JLS07UGS1-2

1-Line Uni-directional High Power TVS Diode

Jialan-Microelectronics

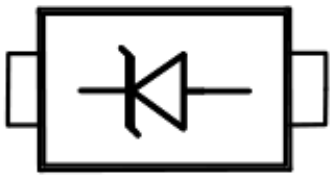
Description

The JLS07UGS1-2 is an uni-directional TVS diode, utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive data and power lines. The JLS07UGS1-2 complies with the IEC 61000-4-2 (ESD) standard with ± 30kV air and ± 30kV contact discharge. It is assembled into a SOD-123FL lead-free package. The small size and high ESD/surge protection make JLS07UGS1-2 an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.

Features

* 3500W peak pulse power (8/20μs)
* Low leakage:uA
* Operating voltage: 7V
* Ultra low clamping voltage
* One power line protects
* Complies with following standards:
  – IEC 61000-4-2 (ESD) immunity test
    Air discharge: ±30kV
    Contact discharge: ±30kV
  – IEC61000-4-5 (Lightning) 170A (8/20μs)
* RoHS Compliant
* Package: SOD-123FL
* Lead Finish: Matte Tin

Circuit Diagram

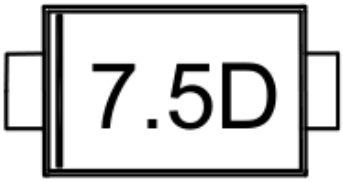


Circuit and Pin Schematic

Applications

Fast-charge battery chargers
Power management system
Cellular Handsets and Accessories
Personal Digital Assistants
Notebooks and Handhelds
Portable Instrumentation
Digital Cameras

Marking Diagram



Transparent top view

7. 5D:Device Marking Code
Bar denotes cathode

Ordering Information

Part Number	Packaging	Reel Size
JLS07UGS1-2	3000/Tape & Reel	7 inch

Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

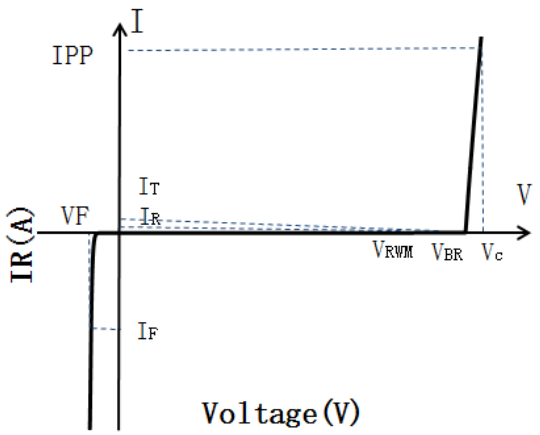
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	3500	W
Peak Pulse Current (8/20μs)	IPP	170	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	VESD	±30 ±30	kV
Operating Temperature Range	TJ	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

Electrical Characteristics (T_A=25°C unless otherwise specified)

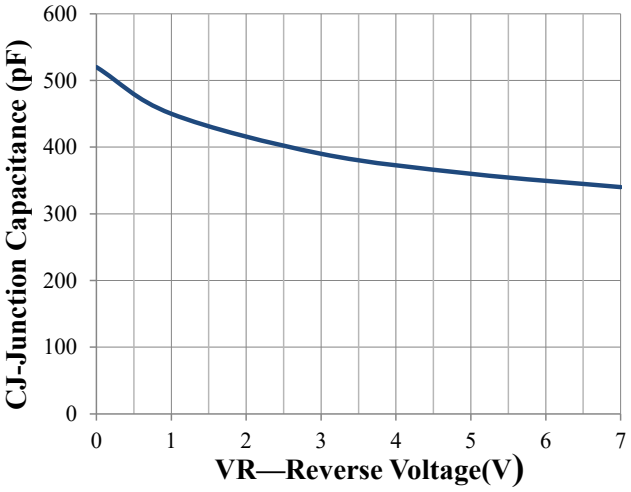
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				7	V
Breakdown Voltage	V_{BR}	I_T = 1mA	7.5			V
Reverse Leakage Current	I_R	V_{RWM} = 7V			3.0	μA
Clamping Voltage	V_C	I_{PP} = 100A (8 x 20μs pulse)			16.0	V
Clamping Voltage	V_C	I_{PP} = 170A (8 x 20μs pulse)			20.5	V
Junction Capacitance	C_J	VR = 0V, f = 1MHz		520	600	pF

Portion Electronics Parameter

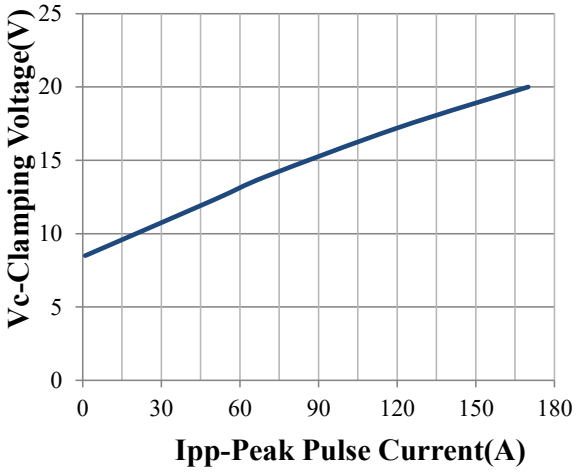
Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
Vc	Clamping Voltage @Ic



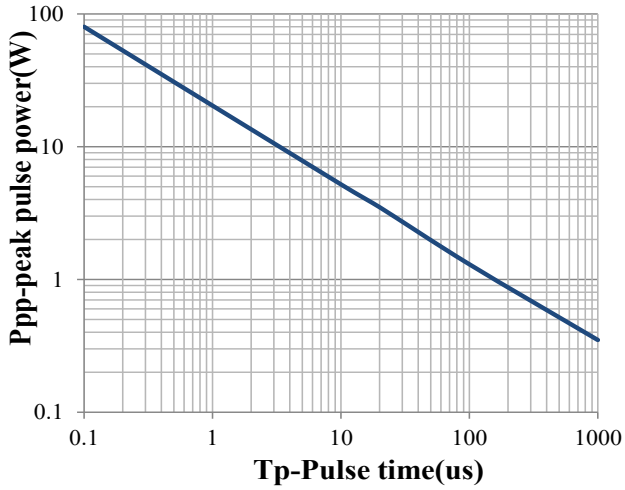
Typical Performance Characteristics (T_A=25°C unless otherwise Specified)



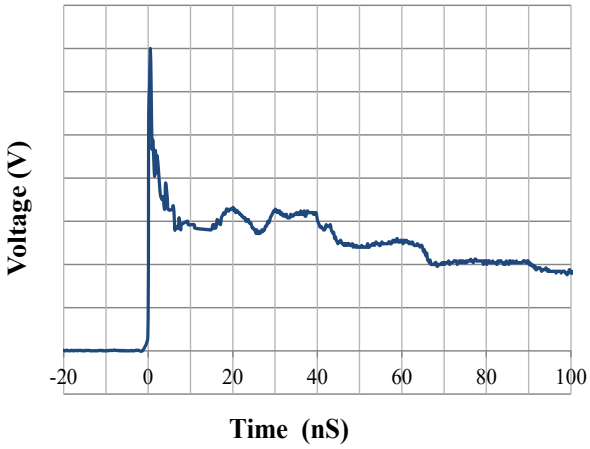
Junction Capacitance vs. Reverse Voltage



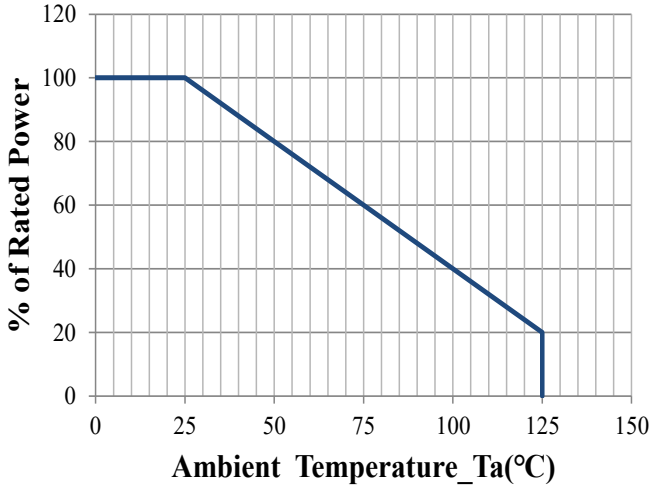
Clamping Voltage vs. Peak Pulse Current



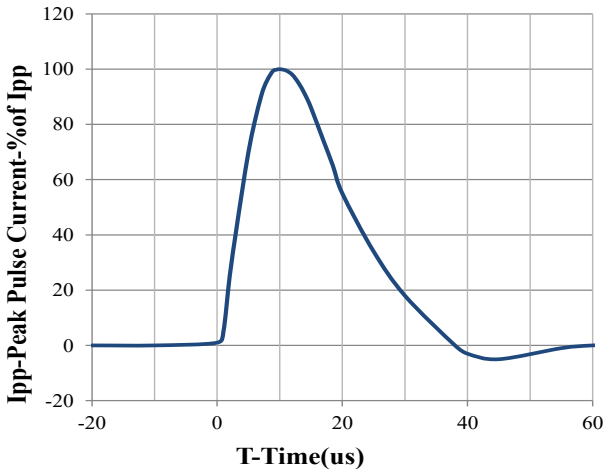
Peak Pulse Power vs. Pulse Time



IEC61000−4−2 Pulse Waveform

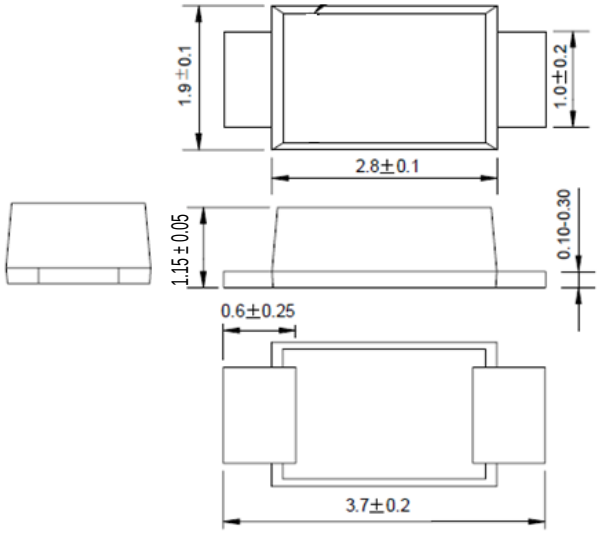


Power Derating Curve

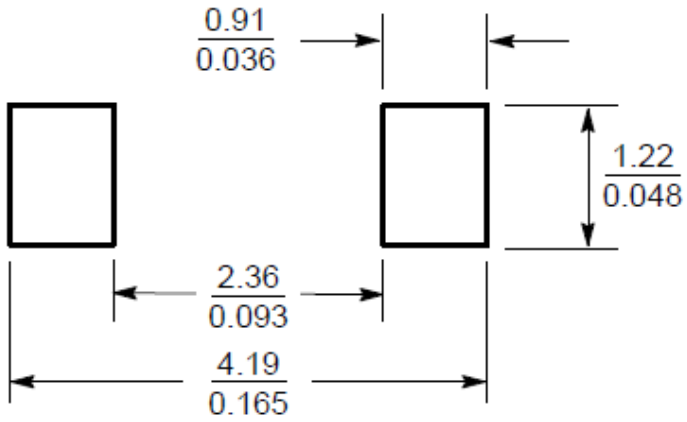


8 X 20us Pulse Waveform

SOD-123FL Package Outline Drawing (Dimensions in millimeters)



Suggested Land Pattern



SCALE 10:1 (mm / inches)

NOTICE

Jelan-Link reserves the right to make changes without further notice to any products here in.

Only obligations are those in the Jelan-Link Standard Terms and Conditions of Sale and in no case will Jelan-Link be liable for any incidental, indirect, or consequential damages arising from the sale, resale, use, or misuse of its products.