




SPECIFICATION SHEET

SPECIFICATION SHEET NO.	N0310- SOD323SD05CS2B
DATE	Mar. 10, 2021
REVISION	A0
DESCRIPTION	<p>SMD Plastic-Encapsulate ESD Protection Diodes, SOD-323 series SD05C Type, Bi-directional TVS Diodes, Reverse Working Voltage : 5V, Peak Pulse Power per: 350 Watts Operating Temp. Range -55°C ~+155°C Package in Tape/Reel, 3000pcs/Reel RoHS/RoHS III compliant</p>
CUSTOMER	
CUSTOMER PART NUMBER	
CROSS REF. PART NUMBER	
ORIGINAL PART NUMBER	MDD SD05C
PART CODE	SOD323SD05CS2B

VENDOR APPROVE			
Issued/Checked/Approved			
DATE: March 10, 2021			

CUSTOMER APPROVE
DATE:

SMD ESD PROTECTION DIODES (TUBE) SOD-323 SERIES

MAIN FEATURE

- 350 Watts Peak Pulse Power per (8/20μs)
- IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- Protects one bidirectional line
- Low clamping voltage
- Low leakage current
- Working voltages : 3V, 5V, 8V, 12V, 15V, 18V, 20V, 24V, 36V
- Meets MSL 1 Requirements



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

PART CODE GUIDE

RFQ

[Request For Quotation](#)

SOD323	SD05C	S	2B
1	2	3	4

- 1) **SOD323**: SMD Plastic-Encapsulate ESD Protection Diodes, SOD323 series, 2 pads
- 2) **SD05C**: Type code for original part number SD05C
- 3) **S**: Package code, Package in Tape/Reel, 3000pcs/Reel
- 4) **2B**: Marking code for "2B" on the case surface, Different Marking for different specification.

MORE ITEMS AVAILABLE

SOD323SD03CS2A	SOD323SD05CS2B	SOD323SD08CS2C	SOD323SD12CS2D	SOD323SD15CS2J
SOD323SD18CS2K	SOD323SD20CS2L	SOD323SD24CS2H	SOD323SD36CS2N	

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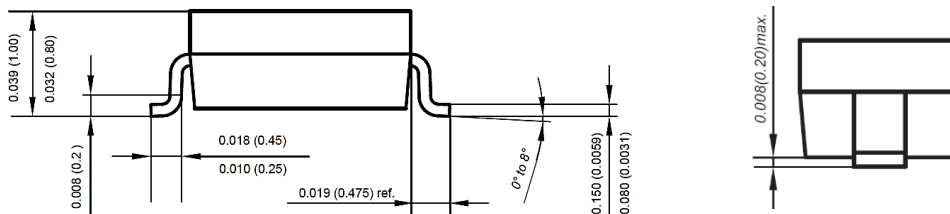
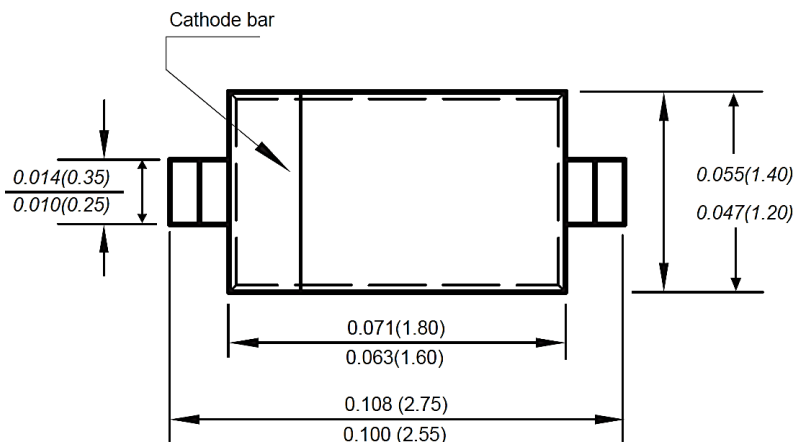
DIMENSION (Unit: Inch/mm)

Image for reference

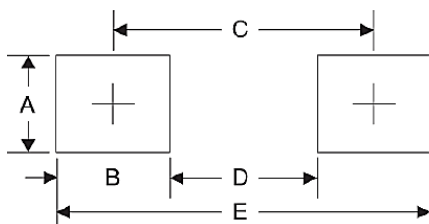


Marking: 2B

SOD-323



Recommend Pad Layout



Symbol	Unit (inch)	Unit (mm)
A	0.028	0.70
B	0.028	0.70
C	0.085	2.15
D	0.071	1.80
E	0.112	2.85

SMD ESD PROTECTION DIODES (TUBE) SOD-323 SERIES
MECHANICAL DATA

Case	Terminals	High temperature soldering Guaranteed	Flammability Rating	Weight per piece
JEDEC SOD-323 molded plastic body	Matte tin plated	260°C/10s	UL 94V-0	0.00019 Ounce, 0.0059 grams

ABSOLUTE MAX. RATINGS AT Ta=25 °C (unless otherwise specified)

Parameter	SYMBOLS	VALUE	UNITS
		LIMIT	
ESD per IEC 61000-4-2 (Air)	V _{ESD}	+/-15	KV
ESD per IEC 61000-4-2 (Contact)	V _{ESD}	+/-8	KV
Peak Pulse Power(tp=8/20us waveform)	P _{PP}	350	W
Operating Temperature Range	T _{OPT}	-55 ~+ 150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C
Lead Solder Temperature – Maximum (10 Second Duration)	T _J	260(10 sec.)	°C

ABSOLUTE MAX. RATINGS AT Ta=25 °C (unless otherwise specified)

Parameter	SYMBOLS	VALUE			UNITS
		Min.	Typical	Max.	
Reverse Working Voltage Any I/O pin to Ground	V _{RWM}			5.0	V
Reverse Breakdown Voltage @ I _T = 1.0mA Any I/O pin to Ground	V _{BR}	6.0			V
Test Current	I _T			1.0	mA
Clamping Voltage @ 1.0A	V _C			9.8	V
Clamping Voltage @17A	V _C			18	V
Reverse Leakage Current	I _R			10	µA
Test Capacitance	C _T			300	pF

Note:

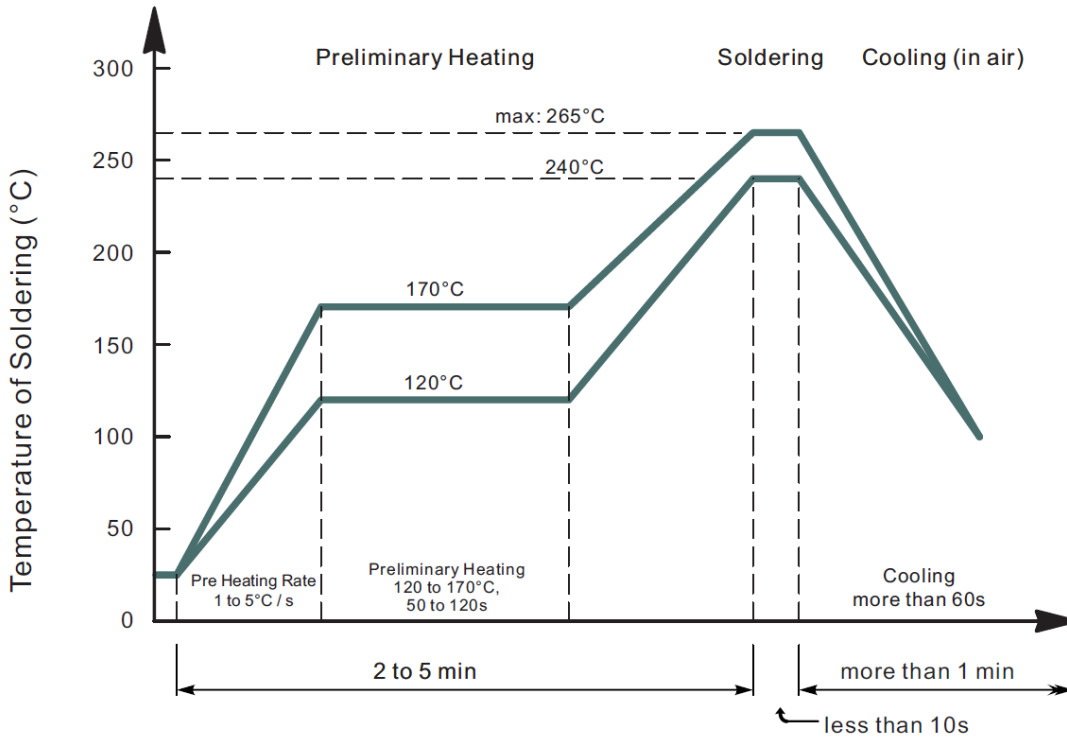
1) I/O pins are pin 1,2,4,5, GND pins are pin 3,8. 2) The above data are for reference only.

SMD ESD PROTECTION DIODES (TUBE) SOD-323 SERIES
RELIABILITY

Number	Experiment Items	Experiment Method And Conditions	Reference Documents
1	Solder Resistance Test	Test 260°C± 5°C for 10 ± 2 sec. Immerse body into solder 1/16" ± 1/32"	MIL-STD-750D METHOD-2031.2
2	Solderability Test	230°C ±5°C for 5 sec.	MIL-STD-750D METHOD-2026.1 0
3	Pull Test	1 kg in axial lead direction for 10 sec.	MIL-STD-750D METHOD-2036.4
4	Bend Test	0.5Kg Weight Applied To Each Lead, Bending Arcs 90 °C ± 5 °C For 3 Times	MIL-STD-750D METHOD-2036.4
5	High Temperature Reverse Bias Test	TA=100°C for 1000 Hours at VR=80% Rated VR	MIL-STD-750D METHOD-1038.4
6	Forward Operation Life Test	TA=25°C Rated Average Rectified Current	MIL-STD-750D METHOD-1027.3
7	Intermittent Operation Life Test	On state: 5 min with rated IRMS Power Off state: 5 min with Cool Forced Air. On and off for 1000 cycles.	MIL-STD-750D METHOD-1036.3
8	Pressure Cooker Test	15 PSIG, TA=121°C, 4 hours	MIL-S-19500 APPENOIXC
9	Temperature Cycling Test	-55°C~+125°C; 30 Minutes For Dwelled Time 5 minutes for transferred time. Total: 10 cycles.	MIL-STD-750D METHOD-1051.7
10	Thermal Shock Test	0°C for 5 minutes., 100°C for 5minutes, Total: 10 cycles	MIL-STD-750D METHOD-1056.7
11	Forward Surge Test	8.3ms Single Sale Sine-wave One Surge.	MIL-STD-750D METHOD-4066.4
12	Humidity Test	TA=65°C, RH=98% for 1000 hours.	MIL-STD-750D METHOD-1021.3
13	High Temperature Storage life Test	150°C for 1000 Hours	MIL-STD-750D METHOD-1031.5

SMD ESD PROTECTION DIODES (TUBE) SOD-323 SERIES

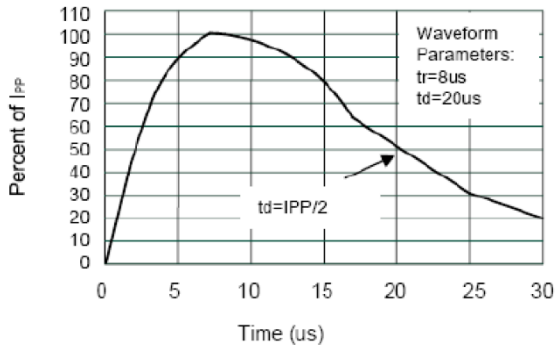
SUGGESTED REFLOW PROFILE (For Reference Only)



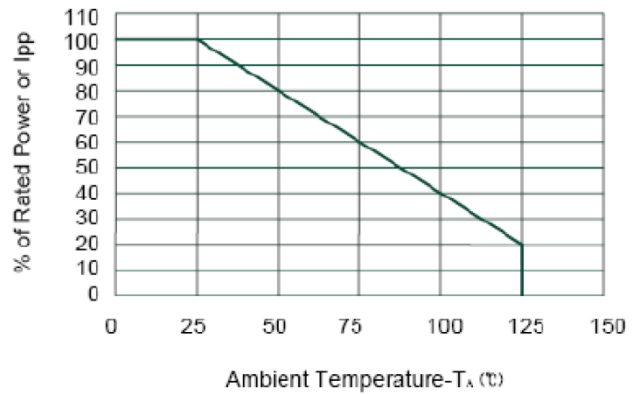
- Recommended peak temperature is over 245°C, If peak temperature is below 245 °C, you may adjust the following parameters; time length of peak temperature (longer), time length of soldering (longer), thickness of solder paste (thicker)
- Welding shall not exceed 2 times
- Remark: lead free solder paste (96.5 sn/3.0 Ag/0.5Cu)

SMD ESD PROTECTION DIODES (TUBE) SOD-323 SERIES

RATINGS AND CHARACTERISTIC CURVES (For Reference Only)



Pulse Waveform

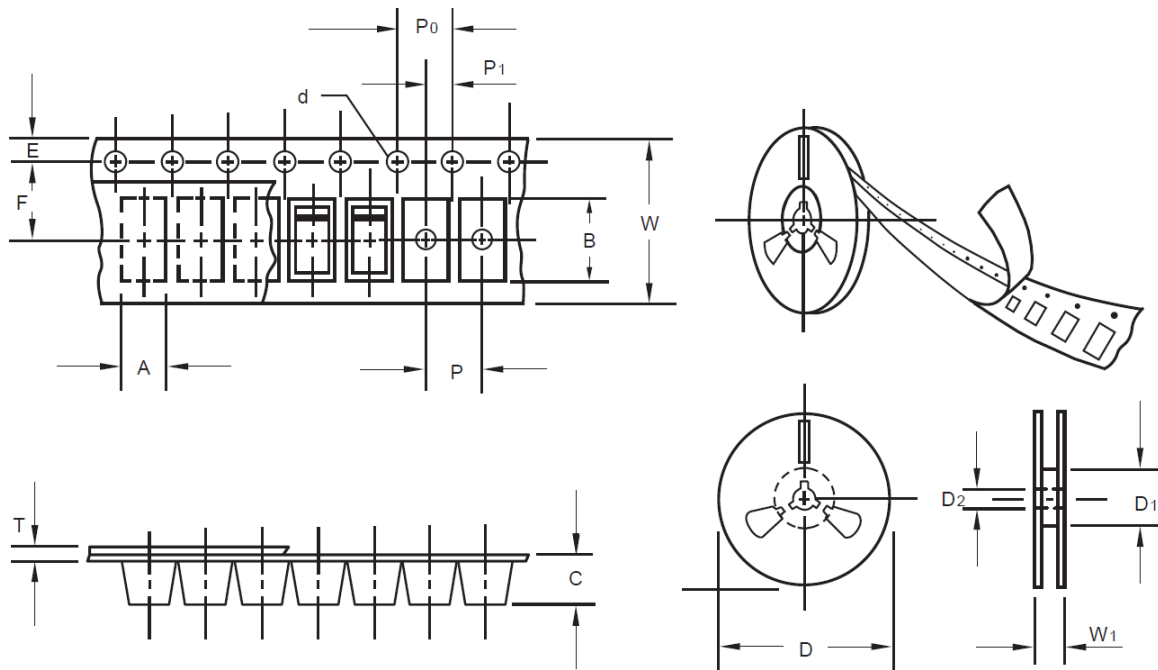


Ambient Temperature-T_a (°C)

SMD ESD PROTECTION DIODES (TUBE) SOD-323 SERIES

TAPE/REEL (Unit: mm)

All Devices are packed in accordance with EIA standard RS-481-A and specifications.

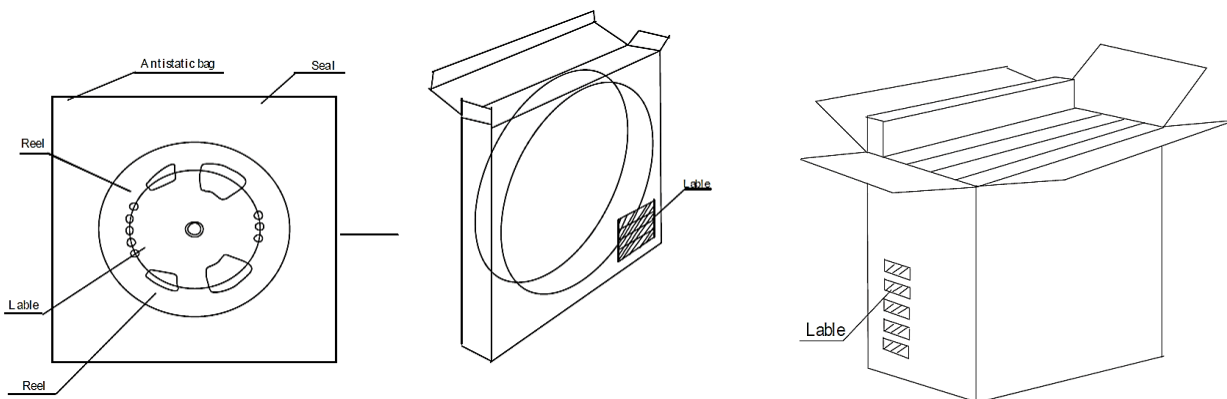


Item	Symbol	Tolerance	SOD-323
Carrier width	A	0.1	2.10
Carrier Length	B	0.1	4.00
Carrier Depth	C	0.1	1.60
Sprocket hole	d	0.05	1.55
13" Reel outside diameter	-	-	-
13" Reel inner diameter	-	-	-
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D1	Min.	50.00
Feed hole diameter	D2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P0	0.1	4.00
Embossment center	P1	0.1	2.00
Overall tape thickness	T	0.1	0.25
Tape width	W	0.3	8.15
Reel width	W1	1.0	10.50

SMD ESD PROTECTION DIODES (TUBE) SOD-323 SERIES

PACKAGE

Case Code	Reel Size	MPQ (pcs)	Component Spacing (mm)	Qty. Per Box (pcs)	Inner Box L*W*H (mm)	Reel Size (mm)	Carton size L*W*H (mm)	Qty. Per Carton (pcs)	G. W (kg)
SOD-323	7"	3,000	-	24,000	210*208*203	178	400*400*250	180,000	8.0



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