ESD5Z24C

ESD Protection Diode

Datasheet

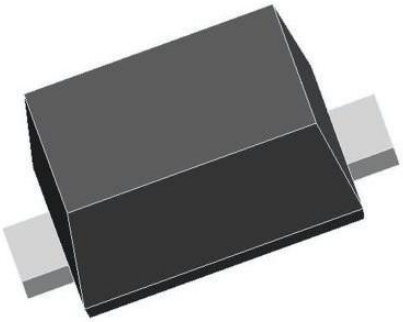
Features

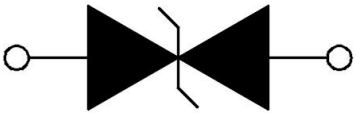
- 2-pin lead-less package
- Junction capacitance (Max value: 20pF)
- Peak Pulse current (8/20μs) Max:5A
- IEC61000-4-2 (ESD) ±25kV (air), ±20kV (contact)
- Low clamping voltage
- Low leakage current
- Working voltages:24V
- RoHS Compliant

Mechanical Characteristics

- Package: SOD-523
- Lead Finish:Matte Tin
- Case Material: “Green” Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Tape Reel :8000pcs

Appearance & Symbol





Bi-directional

Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation,Digital Cameras
- Peripherals, Audio Players, Industrial Equipment

Marking Information



24N=Marking Code

Absolute Maximum Ratings (T=25ºC, RH=45%-75%, unless otherwise noted)

Parameters	Symbol	Value	Unit
Peak Pulse Power (tp=8/20μs waveform)	P_{PP}	300	W
Peak Pulse Current (8/20μs)	I_{PP}	5	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	±25 ±20	KV
Operating Temperature Range	T_J	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

Electrical Characteristics (T=25ºC, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				24	V
Reverse Breakdown Voltage	V_{BR}	I_R = 1mA	27		30	V
Reverse Leakage Current	I_R	V_R = 24V			0.2	uA
Clamping voltage	V_C	I_{PP} = 1A,T_P=8/20us			40	V
Clamping voltage	V_C	I_{PP} = 5A,T_P=8/20us			60	V
Junction capacitance	C_J	V_R =0V,f =1MHz		16	20	pF

Typical Characteristics

FIG1：Power rating derating curve

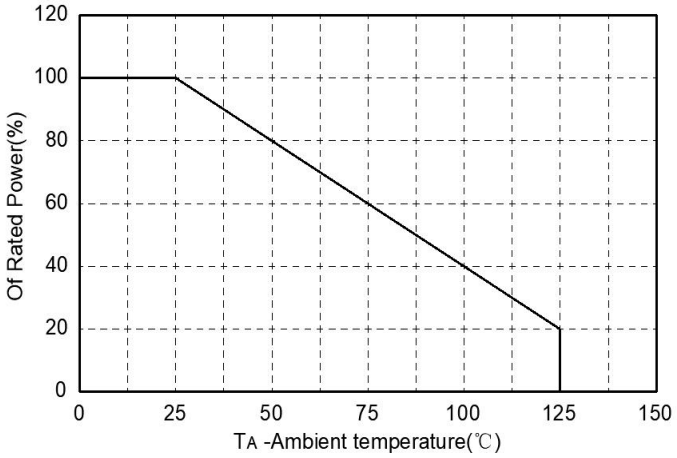


FIG2： pulse Waveform

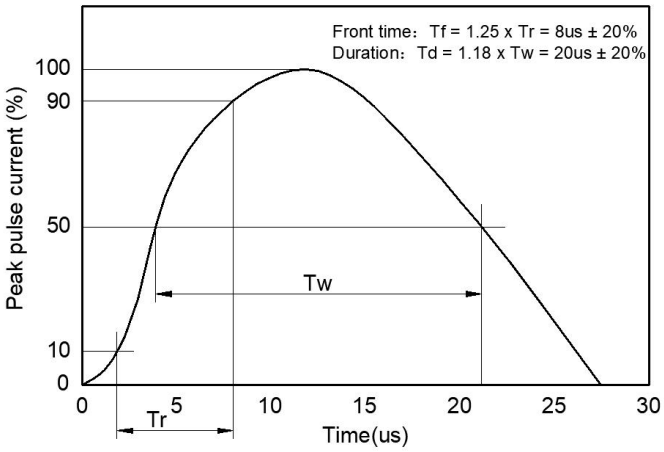


FIG3：Capacitance between teminals charateristics

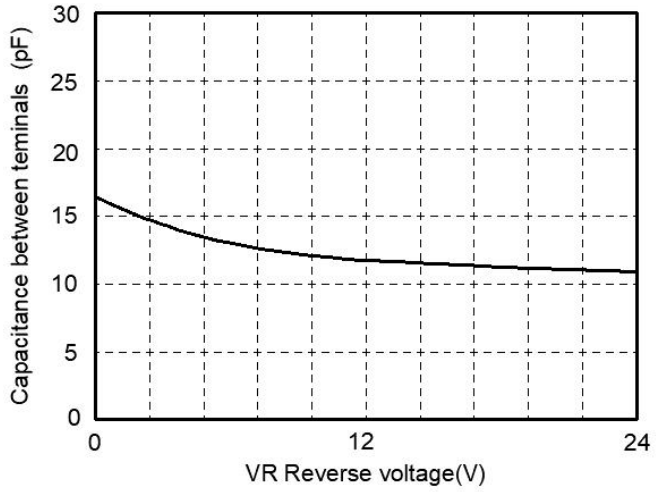
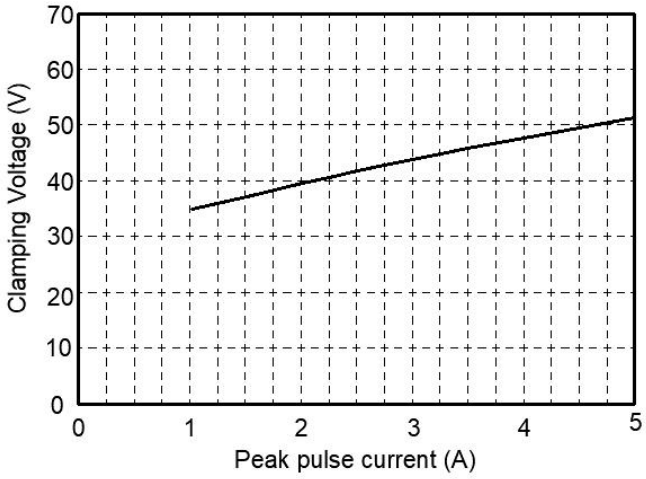
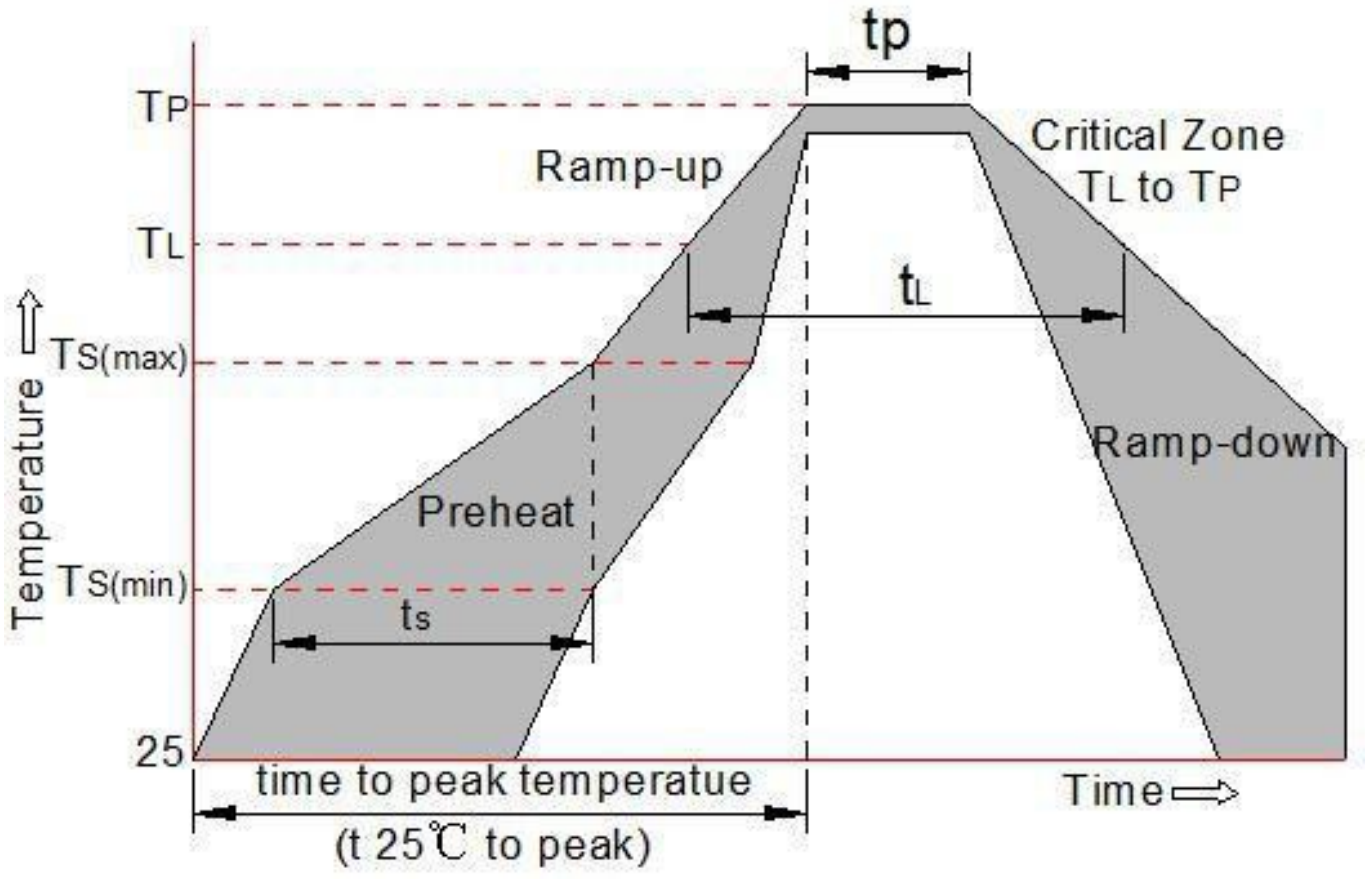


FIG4: Clamping Voltage vs. Peak Pulse Current

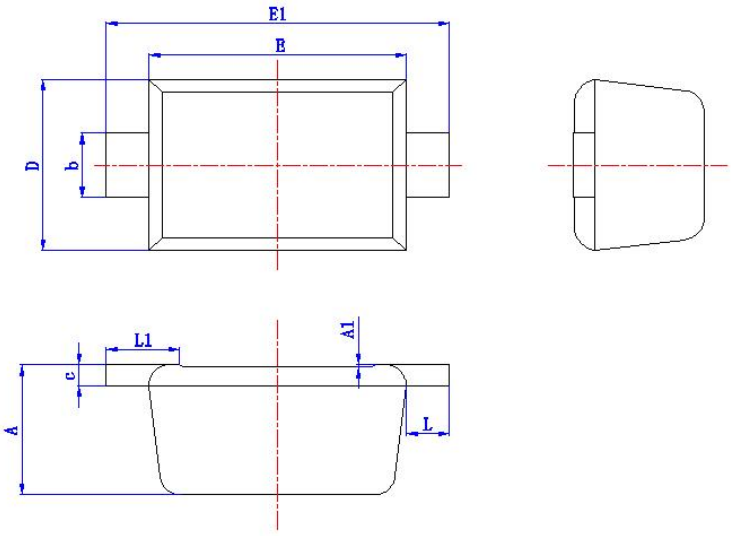


Soldering parameters

Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L) (Liquid us)	+217℃
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)℃
Time within 5℃ of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6℃/sec. Max
Time 25℃ to Peak Temp (T_P)		8 min. Max
Do not exceed		+260℃

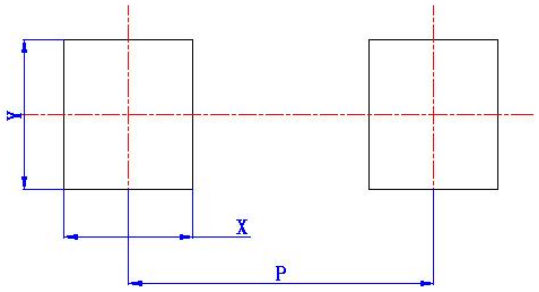


Package mechanical data



Symbol	Millimeters	
	Min.	Max.
A	0.50	0.75
A1	0	0.05
D	0.68	0.95
E	1.10	1.35
E1	1.50	1.80
b	0.25	0.35
c	0.08	0.15
L	0.13	0.30
L1	(0.3)	

Suggested Land Pattern



Symbol	Dimension in Millimeters
	Typ.
X	(0.6)
Y	(0.7)
P	(1.42)