GESDS12VD1F1

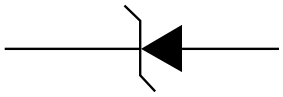
Bi-direction Transient Voltage Suppressors

Product Summary

The GESDS12VD1F1 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.

SOD-123FL

chematic diagram



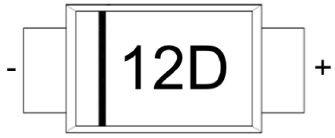
Feature

- Low reverse stand−off voltage: 12V
- Low leakage current
- 12000W Peak pulse power per line (t_P = 8/20μs)
- 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

Marking:



Front Side

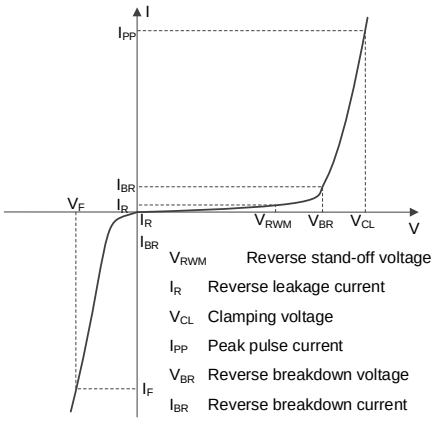
12D = Device Code

Absolute Maximum Ratings (T_a=25℃ 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}	12000	W
Peak Pulse Current		I_{PP}	450	A
Lead Solder Temperature − Maximum (10 Second Duration)		T_L	260	℃
Junction Temperature		T_j	150	℃
Storage Temperature		T_{stg}	-55~ +150	℃

Electrical Parameter

Symbol	Parameter
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Peak Pulse Current
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_R	Reverse Leakage Current @ V_{RWM}
V_{RWM}	Reverse Standoff Voltage



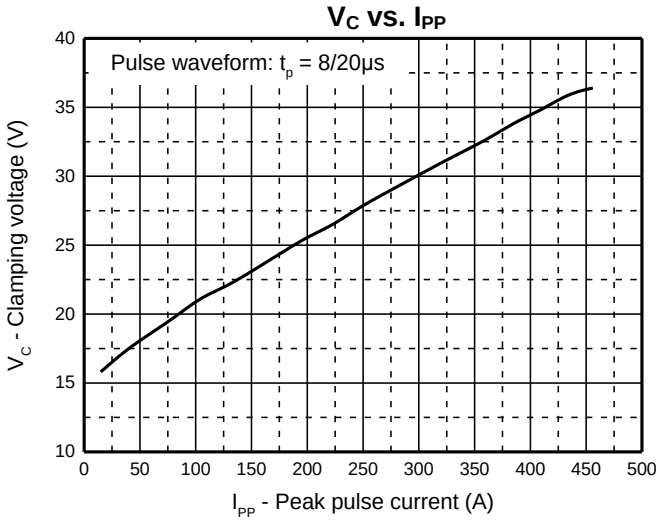
V-I characteristics for a Uni-directional TVS

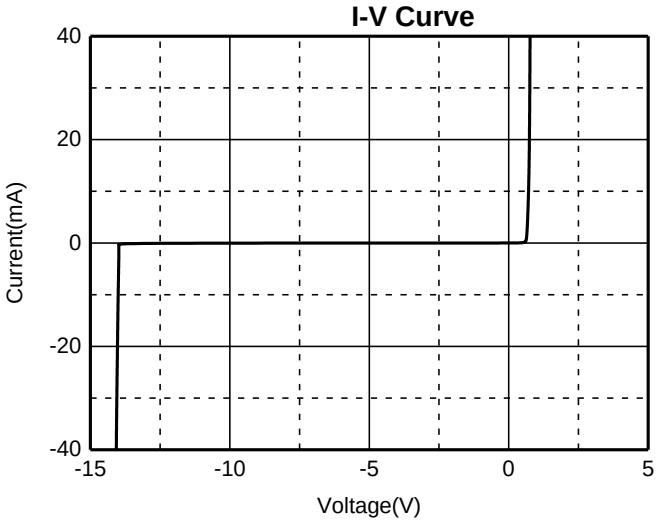
Electrical Characteristics (Ta=25℃ unless otherwise specified)

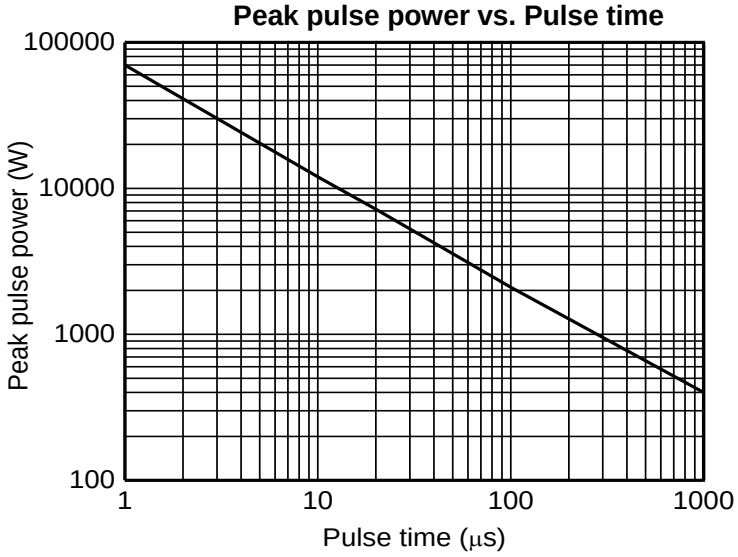
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse stand-off voltage	V_{RWM}				12	V
Reverse leakage current	I_R	V_{RWM}=12V			1	μA
Breakdown voltage	V_{BR} 1)	I_T=1mA	13.3		14.7	V
Clamping voltage	V_{C1}	I_{PP}=400A(8/20μS)		35	40	V
Junction capacitance	C_J	V_R=0V,f=1MHz		1200		pF

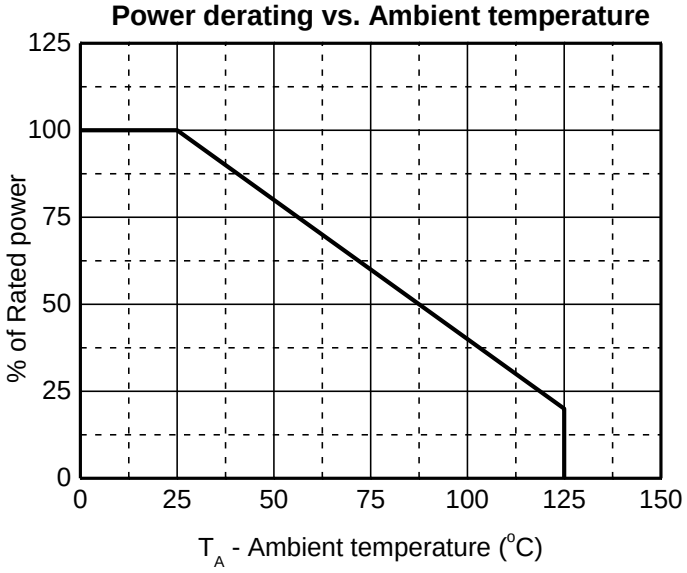
1) V_{BR} is measured with a pulse test current IT at an ambient temperature of 25℃

Typical Characters

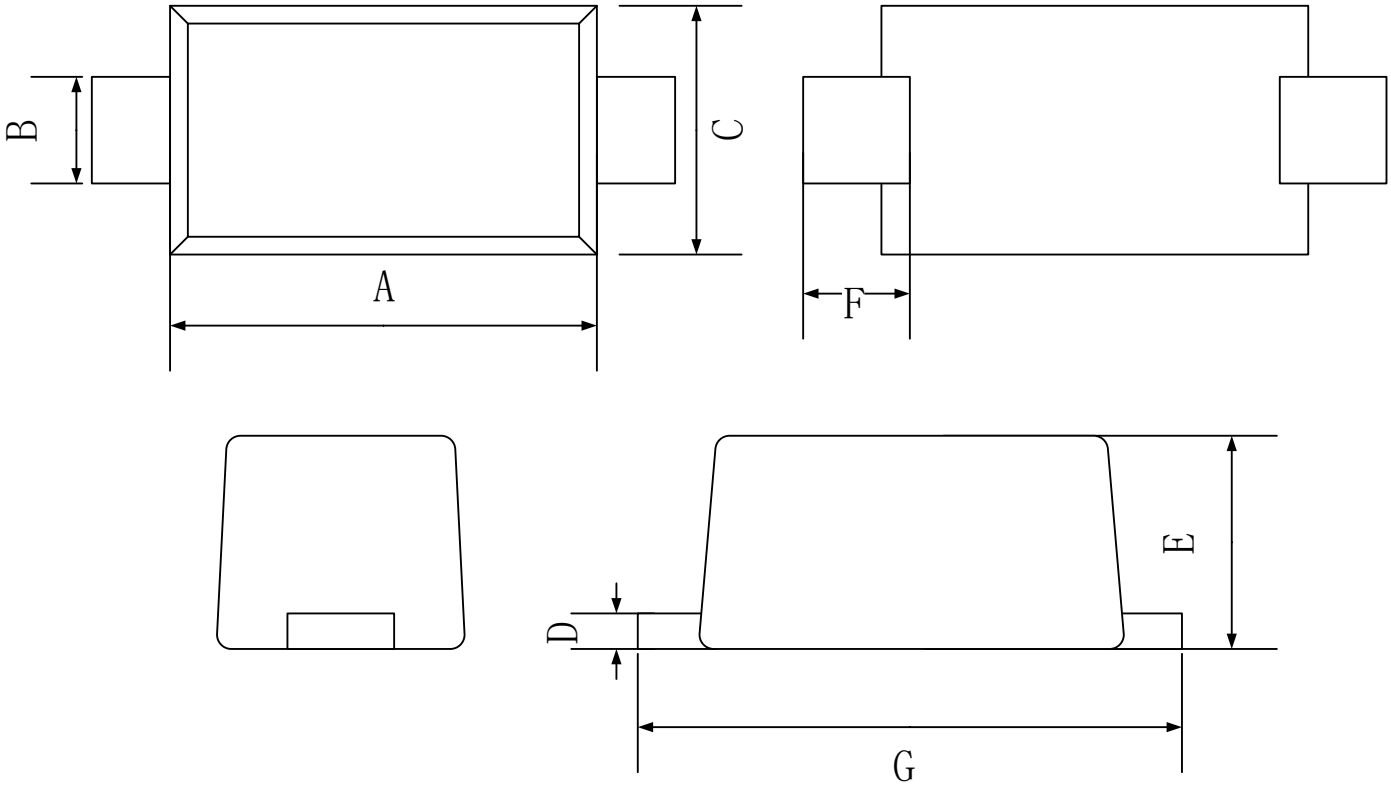








SOD-123FL Package Outline Dimensions



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