

■ Transient Voltage Suppressors for ESD Protection

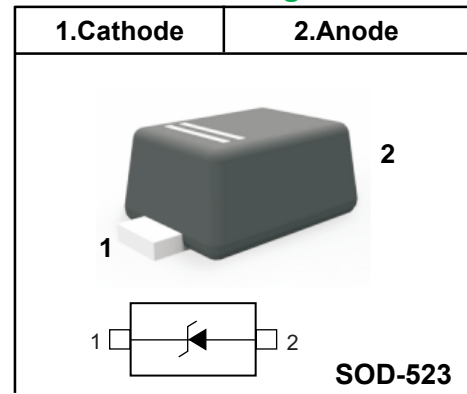
Description

The ESD5Z12 Series is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.

Features

- Small Body Outline Dimensions
- 250 Watts peak pulse power (tp = 8/20μs)
- Transient protection for data lines to
IEC 61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
IEC 61000-4-4 (EFT) 40A (5/50ns)
IEC 61000-4-5 (Lightning) 24A (8/20μs)
- Small package for use in portable electronics
- Suitable replacement for MLV's in ESD protection applications
- Protects one I/O or power line
- Low clamping voltage
- Working voltages: 12V
- Low leakage current

Pinning



Marking Code

ESD5Z12	ZM
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Applications

Cellular Phone Handsets and Accessories
Microprocessor based equipment
Personal Digital Assistants(PDA'S)
Notebooks, Desktops, and Servers
Portable Instrumentation
Pagers Peripherals

Absolute Maximum Rating@Ta=25 °C

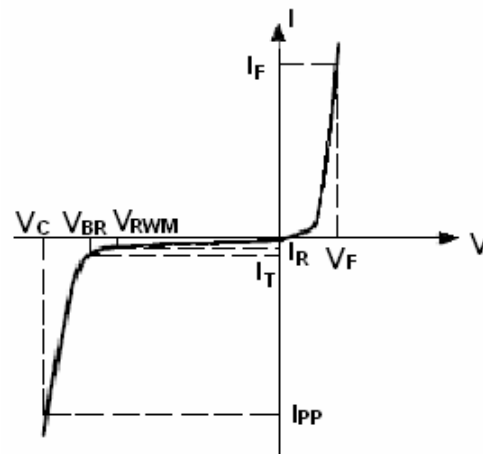
Symbol	Parameter	Value	Units
P _{PK}	Peak Pulse Power (t _p = 8/20μs)	250	W
V _{ESD}	ESD Voltage(HBM Waveform per IEC 61000-4-2)	30	kV
T _L	Maximum lead temperature for soldering during 10s	260	°C
T _{STG}	Storage Temperature Range	-55 to +150	°C
T _J	Maximum junction temperature	-55 to +125	°C

Electrical Characteristics @Ta=25 °C ambient temperature unless otherwise specified.VF = 0.9V at IF = 10mA

Device	V _{RWM} (V)	I _R (uA) @ V _{RWM} =5V	V _{BR} (V)@ I _t =1mA	V _C (V) @ I _{pp} =5 A t _p =8/20μs	V _C (V) @ I _{pp} =24 t _p =8/20μs	I _{pp} (A) t _p =8/20μs	C (pF)
	Max	Max	Min	Typ	Max	Max	Typ
ESD5Z12	12.0	1.0	13.3	19.0	16.5	15	150

Electrical parameter

Symbol	Parameter
I _{PP}	Maximum Reverse Peak Pulse Current
V _C	Clamping Voltage @ I _{PP}
V _{RWM}	Working Peak Reverse Voltage
I _R	Maximum Reverse Leakage Current @ V _{RWM}
I _T	Test Current
V _{BR}	Breakdown Voltage @ I _T
I _F	Forward Current
V _F	Forward Voltage @ I _F



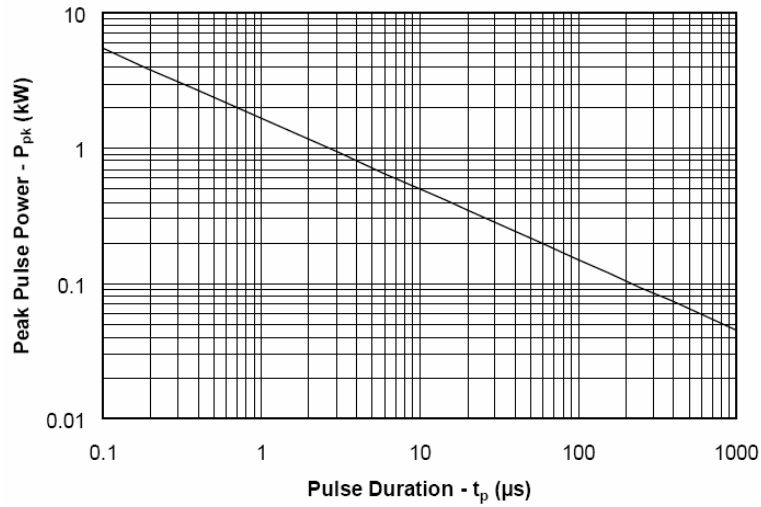


Fig.1 Non-Repetitive Peak Pulse Power vs. Pulse Time

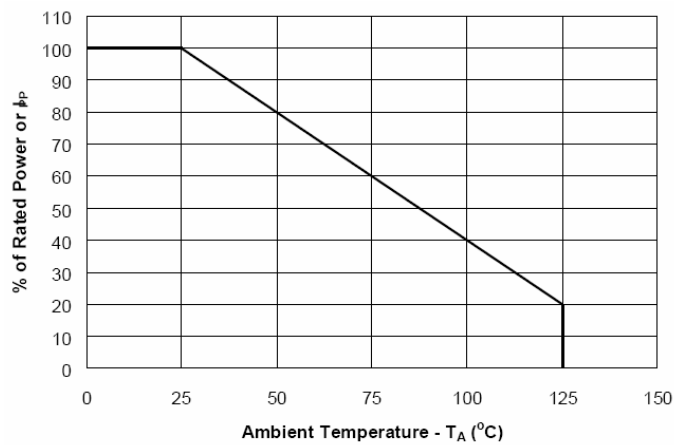


Fig.2 Power Derating Curve

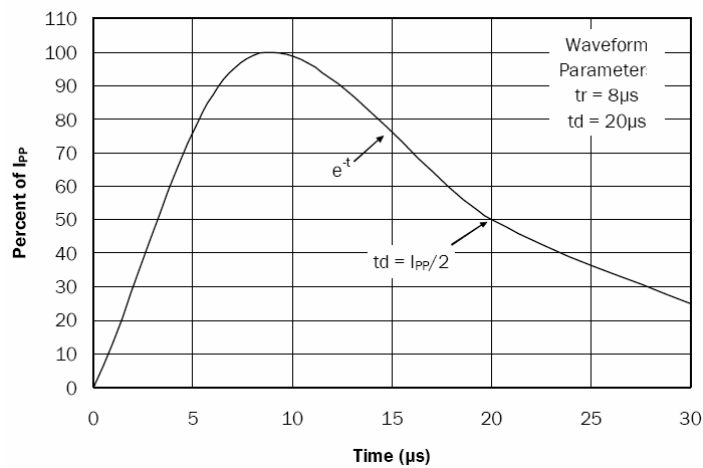


Fig.3 Waveform

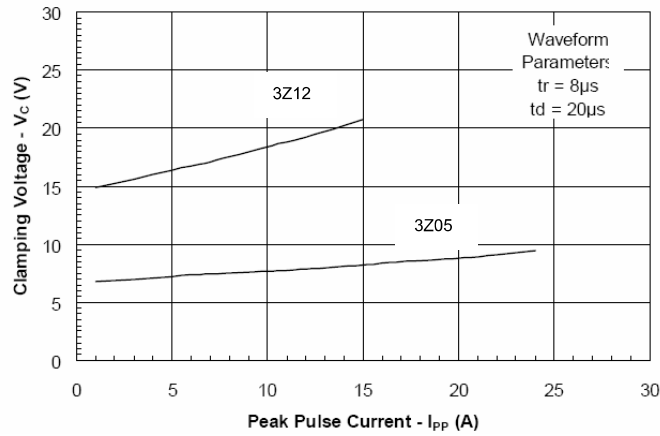


Fig.4 Clamping Voltage vs. Peak Pulse Current

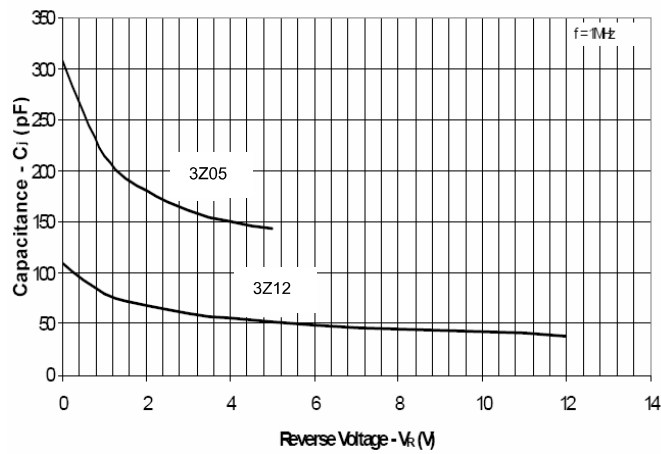


Fig.5 Capacitance vs. Reverse Voltage

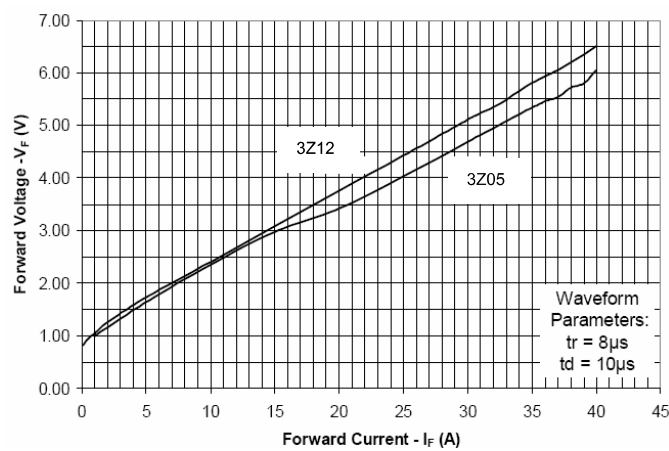


Fig.6 Forward Voltage vs. Forward Current

Ordering information

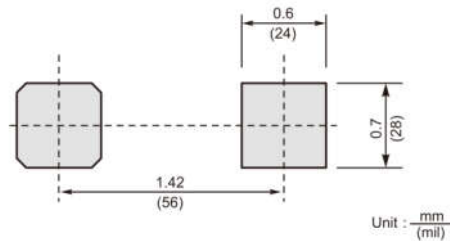
Package	Packing Description	Packing Quantity
SOD-523	Tape/Reel, 7" reel	3000PCS/Reel 120000PCS/Carton

Package Dimensions

SOD-523

Dim.	Millimeter(mm)		mil	
	Min.	Max.	Min.	Max.
A	0.51	0.77	20	30
e	0.25	0.35	10	14
C	0.08	0.15	3	6
D	1.10	1.30	43	51
E	0.75	0.99	30	39
HE	1.50	1.70	59	67
N	0.35ref		14ref	
L	0.2ref		8ref	
P	R0.1 ALL ROUND		R4.0 ALL ROUND	
∠	10°			

The recommended mounting pad size



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