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## SMD Schottky Barrier Diodes

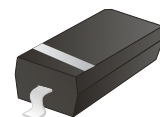


# CDBW120-G Thru. CDBW140-G

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

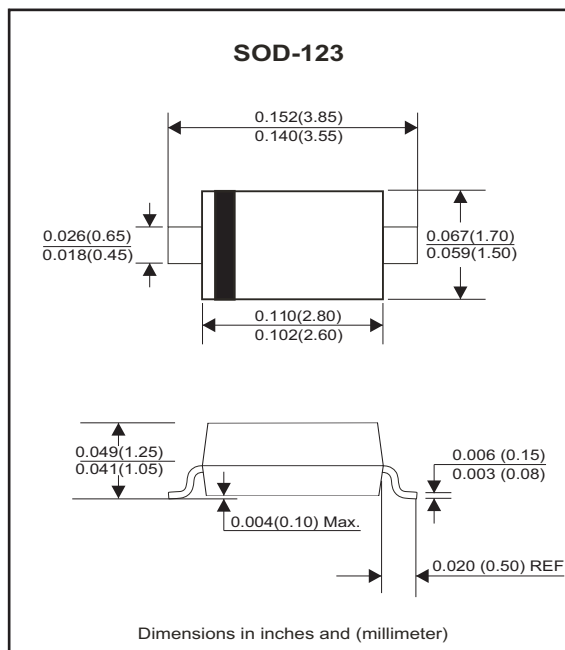
- Case: SOD-123, molded plastic.
- Terminals: solderable per MIL-STD-750, method 2026.
- Polarity: indicated by cathode end.
- Weight: 0.0097 gram(approx.).

### Marking

CDBW120-G: SJ

CDBW130-G: SK

CDBW140-G: SL



### 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
Repetitive peak forward current	I <sub>FRM</sub>	1.5			A
Power dissipation	P <sub>D</sub>	500			mW
Thermal resistance, junction to ambient	R <sub>θJA</sub>	250			°C/W
Junction temperature	T <sub>J</sub>	-55 ~ +125			°C
Storage temperature	T <sub>STG</sub>	-55 ~ +150			°C

## SMD Schottky Barrier Diodes



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

Parameter		Conditions	Symbol	Min.	Max.	Unit
Reverse breakdown voltage	CDBW120-G	I <sub>R</sub> =1mA	V <sub>BR</sub>	20		V
	CDBW130-G			30		
	CDBW140-G			40		
Reverse voltage leakage current	CDBW120-G	V <sub>R</sub> =20V	I <sub>R</sub>		1	mA
	CDBW130-G	V <sub>R</sub> =30V				
	CDBW140-G	V <sub>R</sub> =40V				
Forward voltage	CDBW120-G CDBW130-G CDBW140-G	I <sub>F</sub> =1A	V <sub>F</sub>		0.45	V
					0.55	
	CDBW120-G CDBW130-G CDBW140-G	I <sub>F</sub> =3A			0.60	
					0.75	
Diode capacitance		V <sub>R</sub> =4V, f=1MHz	C <sub>D</sub>		120	pF

# SMD Schottky Barrier Diodes



## RATING AND CHARACTERISTIC CURVES (CDBW120-G Thru. CDBW140-G)

Fig.1- Power Derating Curve

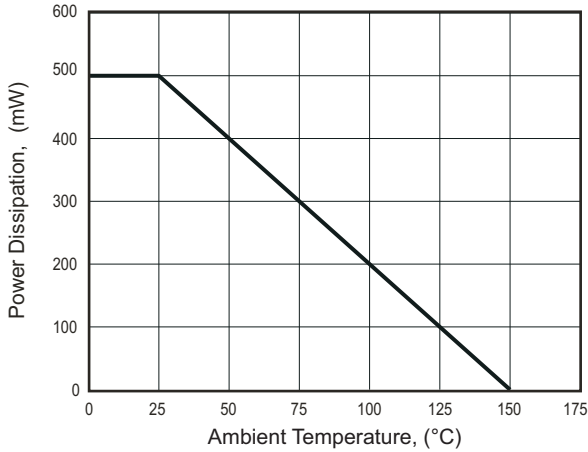


Fig.2- Maximum Non-Repetitive Peak Forward Surge Current

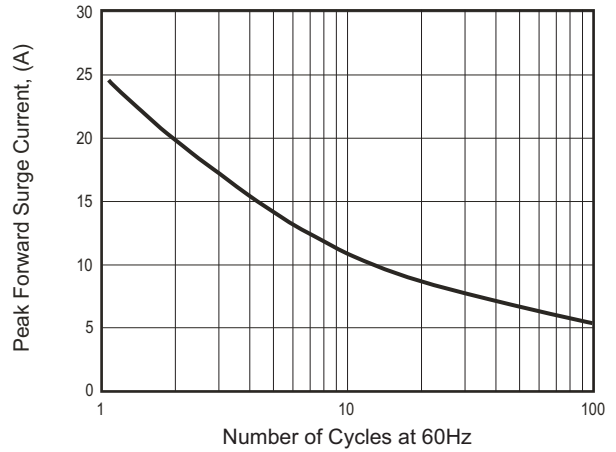


Fig.3- Typical Instantaneous Forward Characteristics

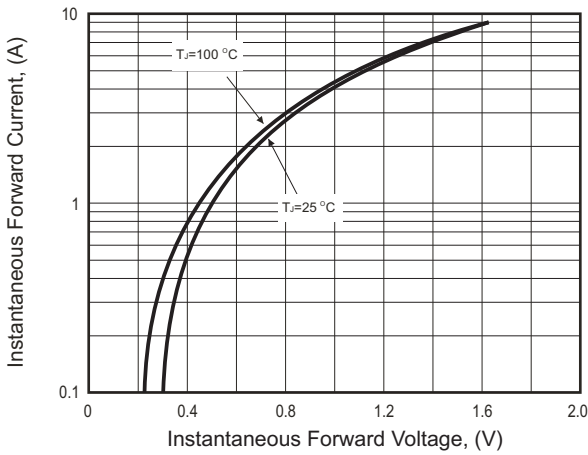


Fig.4- Typical Reverse Characteristics

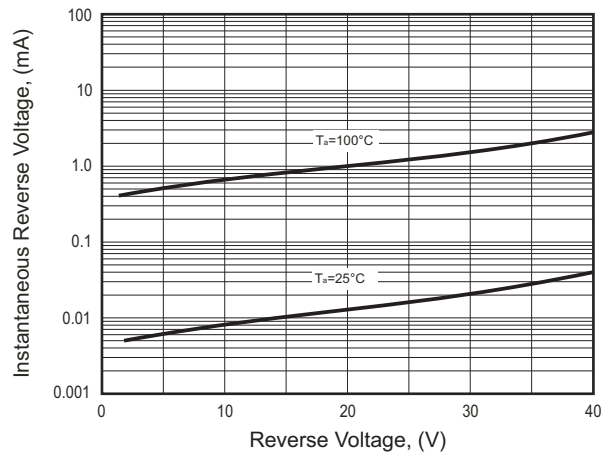


Fig.5- Typical Junction Capacitance

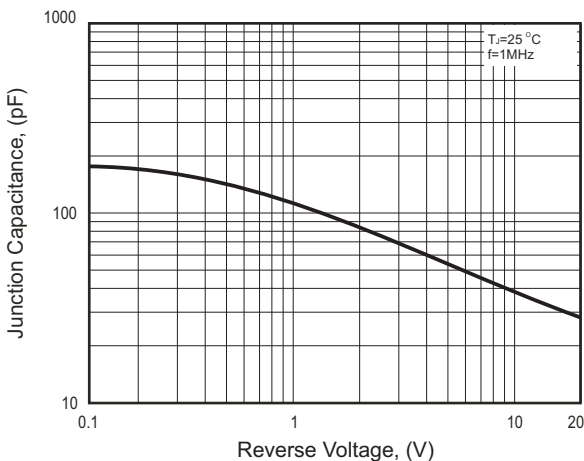
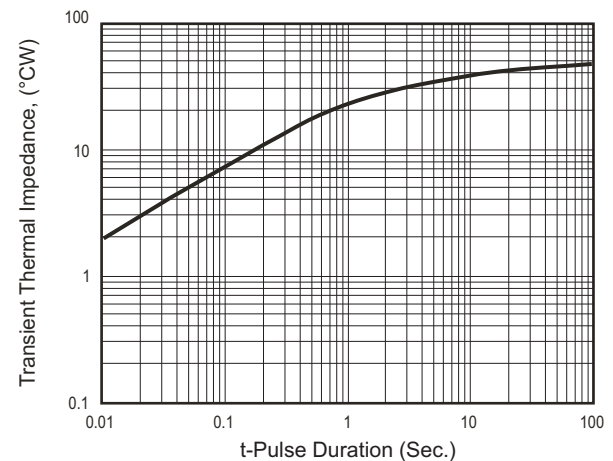


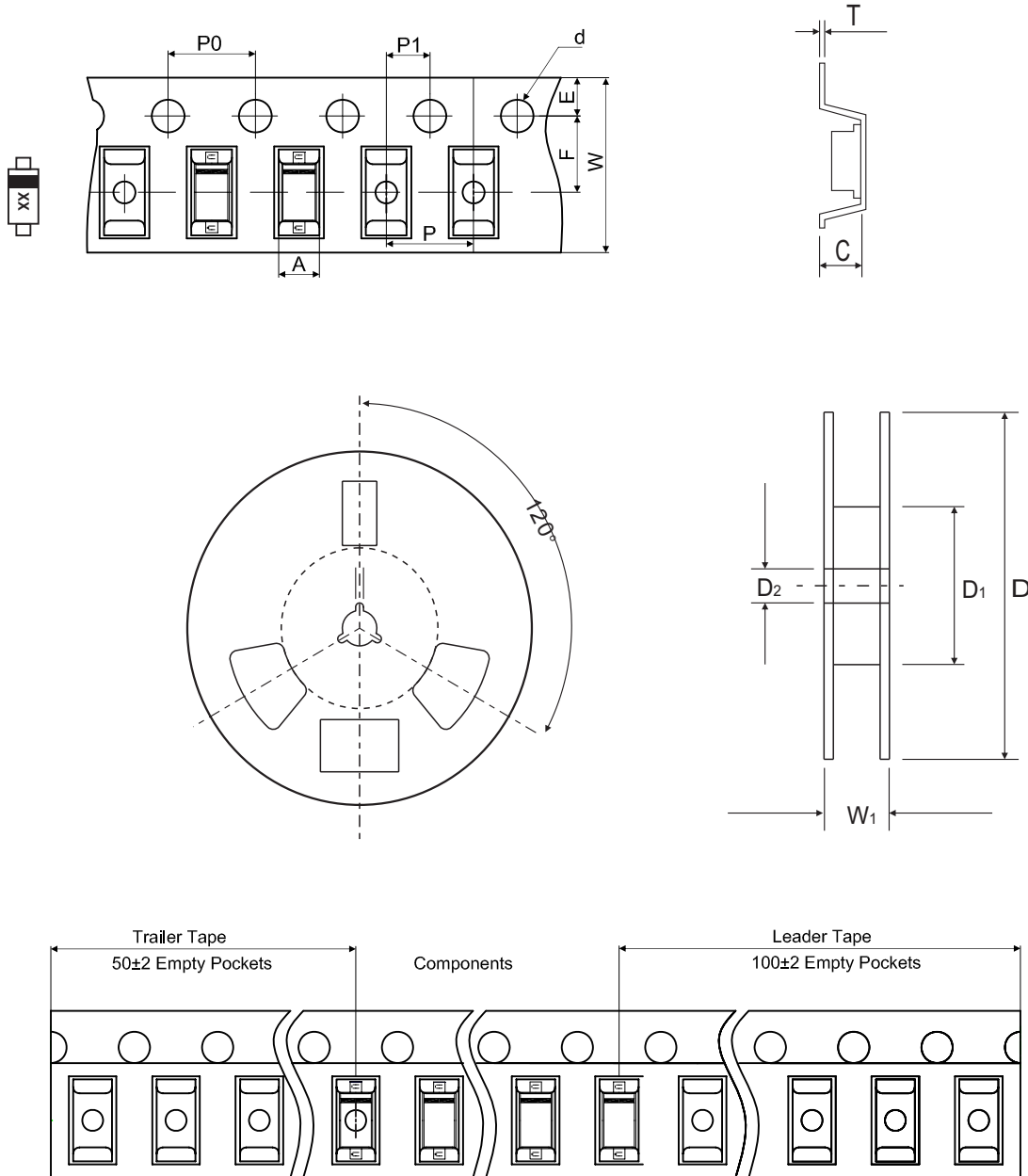
Fig.6- Typical Transient Thermal Impedance



# SMD Schottky Barrier Diodes



## Reel Taping Specification



SOD-123	SYMBOL	A	B	C	d	D	D <sub>1</sub>	D <sub>2</sub>
	(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	P <sub>0</sub>	P <sub>1</sub>	W	W <sub>1</sub>
	(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 ± 1.0
	(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

## SMD Schottky Barrier Diodes

### Marking Code

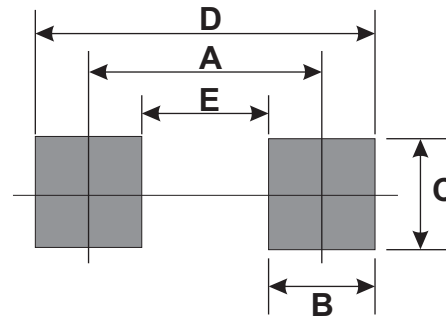
Part Number	Marking Code
CDBW120-G	SJ
CDBW130-G	SK
CDBW140-G	SL



xx = Product type marking code

### Suggested PAD Layout

SIZE	SOD-123	
	(mm)	(inch)
A	3.24	0.128
B	0.80	0.031
C	1.00	0.039
D	4.04	0.159
E	2.44	0.096



### Standard Packaging

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