

Product Summary

The GESDB12VD11F is designed to protect voltage sensitive electronic components from ESD and other transients. Excellent clamping capability, low leakage, low capacitance, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its small size, it is suited for use in digital cameras, cellular phones, MP3 players and many other portable applications where board space is at a premium.

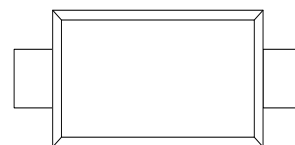
Feature

- Low reverse stand-off voltage: 12V
- Low leakage current
- 6300W Peak pulse power per line ($t_p = 8/20\mu s$)
- SOD-123FL package
- Response time is typically $< 1ns$
- Protect one I/O or power line

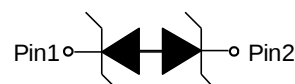
Application

- Cell phone handsets and accessories
- Personal digital assistants (PDA's)
- Notebooks, desktops and servers
- Portable instrumentation
- Cordless phones
- Digital cameras
- Peripherals
- MP3 players
- Digital cameras

SOD-123FL



Schematic diagram

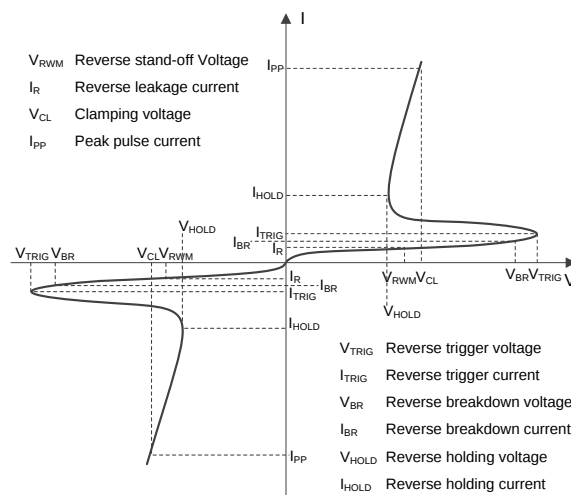


Absolute Maximum Ratings ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
IEC 61000-4-2 ESD Voltage Air Model	V_{ESD}	± 30	KV
IEC 61000-4-2 ESD Voltage Contact Model		± 30	
ESD Voltage Per Human Body Model		± 16	
ESD Voltage Machine Model		± 0.4	
Peak Pulse Power	P_{PP}	6300	W
Peak Pulse Current	I_{PP}	180	A
Lead Solder Temperature – Maximum (10 Second Duration)	T_{L}	260	$^{\circ}\text{C}$
Junction Temperature	T_{J}	150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55~ +150	$^{\circ}\text{C}$

Electrical Parameter

Symbol	Parameter
V_{CL}	Clamping Voltage @ I_{PP}
I_{PP}	Peak Pulse Current
V_{TRIG}	Reverse trigger voltage
I_{TRIG}	Reverse trigger current
V_{BR}	Reverse breakdown Voltage
I_{BR}	Reverse breakdown current
V_{RWM}	Reverse Standoff Voltage
I_{R}	Reverse Leakage Current @ V_{RWM}
V_{HOLD}	Reverse Holding Voltage
I_{HOLD}	Reverse Holding Current



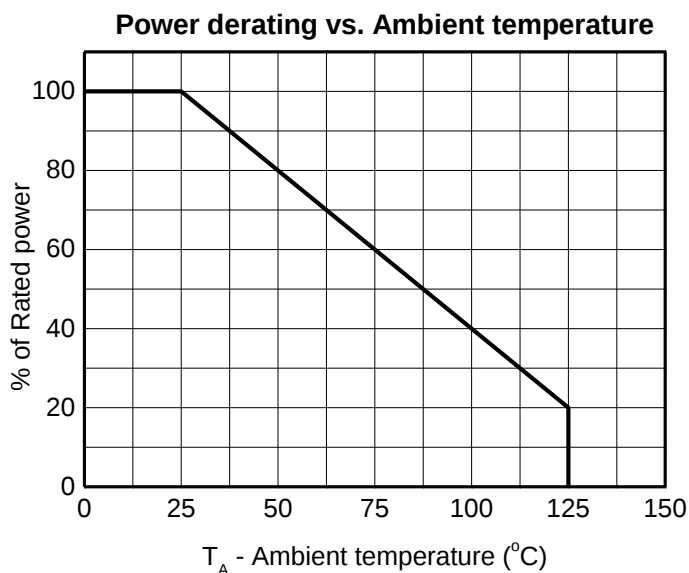
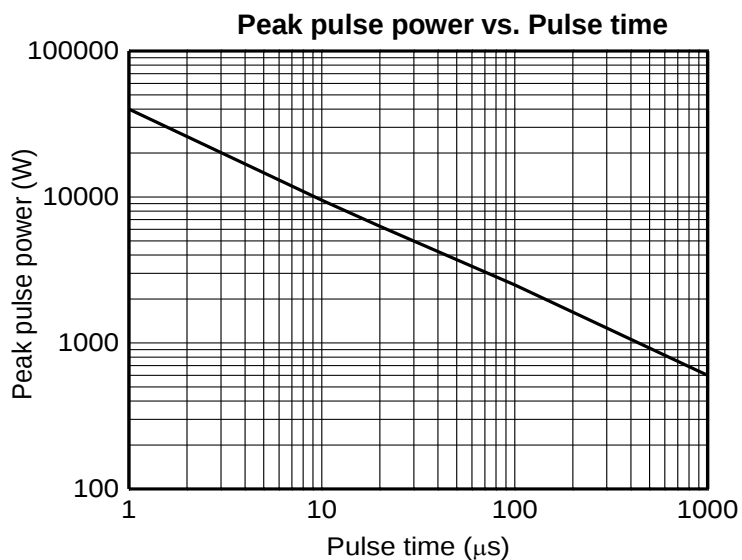
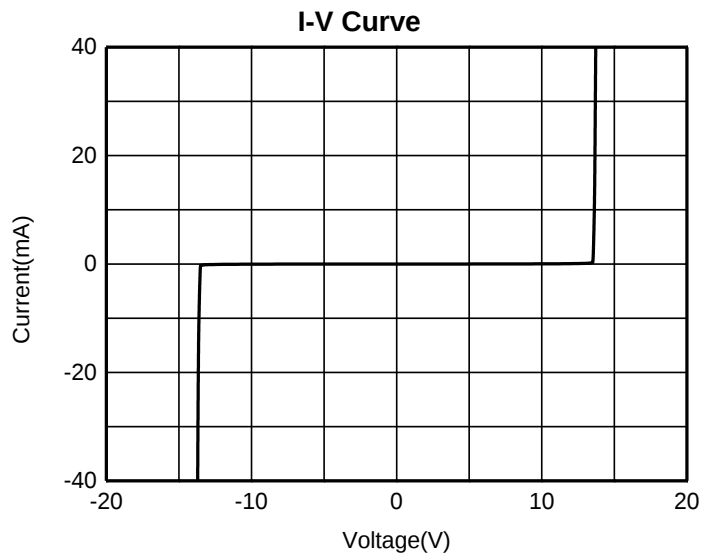
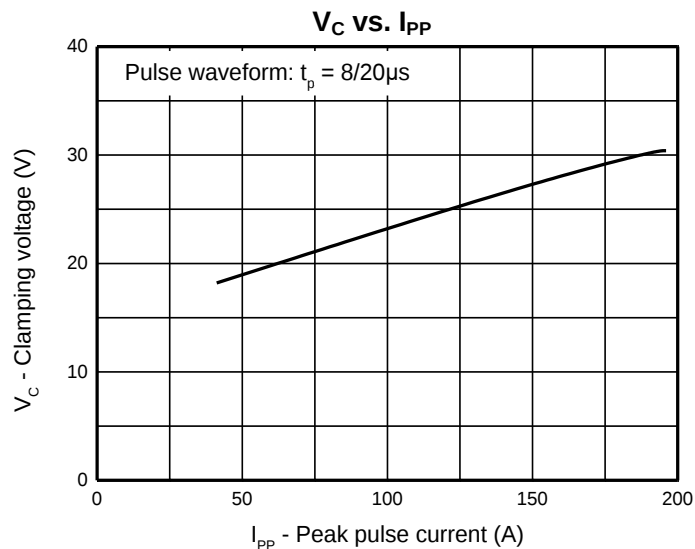
V-I characteristics for a Bi-direction TVS

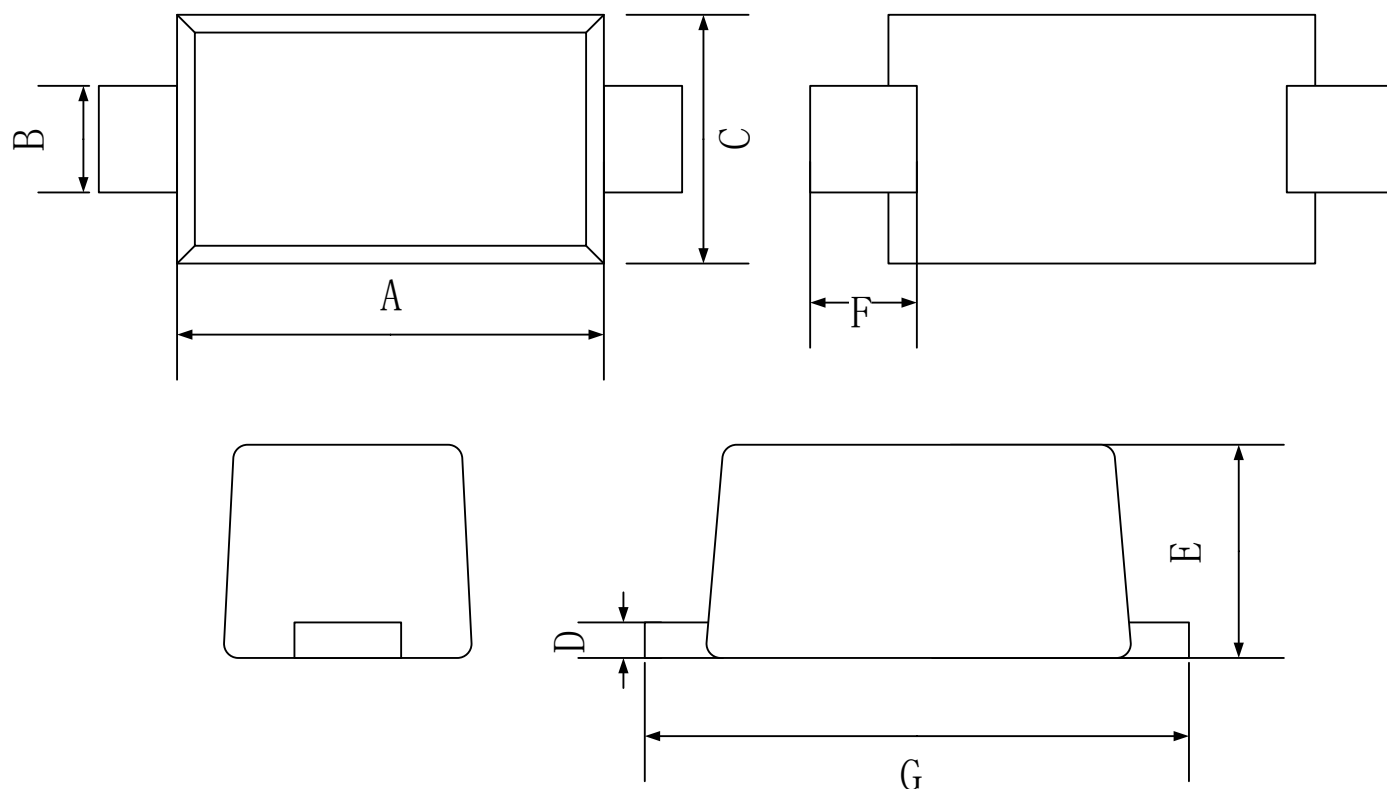
Electrical Characteristics ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse stand-off voltage	V_{RWM}				12	V
Reverse leakage current	I_{R}	$V_{\text{RWM}}=12\text{V}$			1	μA
Breakdown voltage	$V_{\text{BR}}^{1)}$	$I_{\text{T}}=1\text{mA}$	13		16	V
Clamping voltage	V_{CL}	$I_{\text{PP}}=180\text{A}(8/20\mu\text{S})$			35	V

1) V_{BR} is measured with a pulse test current I_{T} at an ambient temperature of 25°C

Typical Characteristics



SOD-123FL Package Outline Dimensions


Symbol	Dimensions In Millimeters	
	Min.	Max.
A	2.85	2.95
B	0.99	1.01
C	1.75	1.85
D	0.10	0.20
E	0.95	1.05
F	0.65	0.85
G	3.75	4.05