

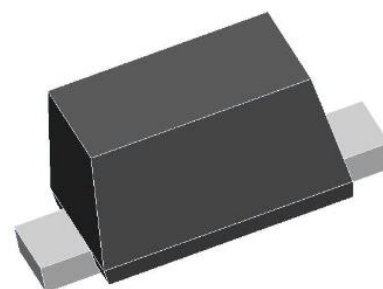
Features


- IEC61000-4-2(ESD) $\pm 15\text{KV}$ (air), $\pm 8\text{KV}$ (contact)
- IEC61000-4-5(Lightning) 10A(8/20us)
- 200 Watts peak pulse power($t_p=8/20\text{us}$)
- Low operating voltage and low clamping
- Moisture sensitivity level: level 1
- Small package: SOD523

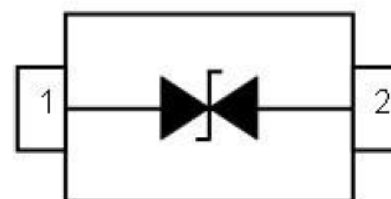
Exterior

SOD523
Application information

- High Speed Line: USB 1.0/2.0,VGA,DVI,SDI
- Serial and Parallel Ports
- Cellular handsets and accessories

Package (Top View)

Agency Approvals

ICoN	Description
RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC 61249-2-21:2003
	Mean lead free

Schematic Symbol

Part Number and Electrical Parameter

Part Number	$I_{\text{DRM}}@V_{\text{DRM}}$		$V_{\text{BR}}@I_{\text{BR}}$		$V_{\text{C}}@I_{\text{PP}}^{\text{①}}$		$V_{\text{C}}@I_{\text{PP}}^{\text{①}}$		$C_0^{\text{②}}$
	μA	V	V	mA	V	A	V	A	pF
	MAX		MIN		MAX		MAX		MAX
BV-D505ZC	1.0	5.0	5.6	1.0	11.6	5.0	18.6	10	15

 Absolute maximum rating measured at $T=25^{\circ}\text{C}$ RH=45%-75% (unless otherwise noted).

① Surge Waveform: 8/20us;

 ② Off-state capacitance is measured in $V_{\text{BR}}=0\text{V}$, $f=1\text{MHz}$;

Transient Voltage Suppressor

Version: A0 2016-03-14

Part Number System
Mark

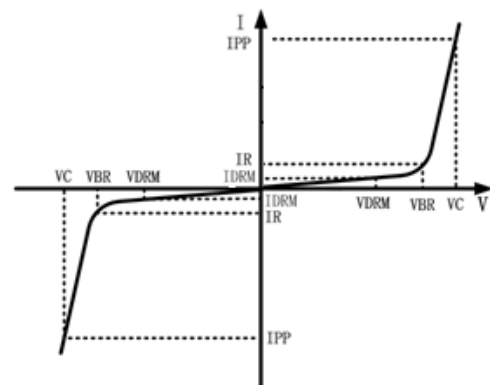
BV D505ZC
 (1) (2)
 (1) Bencent TVS
 (2) Series: D505ZC etc.



5C: Marking

V-I Curve

Parameters	Definition
V_C	Clamping voltage
I_{PP}	Peak pulse current
V_{DRM}	Stand-off Voltage
V_{BR}	Breakdown Voltage
I_{DRM}	Reverse Leakage Current
I_R	Test current
P_{PP}	Peak Pulse Power Dissipation


Thermal Considerations

Symbol	Parameter	Value	Unit
T_J	Operating Junction Temperature Range	-55 to +150	°C
T_S	Storage Temperature Range	-55 to +150	°C

Environmental Characteristics

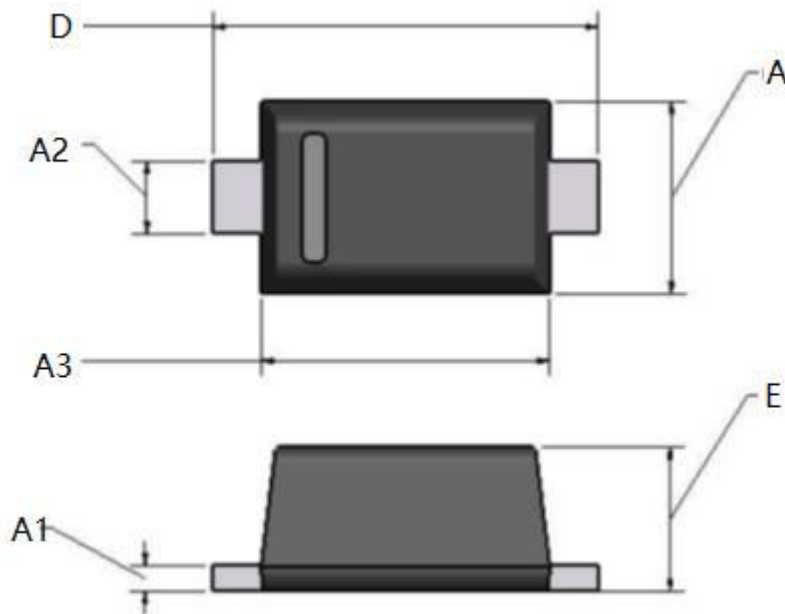
Testing Items	Technical Standards
High Temperature Reverse Bias Test	Temperature: $150 \pm 3^\circ\text{C}$, Bias = $80\% V_{DRM}$ Time: 168H
High Temperature Life Test	Temperature: 150°C Time: 168H
High-low Temperature Cycle Test	Temperature: From -40°C to 125°C Dwell time: 30min, 100 cycles
High Temperature & High Humidity Test	Temperature: 85°C Humidity: 85% Test time: 168H
Pressure Cooker Test	Temperature: 121°C , 2atm. Humidity: 100% Test time: 24H
Resistance of Soldering Heat	Temperature: $260 \pm 5^\circ\text{C}$ Time of dip soldering: 10s, 3 times

Note: The above testing items can be specified by customers by contacting Bencent service

Specifications are subject to change without notice.

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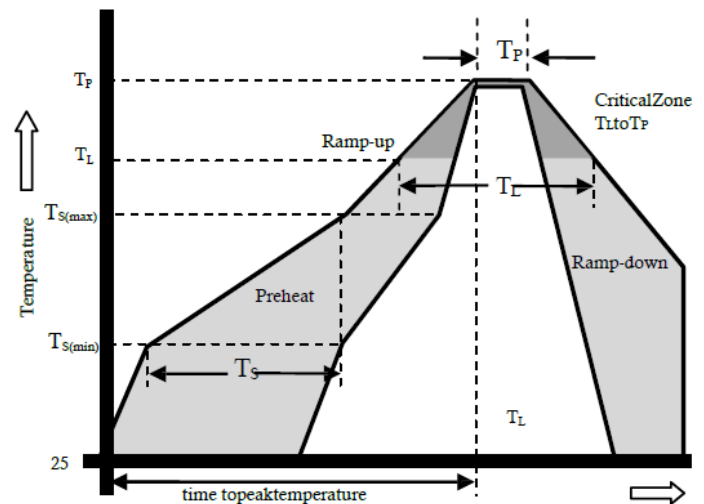
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Product Dimensions
SOD523


Symbol	Dimensions In Millimeters		
	Min.	Typ.	Max.
A	0.700	--	0.900
A1	--	--	0.200
A2	0.250	--	0.350
A3	1.100	--	1.300
D	1.500	--	1.700
E	0.500	--	0.700

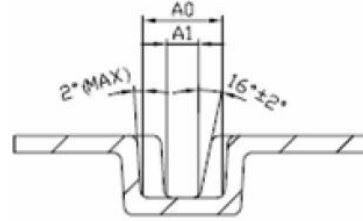
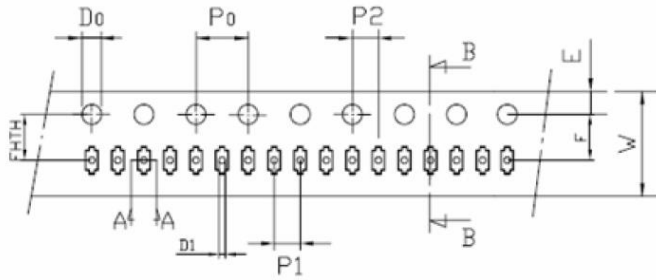
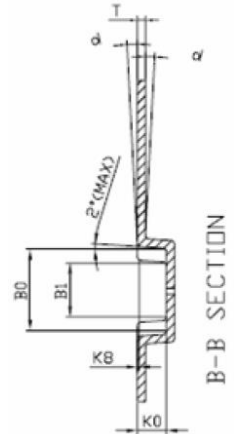
Reflow Profile

Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min	150°C
	Temperature Max	200°C
	Time (Min to Max)	20 – 80 secs
Average ramp up rate (Liquid)		3°C/s Max.
Temperature (T _L) to peal		
T _s (Max) to T _i -Ramp-up Rate		3°C/s Max.
Reflow	-Temperature (T _i)(Liquid)	217°C
	-Temperature (T _i)	60 –150 secs
Peak Temperature (T _P)		(260+0/-5)°C
Time within 5°C of actual Peak		30 secs
Temperature (T _P)		
Ramp-down Rate		6°C/s Max.
Time 25°C to peak Temperature(T _P)		8 min Max
Do not exceed		260°C

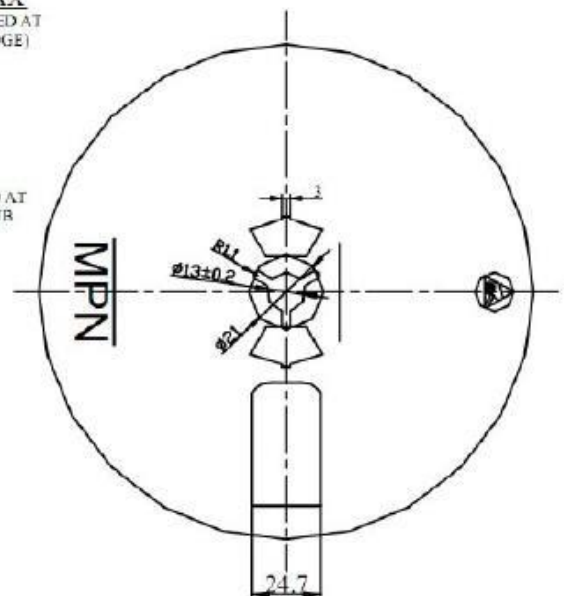
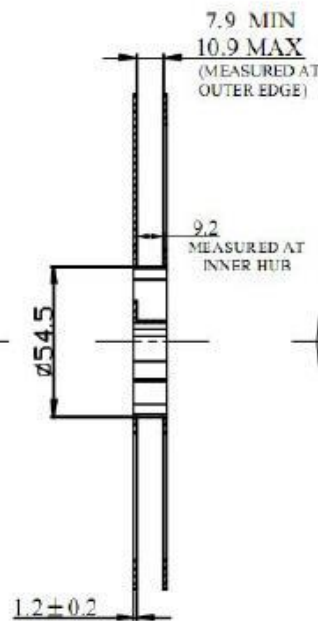
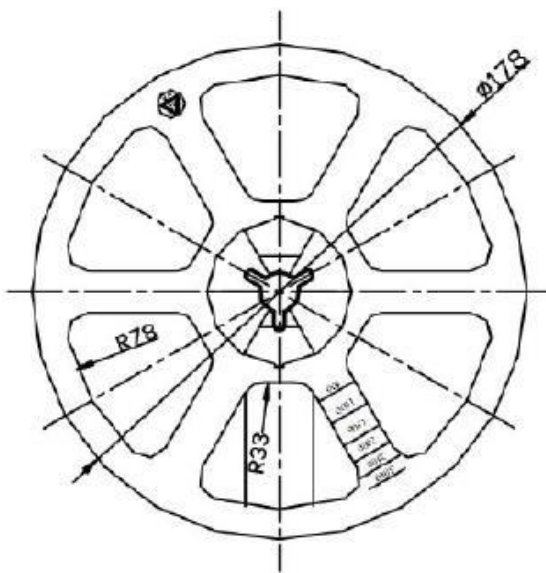


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Package Reel Information

 A-A SECTION
unit:mm


symbol	A0	B0	K0	P0	P1	P2	A1	T
Spec	0.90±0.05	1.95±0.05	0.73±0.05	4.0±0.10	2.0±0.05	2.0±0.05	0.39±0.05	0.20±0.02
symbol	E	F	D0	D1	B2	W	10P0	K8
Spec	1.75±0.10	3.50±0.05	1.50 ^{+0.10} ₀	0.50±0.05	1.40±0.05	8.0 ^{+0.3} _{-0.1}	40.0±0.10	0.15MAX
symbol	FHTH							
Spec	3.50±0.05							



Outline	Reel (pcs)	Per Carton (pcs)	Reel Diameters (mm)	Carton Size (mm)		
				L	W	H
Taping	3,000	90,000	178	390	370	220

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