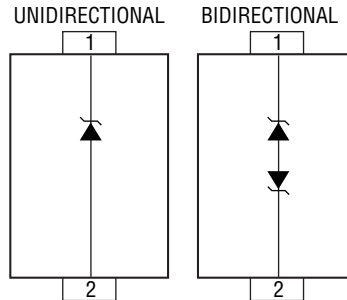


CDSOD323-TxxSC - TVS Diode Series

瞬变二极管，单路ESD保护器件，SOD-323封装

General Information



Electrical & Thermal Characteristics (@ $T_A = 25\text{ }^{\circ}\text{C}$ Unless Otherwise Noted)

Parameter	Symbol	Value	Unit
Unidirectional Peak Pulse Power ($t_p = 8/20\text{ }\mu\text{s}$)	P_{PP}	500	W
Bidirectional Peak Pulse Power ($t_p = 8/20\text{ }\mu\text{s}$)	P_{PP}	400	W
Operating Temperature	T_L	-55 to +150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}\text{C}$
ESD Protection (per IEC 61000-4-2) Contact - Min. Contact - Max. Air - Min. Air - Max.	ESD	± 8 ± 30 ± 15 ± 30	kV

Parameter	Symbol	CDSOD323-								Unit
		Uni-T03S	Bi-T03SC	Uni-T05S	Bi-T05SC	Uni-T08S	Bi-T08SC	Uni-T12S	Bi-T12SC	
Min. Breakdown Voltage @ 1 mA	V_{BR}	4.0	4.0	6.0	6.0	8.5	8.5	13.3	13.3	V
Working Peak Voltage	V_M	3.3	3.3	5.0	5.0	8.0	8.0	12.0	12.0	V
Maximum Clamping Voltage @ $I_P = 1\text{ A}$	V_F	7.0	8.0	9.8	9.8	13.4	13.4	19.0	19.0	V
Typical Clamping Voltage @ 8/20 μs @ I_{PP}	V_C	10.9 V @ 43 A	10.9 V @ 43 A	13.5 V @ 42 A	14.5 V @ 28 A	16.9 V @ 34 A	18.5 V @ 17 A	25.9 V @ 21 A	29.5 V @ 14 A	V
Maximum Leakage Current @ V_{WM}	I_D	125	125	10	10	10	10	1	1	μA
Typical Capacitance @ 0 V, 1 MHz	C_P	500	200	350	175	250	150	150	50	pF

Notes:

- Part numbers with suffix "C" indicate bidirectional device, i.e. CDSOD323-T05SC.
- For bidirectional devices only, the electrical specifications apply in both directions.

CDSOD323-TxxSC - TVS Diode Series

瞬变二极管，单路ESD保护器件，SOD-323封装

Electrical & Thermal Characteristics (@ $T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

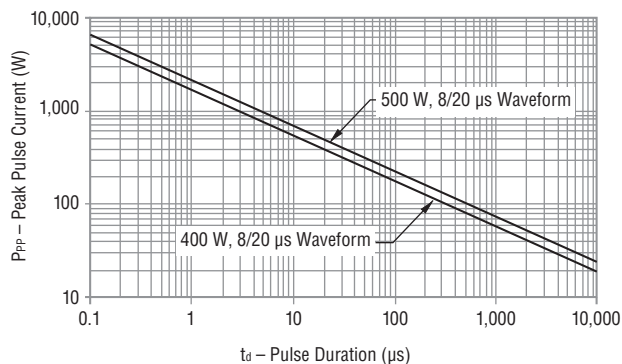
Parameter	Symbol	CDSOD323-								Unit
		Uni-T15S	Bi-T15SC	Uni-T18S	Bi-T18SC	Uni-T24S	Bi-T24SC	Uni-T36S	Bi-T36SC	
Min. Breakdown Voltage @ 1 mA	V_{BR}	16.7	16.7	20.0	20.0	26.7	26.7	40.0	40.0	V
Working Peak Voltage	V_M	15.0	15.0	18.0	18.0	24.0	24.0	36.0	36.0	V
Maximum Clamping Voltage @ $I_P = 1\text{ A}$	V_F	24.0	24.0	29.0	29.0	43.0	43.0	60.0	60.0	V
Typical Clamping Voltage @ $8/20\text{ }\mu\text{s}$ @ I_{PP}	V_C	30.0 V @ 17 A	33.0 V @ 12 A	40.0 V @ 9 A	40.0 V @ 9 A	49.0 V @ 12 A	46.2 V @ 9 A	75.0 V @ 5 A	75.0 V @ 5 A	V
Maximum Leakage Current @ V_{WM}	I_D	1								μA
Typical Capacitance @ 0 V, 1 MHz	C_P	100	40	90	40	88	40	75	35	pF

Notes:

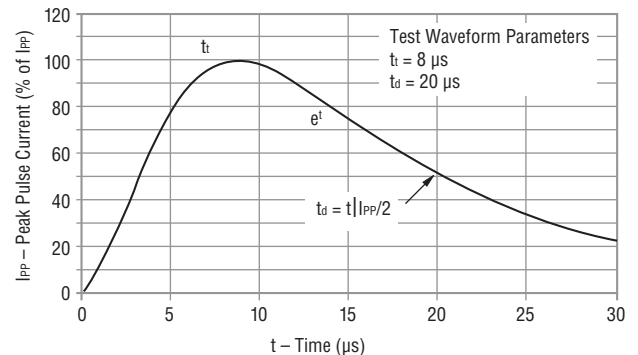
- Part numbers with suffix "C" indicate bidirectional device, i.e. CDSOD323-T05SC.
- For bidirectional devices only, the electrical specifications apply in both directions.

Performance Graphs

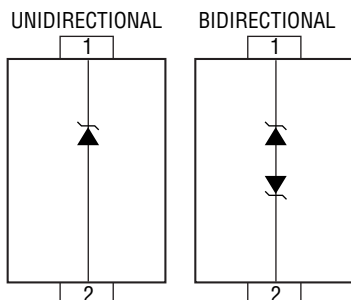
Peak Pulse Power vs. Pulse Time



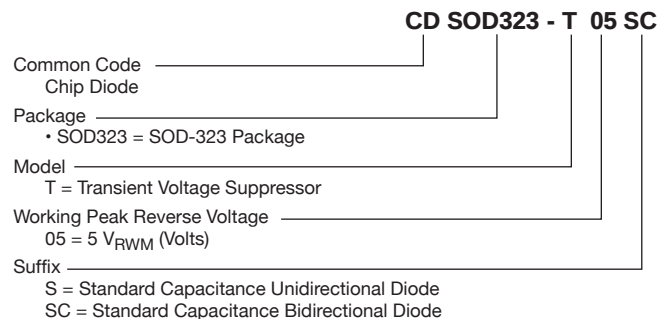
Pulse Waveform



Block Diagram



How to Order

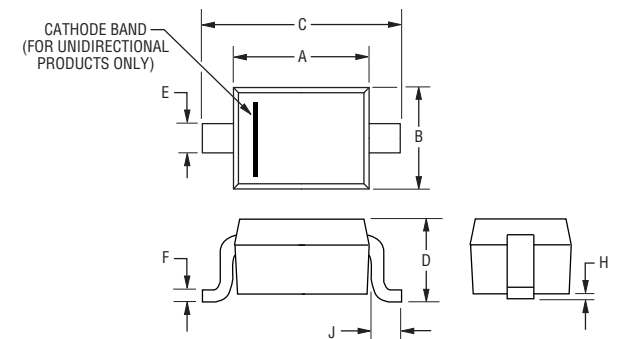


CDSOD323-TxxSC - TVS Diode Series

瞬变二极管，单路ESD保护器件，SOD-323封装

Product Dimensions

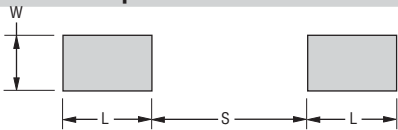
This is a molded JEDEC SOD-323 package with lead free 100 % Sn plating on the terminations. It weighs approximately 30 mg and has a flammability rating of UL 94V-0.



Dimensions	
A	$\frac{1.60 - 1.90}{(0.063 - 0.075)}$
B	$\frac{1.15 - 1.45}{(0.045 - 0.057)}$
C	$\frac{2.39 - 2.70}{(0.094 - 0.106)}$
D	$\frac{0.92 - 1.14}{(0.036 - 0.045)}$
E	$\frac{0.25 - 0.40}{(0.010 - 0.016)}$
F	$\frac{0.08 - 0.20}{(0.003 - 0.008)}$
H	$\frac{0.13}{(0.005)}$ MAX.
J	$\frac{0.30 - 0.45}{(0.012 - 0.018)}$

DIMENSIONS: $\frac{\text{MM}}{(\text{INCHES})}$

Recommended Footprint



Dimensions (Nominal)	
L	$\frac{0.80}{(0.031)}$
S	$\frac{1.40}{(0.055)}$
W	$\frac{0.50}{(0.020)}$

DIMENSIONS: $\frac{\text{MM}}{(\text{INCHES})}$

Typical Part Marking

Each device has device marking outlined below and the unidirectional devices have an additional Polarity Band indicating the cathode.

CDSOD323-T03S	A
CDSOD323-T03SC	G
CDSOD323-T05S	B
CDSOD323-T05SC	H
CDSOD323-T08S	C
CDSOD323-T08SC	J
CDSOD323-T12S	D
CDSOD323-T12SC	K
CDSOD323-T15S	E
CDSOD323-T15SC	L
CDSOD323-T18S	O
CDSOD323-T18SC	N
CDSOD323-T24S	F
CDSOD323-T24SC	M
CDSOD323-T36S	R
CDSOD323-T36SC	T

Environmental Specifications

Moisture Sensitivity Level	1
ESD Classification (HBM)	3B

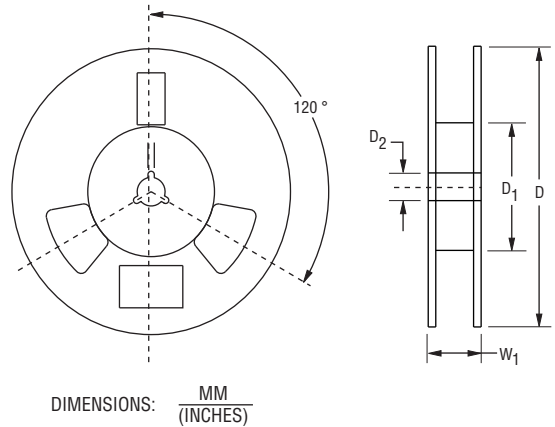
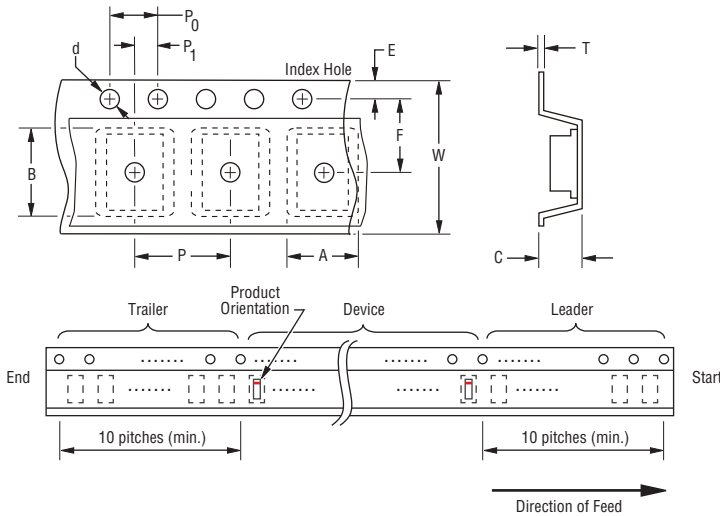
CDSOD323-TxxSC - TVS Diode Series

瞬变二极管，单路ESD保护器件，

SOD-323封装

Packaging Information

The surface mount product is packaged in an 8 mm x 4 mm tape and reel format per EIA-481 standard.



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

Item	Symbol	SOD-323
Carrier Width	A	$\frac{1.55 \pm 0.10}{(0.061 \pm 0.004)}$
Carrier Length	B	$\frac{2.90 \pm 0.10}{(0.114 \pm 0.004)}$
Carrier Depth	C	$\frac{1.35 \pm 0.10}{(0.053 \pm 0.004)}$
Sprocket Hole	d	$\frac{1.55 \pm 0.05}{(0.061 \pm 0.002)}$
Reel Outside Diameter	D	$\frac{178}{(7.008)}$
Reel Inner Diameter	D ₁	$\frac{80.0}{(3.150)}$ Min.
Feed Hole Diameter	D ₂	$\frac{13.0 \pm 0.20}{(0.512 \pm 0.008)}$
Sprocket Hole Position	E	$\frac{1.75 \pm 0.10}{(0.069 \pm 0.004)}$
Punch Hole Position	F	$\frac{3.50 \pm 0.05}{(0.138 \pm 0.002)}$
Punch Hole Pitch	P	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$
Sprocket Hole Pitch	P ₀	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$
Embossment Center	P ₁	$\frac{2.00 \pm 0.05}{(0.079 \pm 0.002)}$
Overall Tape Thickness	T	$\frac{0.20 \pm 0.10}{(0.008 \pm 0.004)}$
Tape Width	W	$\frac{8.00 \pm 0.20}{(0.315 \pm 0.008)}$
Reel Width	W ₁	$\frac{13.5}{(0.531)}$ Max.
Quantity per Reel	--	3,000