



### Discription

The HGBLC12C 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)
HGBLC12C	SOD-323	3000

### Absolute Ratings (T<sub>amb</sub>=25°C )

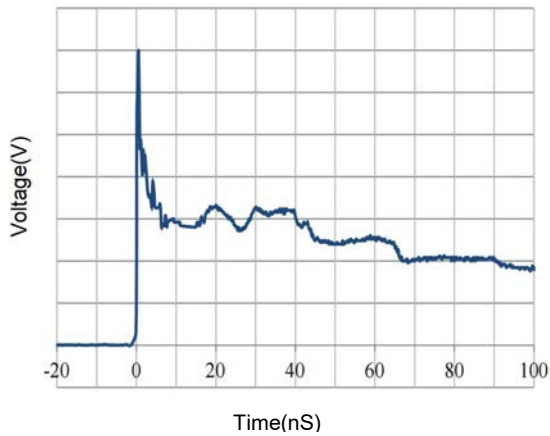
Symbol	Parameter	Value	Units
P <sub>pp</sub>	Peak Pulse Power (t <sub>p</sub> = 8/20 μ s)	400	W
T <sub>L</sub>	Maximum lead temperature for soldering during 10s	260	°C
T <sub>stg</sub>	Storage Temperature Range	-55 to +155	°C
T <sub>op</sub>	Operating Temperature Range	-40 to +125	°C
T <sub>j</sub>	Maximum junction temperature	150	°C
	IEC61000-4-2 (ESD)	air discharge contact discharge	±30 ±30 KV



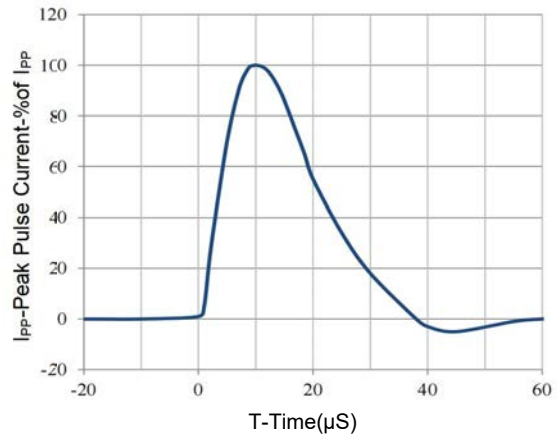
**Electrical Characteristics** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

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 ILeak	$I_R$	--	--	0.2	$\mu\text{A}$	$V_{RWM}=12\text{V}$
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	$V_R=0\text{V}, f=1\text{MHz}$

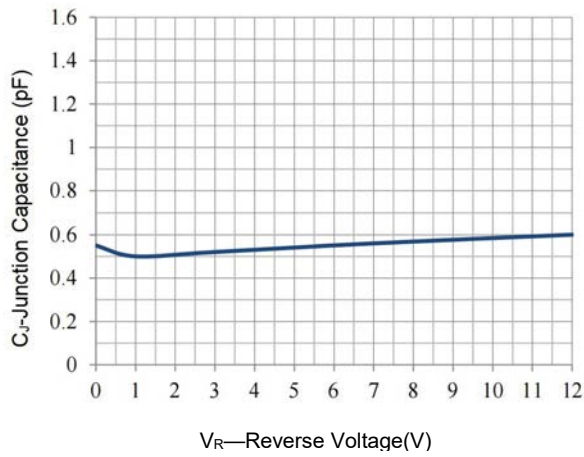
**Typical Performance Characteristics**



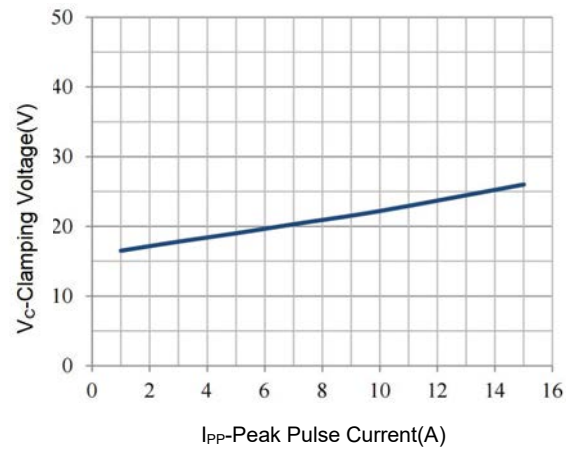
IEC61000-4-2 Pulse Waveform



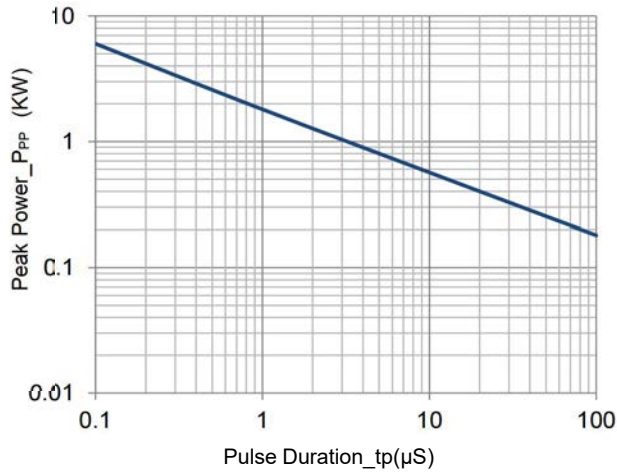
IEC61000-4-5 8X20μs Pulse Waveform



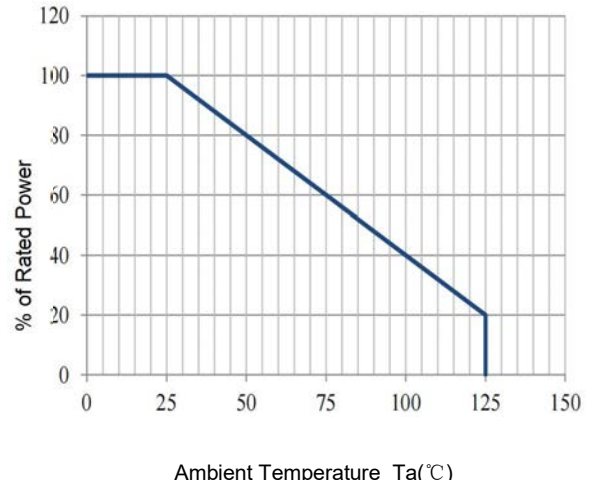
**Junction Capacitance vs. Reverse Voltage**



**Clamping Voltage vs. Peak Pulse Current**



**Peak Pulse Power vs. Pulse Time**

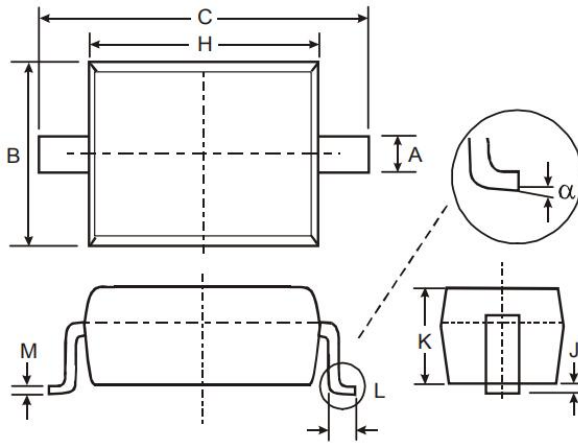


**Power Derating Curve**



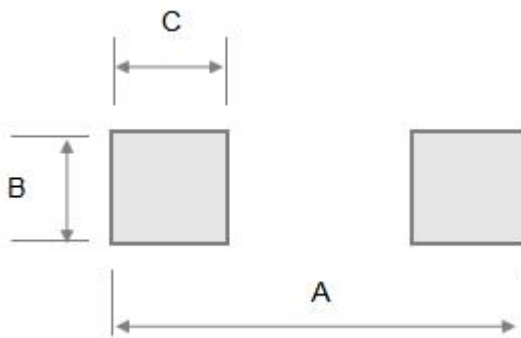
## Package Outline Dimensions

### 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
$\alpha$	0°	8°

### Soldering Footprint (mm)



Symbol	Dimensions
A	3.20
B	0.80
C	0.80



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