



Discription

The HESDUC12VB1EL-A 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-323

Siscription Features

- ★ Ultra Low capacitance 0.6 pF(Typ)
- ★ 400W peak pulse power (8/20us)
- ★ Working Voltage 12V
- ★ Complies with following standards:
 - EC 61000-4-2(ESD) immunity test
 - Air discharge: +30KV
 - Contact discharge: +30KV
 - EC61000-4-5(Lightning)15A(8/20uS)
 - EC61000-4-4(EFT)80A(5/50ns)
- ★ RoHS compliant



Circuit Diagram

Ordering Information

Product ID	Pack	Qty(PCS)
HESDUC12VB1EL-A	SOD-323	3000

Absolute Ratings (T_{amb}=25°C)

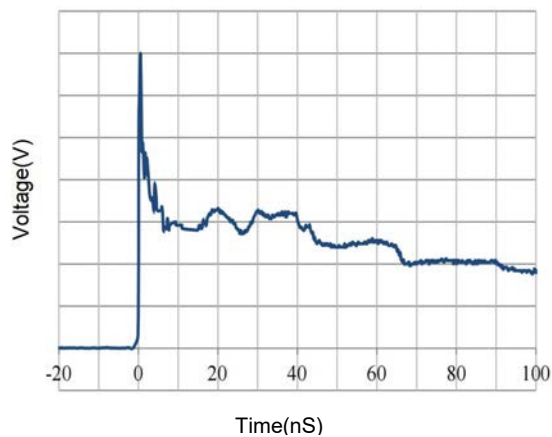
Symbol	Parameter	Value	Units
P _{PP}	Peak Pulse Power (t _p = 8/20 μ s)	400	W
T _L	Maximum lead temperature for soldering during 10s	260	°C
T _{stg}	Storage Temperature Range	-55 to +155	°C
T _{op}	Operating Temperature Range	-40 to +125	°C
T _j	Maximum junction temperature	150	°C
	IEC61000-4-2 (ESD)	air discharge contact discharge	±30 ±30 KV



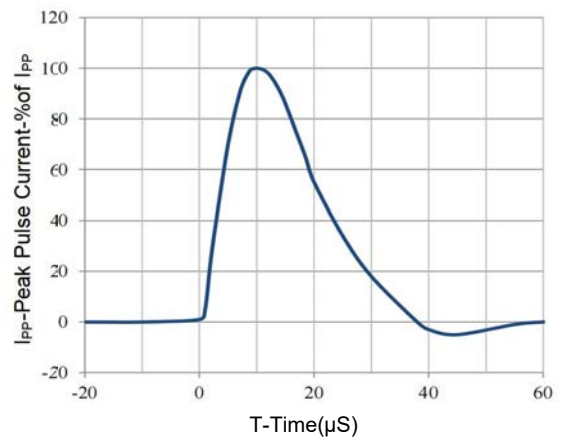
Electrical Characteristics ($T_A = 25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	V_{RWM}	--	--	12	V	
Breakdown Voltage	V_{BR}	14.0	15.0	16.5	V	$I_T=1\text{mA}$
Leakage Current I_{Leak}	I_R	--	--	0.2	μA	$V_{RWM}=12\text{V}$
Clamping Voltage	V_C	--	16.5	--	V	$I_{PP}=1\text{A}, T_p=8/20\mu\text{s}$
Clamping Voltage	V_C	--	26.0	30.0	V	$I_{PP}=15\text{A}, T_p=8/20\mu\text{s}$
Junction Capacitance	C_J	--	0.6	1.0	pF	$V_R=0\text{V}, f=1\text{MHz}$

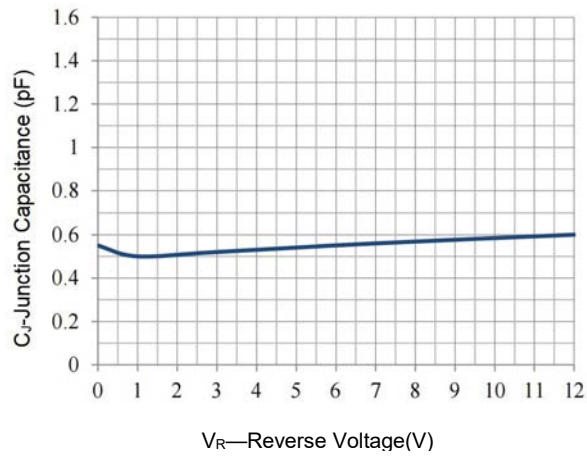
Typical Performance Characteristics



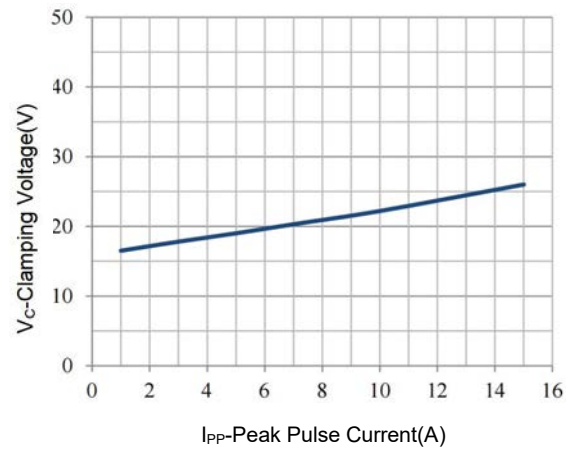
IEC61000-4-2 Pulse Waveform



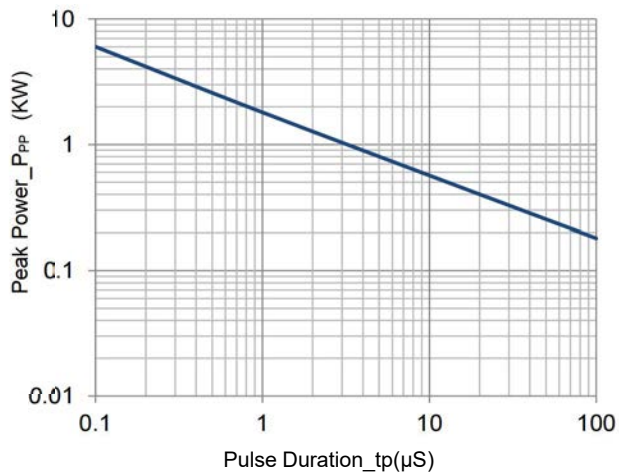
IEC61000-4-5 8X20 μs Pulse Waveform



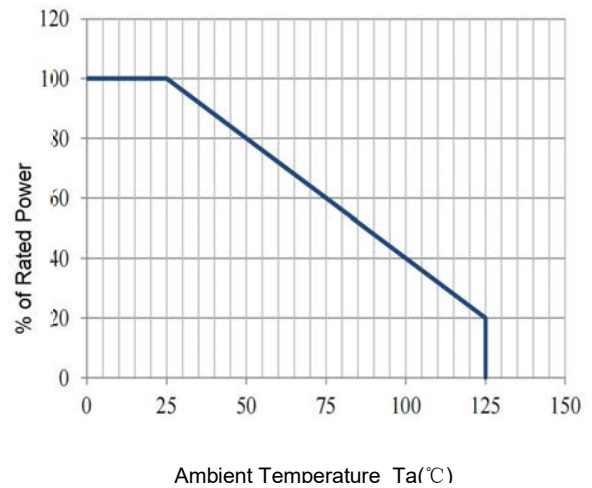
Junction Capacitance vs. Reverse Voltage



Clamping Voltage vs. Peak Pulse Current



Peak Pulse Power vs. Pulse Time

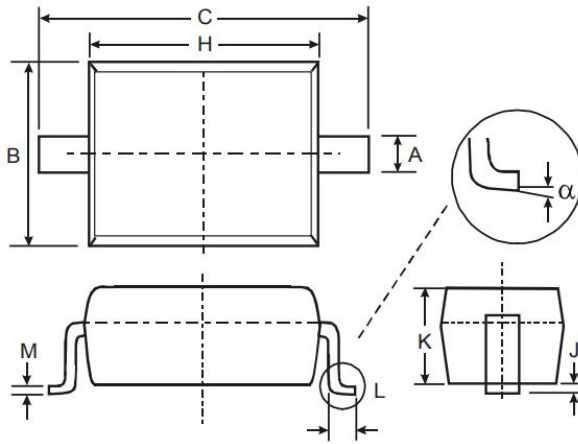


Power Derating Curve



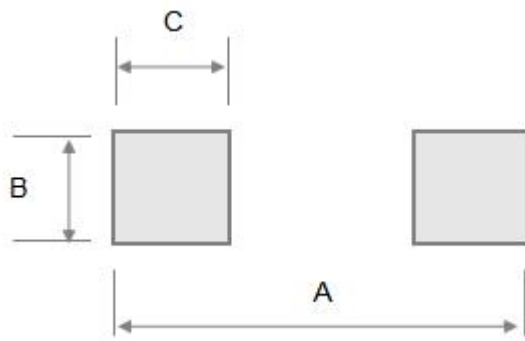
Package Outline Dimensions

SOD-323



Symbol	Dimensions	
	Min	Max
A	0.25	0.40
B	1.20	1.40
C	2.35	2.75
H	1.50	1.80
J	0.01	0.15
K	0.75	1.05
L	0.20	0.40
M	0.08	0.25
α	0°	8°

Soldering Footprint (mm)



Symbol	Dimensions
A	3.20
B	0.80
C	0.80



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