical Application





Outline And Dimensions

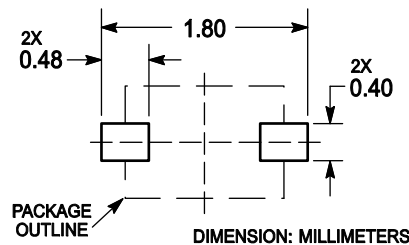


Notes:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.50	0.60	0.70	0.020	0.024	0.028
b	0.25	0.30	0.35	0.010	0.012	0.014
c	0.07	0.14	0.20	0.003	0.006	0.008
D	1.10	1.20	1.30	0.043	0.047	0.051
E	0.70	0.80	0.90	0.028	0.031	0.035
H _E	1.50	1.60	1.70	0.059	0.063	0.067
L	0.30 REF			0.012 REF		
L ₂	0.15	0.20	0.25	0.006	0.008	0.010

Soledering Footprint





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