

## CDBW120-G Thru. CDBW140-G

Forward current: 1.0A

Reverse voltage: 20 to 40V

RoHS Device

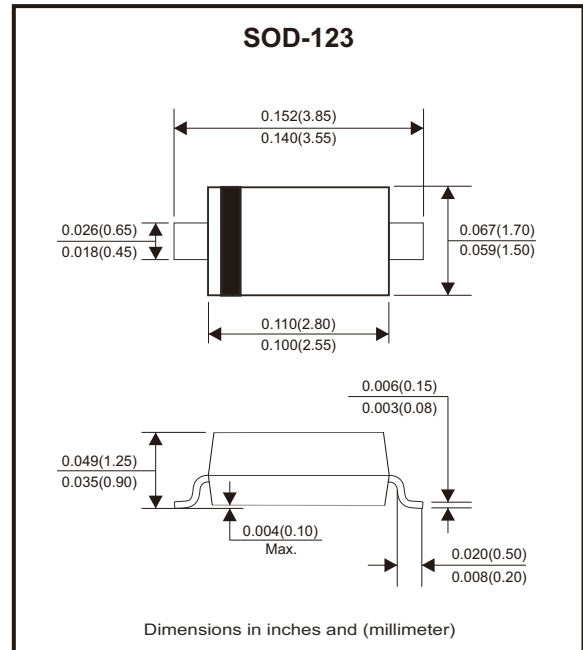


### Features

- For use in low voltage, high frequency inverters.
- Free wheeling, and polarity protection applications.

### Mechanical Data

- Case: SOD-123, molded plastic.
- Terminals: Solderable per MIL-STD-750, method 2026.
- Polarity: indicated by cathode end.
- Weight: 0.0097 grams (approx.).



### Circuit Diagram



### Maximum Ratings (At Ta=25°C, unless otherwise noted)

Parameter	Symbol	CDBW120-G	CDBW130-G	CDBW140-G	Unit
Non-repetitive peak reverse voltage	V <sub>RM</sub>	20	30	40	V
Peak repetitive peak reverse voltage	V <sub>RRM</sub>	20	30	40	V
Working peak reverse voltage	V <sub>RWM</sub>				
DC blocking voltage	V <sub>R</sub>				
RMS reverse voltage	V <sub>R(RMS)</sub>	14	21	28	V
Average rectified output current	I <sub>O</sub>	1			A
Peak forward surge current @ 8.3ms	I <sub>FSM</sub>	9			A
Power dissipation	P <sub>D</sub>	500			mW
Thermal resistance, junction to ambient	R <sub>θJA</sub>	250			°C/W
Junction temperature range	T <sub>J</sub>	-55 ~ +125			°C
Storage temperature range	T <sub>STG</sub>	-55 ~ +150			°C

## Electrical Characteristics (At Ta=25°C, unless otherwise noted)

Parameter	Conditions	Symbol	Min.	Max.	Unit
Reverse breakdown voltage	CDBW120-G	$I_R=1\text{mA}$	20		V
	CDBW130-G		30		
	CDBW140-G		40		
Reverse voltage leakage current	CDBW120-G	$V_R=20\text{V}$ $V_R=30\text{V}$ $V_R=40\text{V}$		1	mA
	CDBW130-G				
	CDBW140-G				
Forward voltage	CDBW120-G	$I_F=1\text{A}$		0.45	V
	CDBW130-G		0.55		
	CDBW140-G	0.60			
	CDBW120-G	$I_F=3\text{A}$		0.75	
CDBW130-G	0.875				
CDBW140-G	0.90				
Diode capacitance		$V_R=4\text{V}, f=1\text{MHz}$		120	pF

## Rating and Characteristic Curves (CDBW120-G Thru. CDBW140-G)

Fig.1- Power Derating Curve

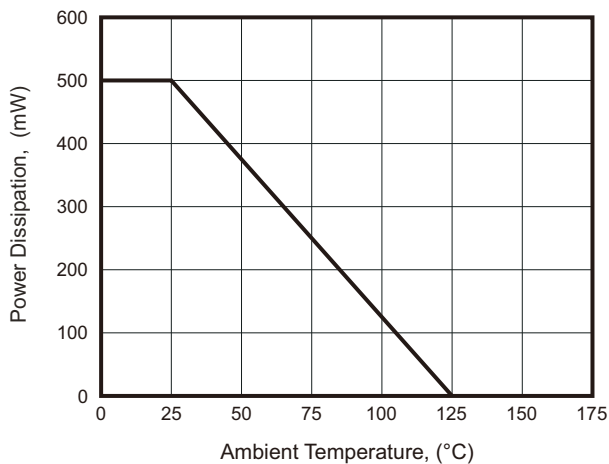


Fig.2 - Typical Junction Capacitance

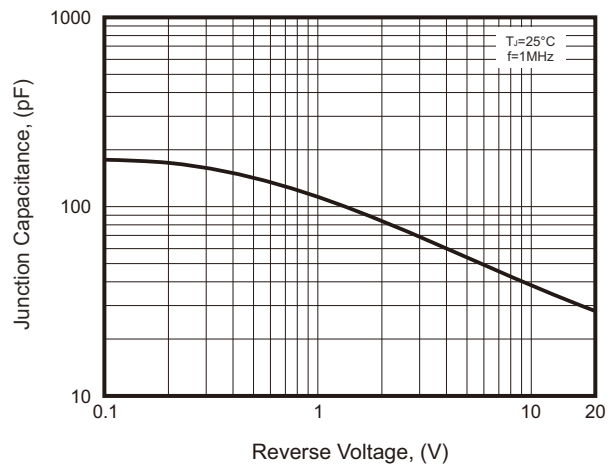


Fig.3 - Typical Instantaneous Forward Characteristics

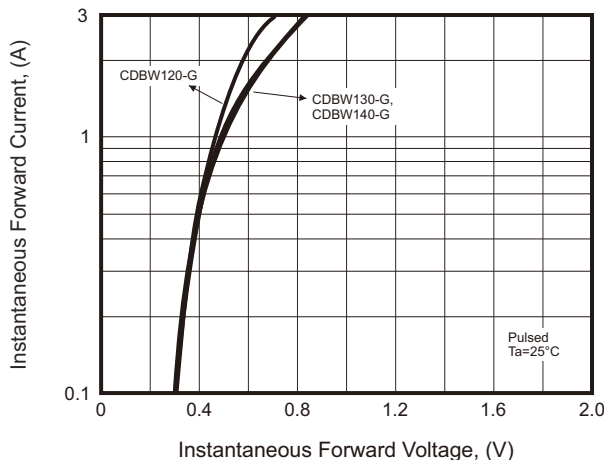
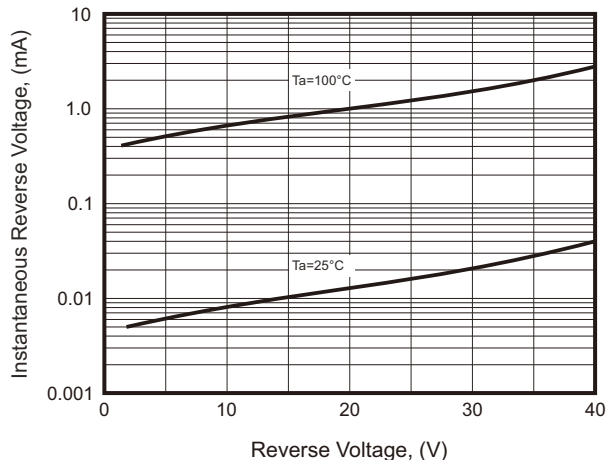
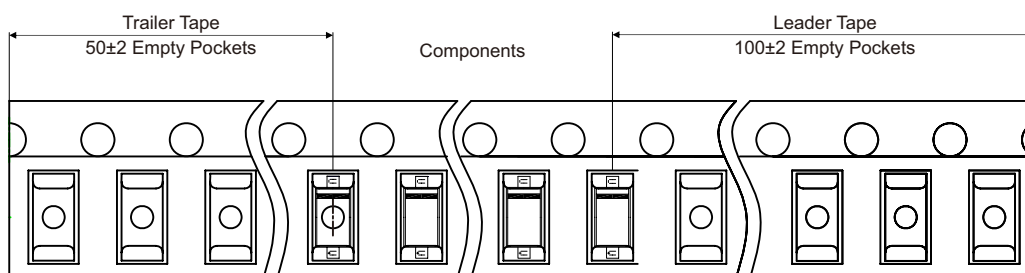
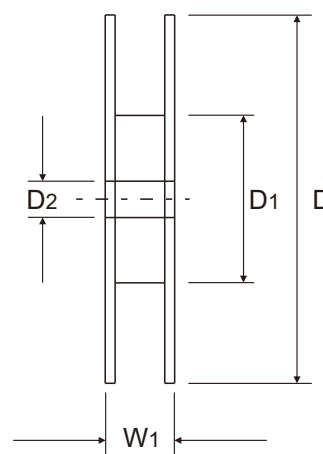
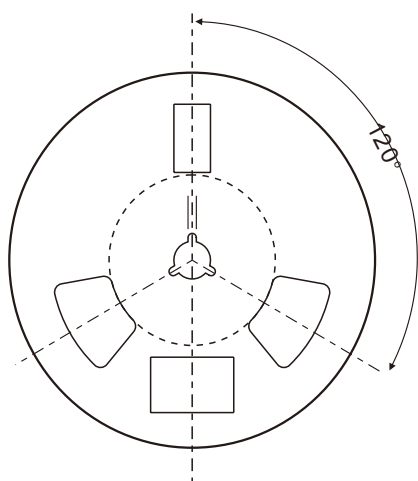
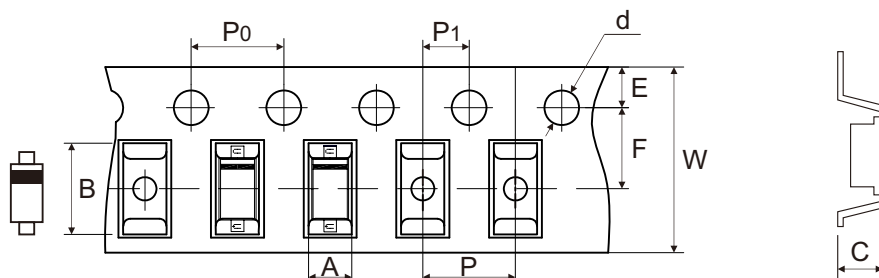


Fig.4 - Typical Reverse Characteristics



## Reel Taping Specification



SOD-123	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	1.85 ± 0.05	3.94 ± 0.05	1.57 ± 0.05	1.55 ± 0.10	178 ± 2.00	54.40 ± 1.00	13.00 ± 1.00
	(inch)	0.073 ± 0.002	0.155 ± 0.002	0.062 ± 0.002	0.061 ± 0.004	7.008 ± 0.079	2.142 ± 0.039	0.512 ± 0.039

SOD-123	SYMBOL	E	F	P	P0	P1	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	8.00 + 0.30 - 0.10	12.30 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.315 + 0.012 - 0.004	0.484 ± 0.039

## Marking Code

Part Number	Marking Code
CDBW120-G	SJ
CDBW130-G	SK
CDBW140-G	SL

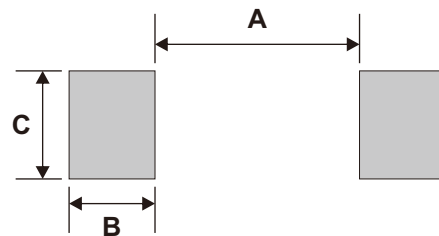


xx = Product type marking code

■ = Cathode band

## Suggested PAD Layout

SIZE	SOD-123	
	(mm)	(inch)
A	2.31	0.091
B	0.97	0.038
C	1.22	0.048



## Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOD-123	3,000	7