

Transient Voltage Suppressors

DESCRIPTION

The ESD5Z7.0C 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. Because of its small size, it is suited for use in cellular phones, portable devices, digital cameras, power supplies and many other portable applications.

FEATURES

- ♦IEC61000-4-2 Level 4 ESD protection
- ♦IEC61000-4-4 Level 4 EFT Protection
- ♦ESD Rating of Class 3(>16kV) per Human Body Model
- ♦100Watts Peak Pulse Power per (tp=8/20us)
- ♦Low clamping voltage
- ♦Working voltages: 7V
- ♦Low leakage current
- ♦Response Time is Typically <1ns

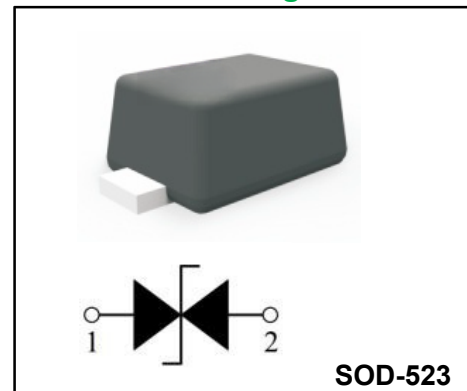
MECHANICAL DATA

- ♦Case: SOD-523
- ♦Flammability Rating: UL 94V-0
- ♦High temperature soldering guaranteed: 260°C/10s

APPLICATION

- ♦Cell Phone Handsets and Accessories
- ♦Microprocessor based equipment
- ♦Personal Digital Assistants(PDA's)
- ♦Notebooks,Desktops, and Servers
- ♦Portable Instrumentation
- ♦Networking and Telecom
- ♦Serial and Parallel Ports
- ♦Peripherals

Pinning



Marking Code

ESD5Z7.0C	7C
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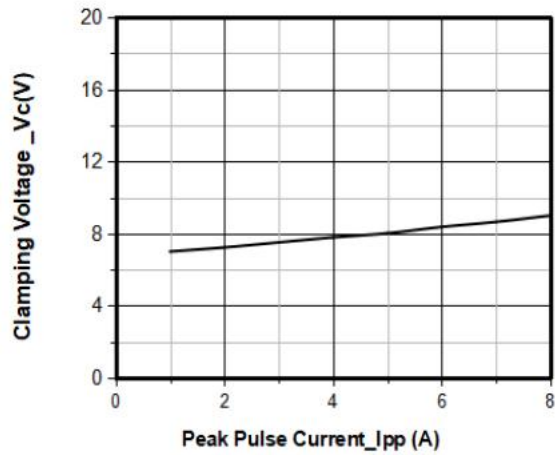
Absolute Maximum Ratings (Ta=25°C unless otherwise noted)

Parameters	Symbol	Value	Unit
ESD per IEC61000-4-2(Air)	V_{ESD}	±30	kV
ESD per IEC61000-4-2(Contact)		±30	
Total Power Dissipation on FR-5 Board (note 1)@Ta=25°C	P_{PP}	100	W
Maximum Junction temperature	T_J	150	°C
Operating temperature	T_{OPT}	-55-+150	°C
Storage temperature range	T_{STG}	-55-+150	°C
Lead Soldering temperature	T_L	260(10 sec.)	°C

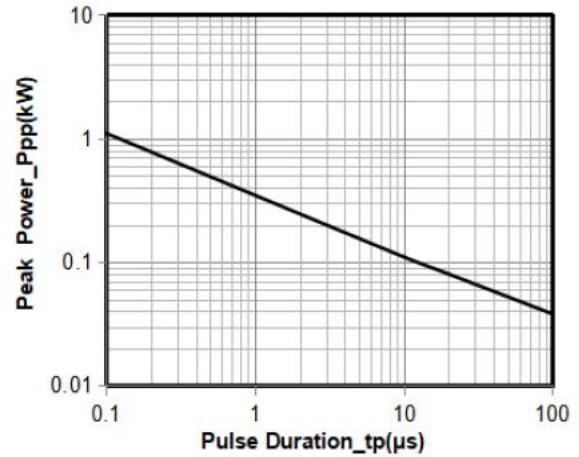
Absolute Maximum Ratings (Ta=25°C unless otherwise noted)

Parameter	Test Condition	Symbol	Min	Typ	Max	Units
Reverse Working Voltage		V_{RWM}	-	-	7	V
Reverse Breakdown Voltage	$I_T = 1mA$	V_{BR}	7.6	-	9	V
Reverse Leakage Current	$V_{RWM} = 7V$	I_R	-	-	0.2	μA
Clamping Voltage	$I_{PP} = 6A$	V_C	-	-	16	V
Junction Capacitance	$V_R = 0V, f = 1MHz$	C_J	-	-	20	pF

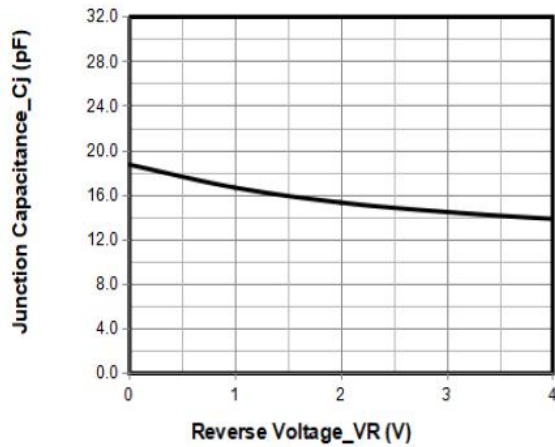
Ratings And Characteristic Curves



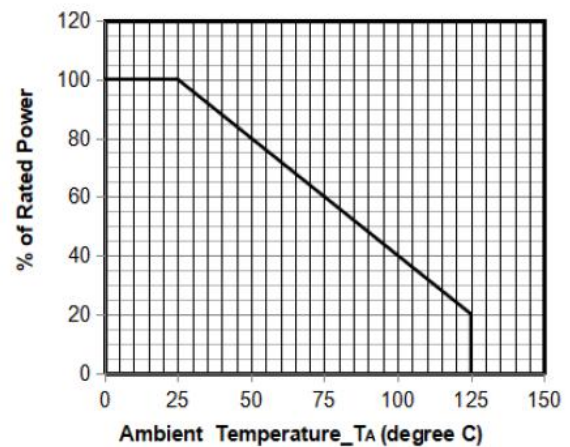
Junction Capacitance vs. Reverse Voltage



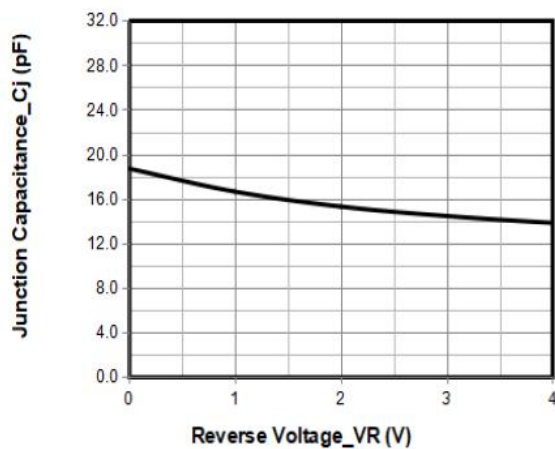
Peak Pulse Power vs. Pulse Time



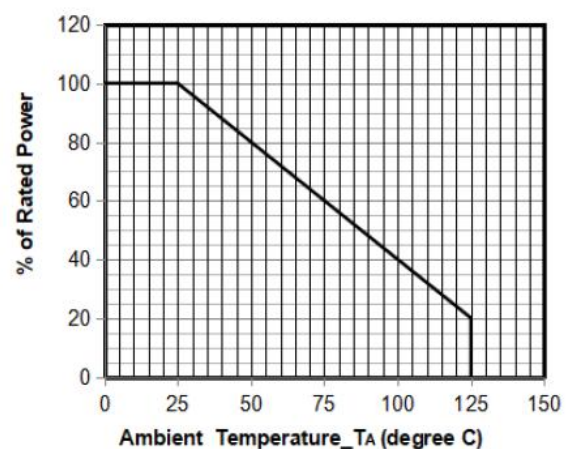
Clamping Voltage vs. Peak Pulse Current ($t_p = 8/20\mu$ s)



Power Derating Curve



Clamping Voltage vs. Peak Pulse Current ($t_p = 8/20\mu$ s)



Power Derating Curve

Ordering information

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

Package Dimensions

SOD-523

Top view of the component. Dimension A is the height of the main body. HE is the total width. C is the thickness of the base. A note indicates 'ALL ROUND' for the corners.

Side view of the component. Dimension A is the height of the main body. E is the width of the base. P is the radius of the top edge.

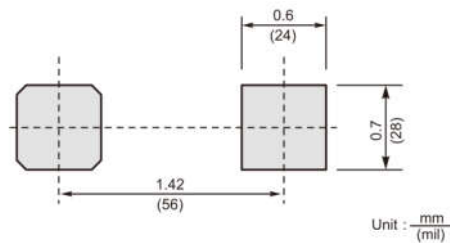
Bottom view of the component. Dimension D is the width of the main body. E is the height of the main body. e is the height of the base. L is the width of the base.

Bottom view of the component. Dimension N is the width of the base. L is the width of the base.

底视图
bottom view

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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