SMD Schottky Barrier Diodes

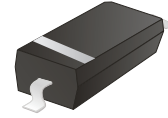**Comchip**
SMD Diode Specialist

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.
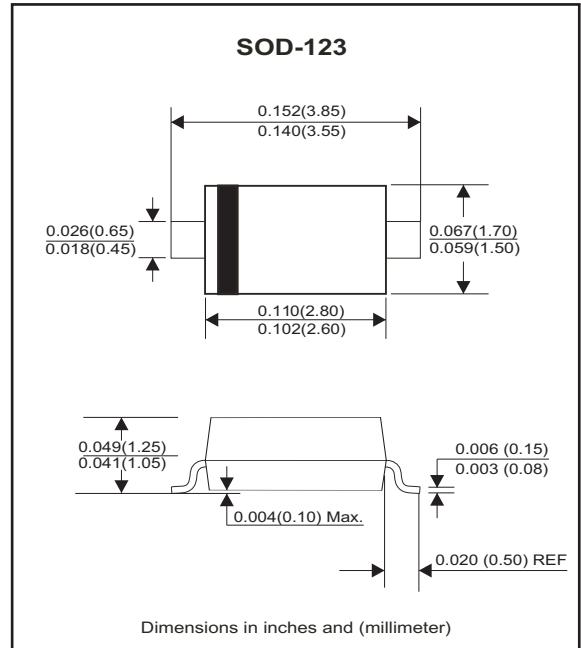-Free wheeling, and polarity protection applications.

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

SOD-123

0.152(3.85)
0.140(3.55)

0.026(0.65)
0.018(0.45)

0.067(1.70)
0.059(1.50)

0.110(2.80)
0.102(2.60)

0.049(1.25)
0.041(1.05)

0.006 (0.15)
0.003 (0.08)

0.004(0.10) Max.

0.020 (0.50) REF

Dimensions in inches and (millimeter)

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_{RM}	20	30	40	V
Peak repetitive peak reverse voltage Working peak reverse voltage DC blocking voltage	V_{RRM} V_{RWM} V_R	20	30	40	V
RMS reverse voltage	$V_{R(RMS)}$	14	21	28	V
Average rectified output current	I_O		1		A
Peak forward surge current @8.3ms	I_{FSM}		9		A
Repetitive peak forward current	I_{FRM}		1.5		A
Power dissipation	P_D		500		mW
Thermal resistance, junction to ambient	$R_{\theta JA}$		250		°C/W
Junction temperature	T_J		-55 ~ +125		°C
Storage temperature	T_{STG}		-55 ~ +150		°C

REV:E

SMD Schottky Barrier Diodes

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

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

REV:E

SMD Schottky Barrier Diodes

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SMD Diode Specialist

RATING AND CHARACTERISTIC CURVES (CDBW120-G Thru. CDBW140-G)
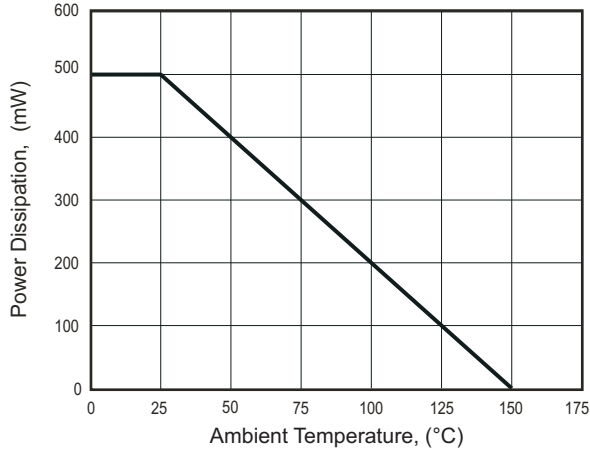
Fig.1- Power Derating Curve

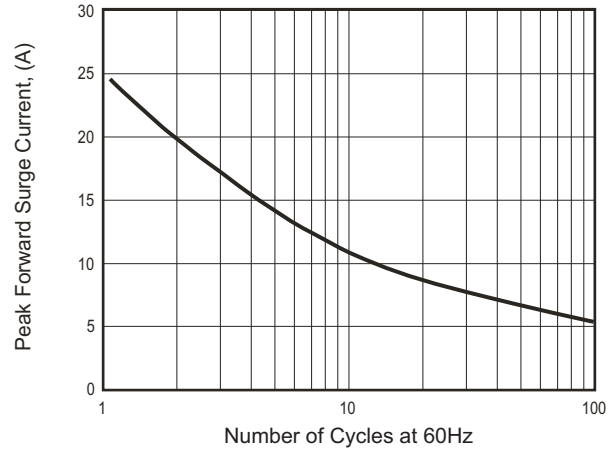Fig.2- Maximum Non-Repetitive Peak Forward Surge Current

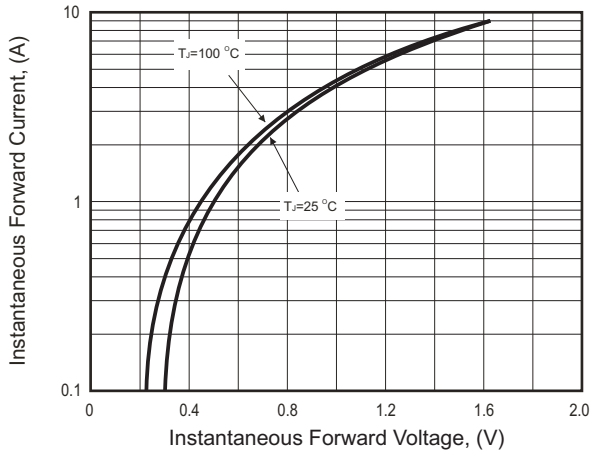Fig.3- Typical Instantaneous Forward Characteristics
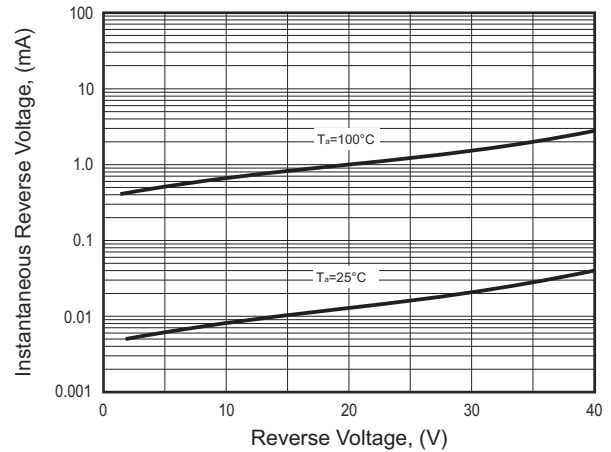
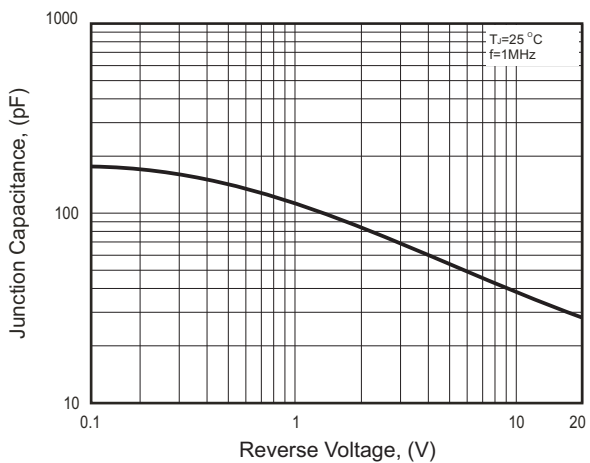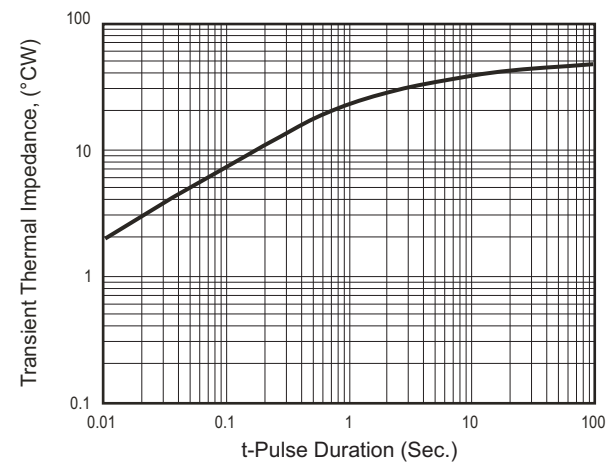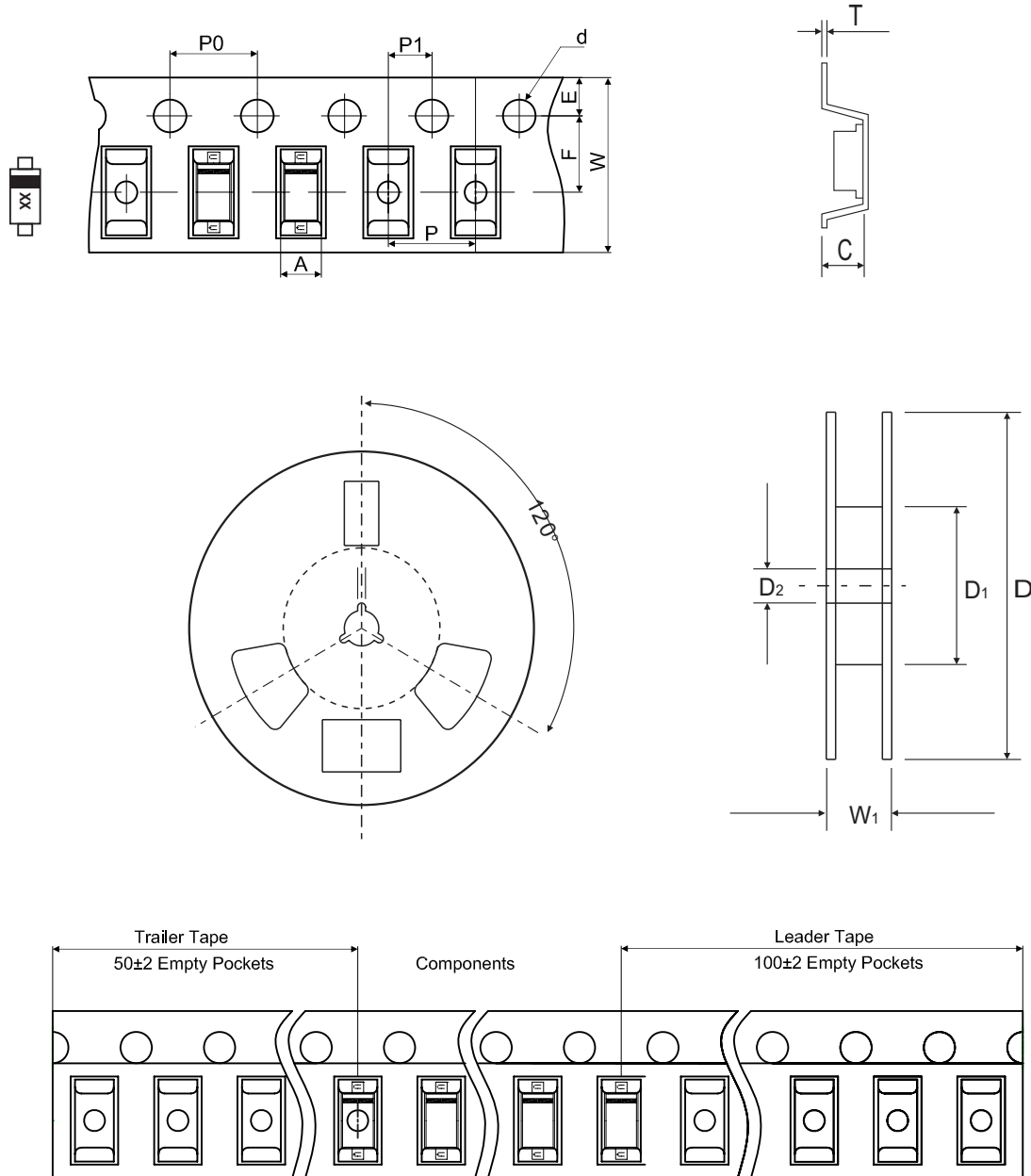Fig.4- Typical Reverse Characteristics

Fig.5- Typical Junction Capacitance

Fig.6- Typical Transient Thermal Impedance

Company reserves the right to improve product design , functions and reliability without notice.

Reel Taping Specification

Trailer Tape
50±2 Empty Pockets | Components | Leader Tape
100±2 Empty Pockets

SYMBOL		A	B	C	d	D	D₁	D₂
SOD-123	(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

SYMBOL		E	F	P	P₀	P₁	W	W₁
SOD-123	(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

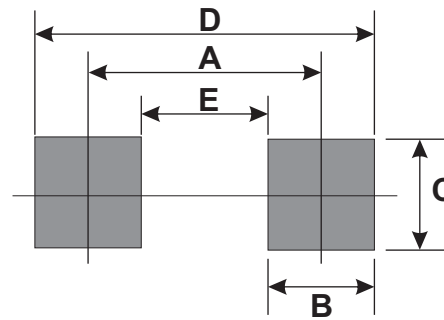Company reserves the right to improve product design , functions and reliability without notice.

SMD Schottky Barrier Diodes

Marking Code

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

XX
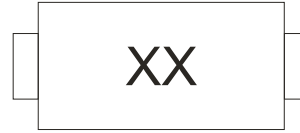
xx = Product type marking code

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

REV:E

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