SMD Schottky Barrier Diode

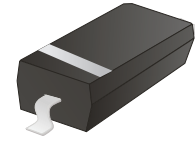Comchip
SMD Diode Specialist

CDBW0520L-HF Thru. CDBW0540-HF

Reverse Voltage: 20 to 40 Volts
Forward Current: 0.5 Amp
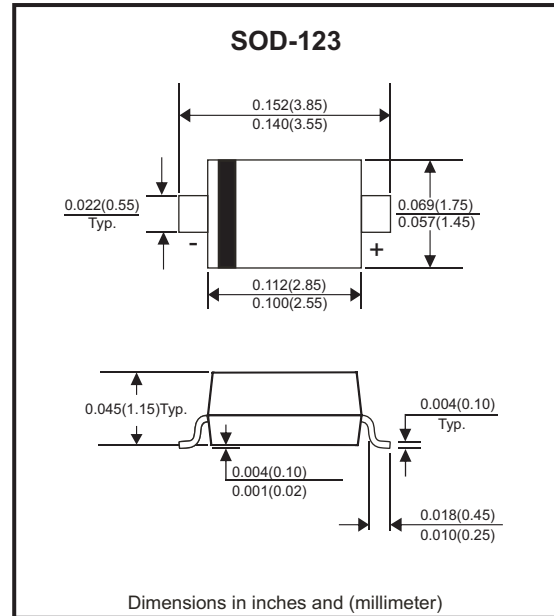**RoHS Device**
Halogen Free

Features

- Low forward voltage drop.

- High conductance.

- Guard ring construction for transient protection.

Mechanical data

- Case: SOD-123, molded plastic.

- Polarity: Color band denotes cathode end.

- Weight: 0.01 gram(approx.).

Circuit Diagram

SOD-123

0.152(3.85)
0.140(3.55)

0.022(0.55) Typ.

0.069(1.75)
0.057(1.45)

0.112(2.85)
0.100(2.55)

0.045(1.15)Typ.

0.004(0.10) Typ.

0.004(0.10)
0.001(0.02)

0.018(0.45)
0.010(0.25)

Dimensions in inches and (millimeter)

Maximum Rating (at Ta=25°C unless otherwise noted)

Parameter	Symbol	CDBW0520L-HF	CDBW0530-HF	CDBW0540-HF	Unit
Peak repetitive reverse voltage Working peak reverse voltage DC reverse 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 @ T_L=100°C	I_O	0.5			A
Non-repetitive peak forward surge current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	5.5			A
Power dissipation	P_D	410			mW
Typical thermal resistance (Junction to ambient)	$R_{\theta JA}$	244			°C/W
Junction temperature	T_J	125			°C
Storage temperature	T_{STG}	-55 ~ +125			°C
Voltage rate of change	dv/dt	1000			V/µs

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

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

Parameter	Conditions	Symbol	CDBW0520L-HF	CDBW0530-HF	CDBW0540-HF	Unit
Min.Reverse breakdown voltage	I_R=20µA	$V_{(BR)R}$	20	30	40	V
Max. Forward voltage	I_F=0.1A, T_J=25°C I_F=0.5A, T_J=25°C I_F=1.0A, T_J=25°C I_F=0.1A, T_J=100°C I_F=0.5A, T_J=100°C I_F=1.0A, T_J=100°C	V_F	0.300 0.385 - 0.220 0.330 -	0.375 0.430 - - - -	- 0.510 0.620 - 0.460 0.610	V
Max. Leakage current	V_R=10V, T_J=25°C V_R=15V, T_J=25°C V_R=20V, T_J=25°C V_R=30V, T_J=25°C V_R=40V, T_J=25°C	I_R	75 - 250 - -	- 20 - 130 -	- - 10 - 20	µA
	V_R=10V, T_J=100°C V_R=20V, T_J=100°C V_R=40V, T_J=100°C	I_R	5.0 8.0 -	- - -	- 5.0 13	mA
Junction capacitance	V_R=0V, f=1MHz	C_J	170			pF

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Rating and typical characteristic curves (CDBW0520L-HF Thru. CDBW0540-HF)
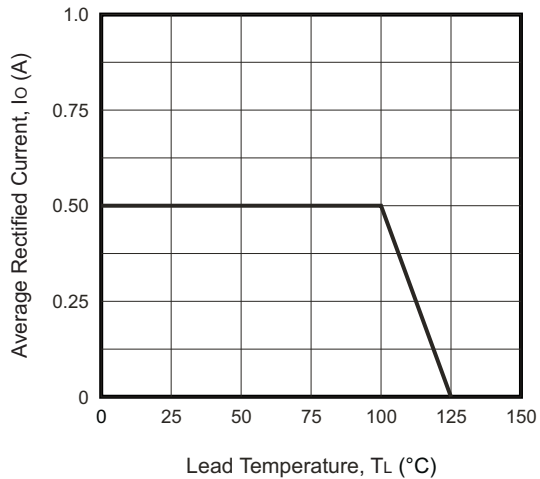
Fig.1 - Forward Current Derating Curve

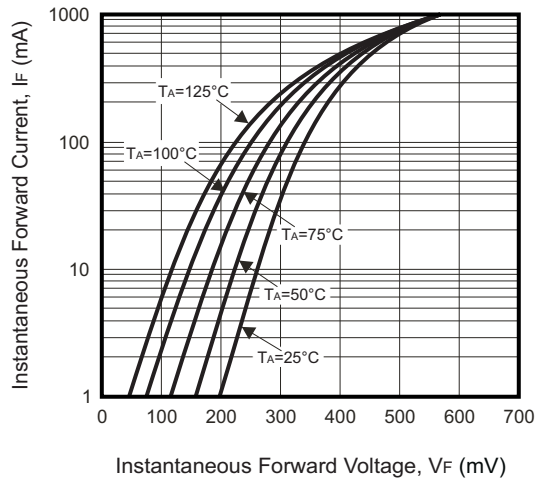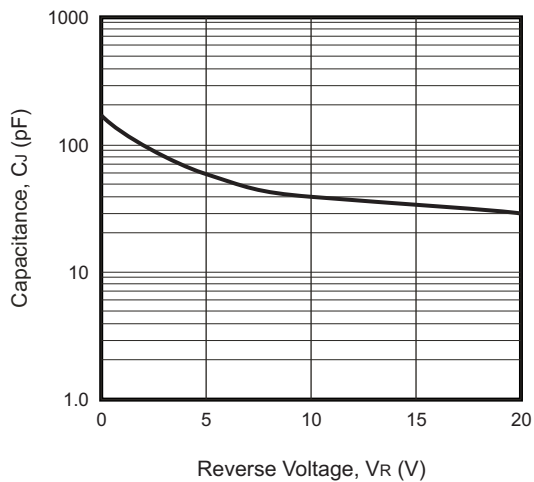

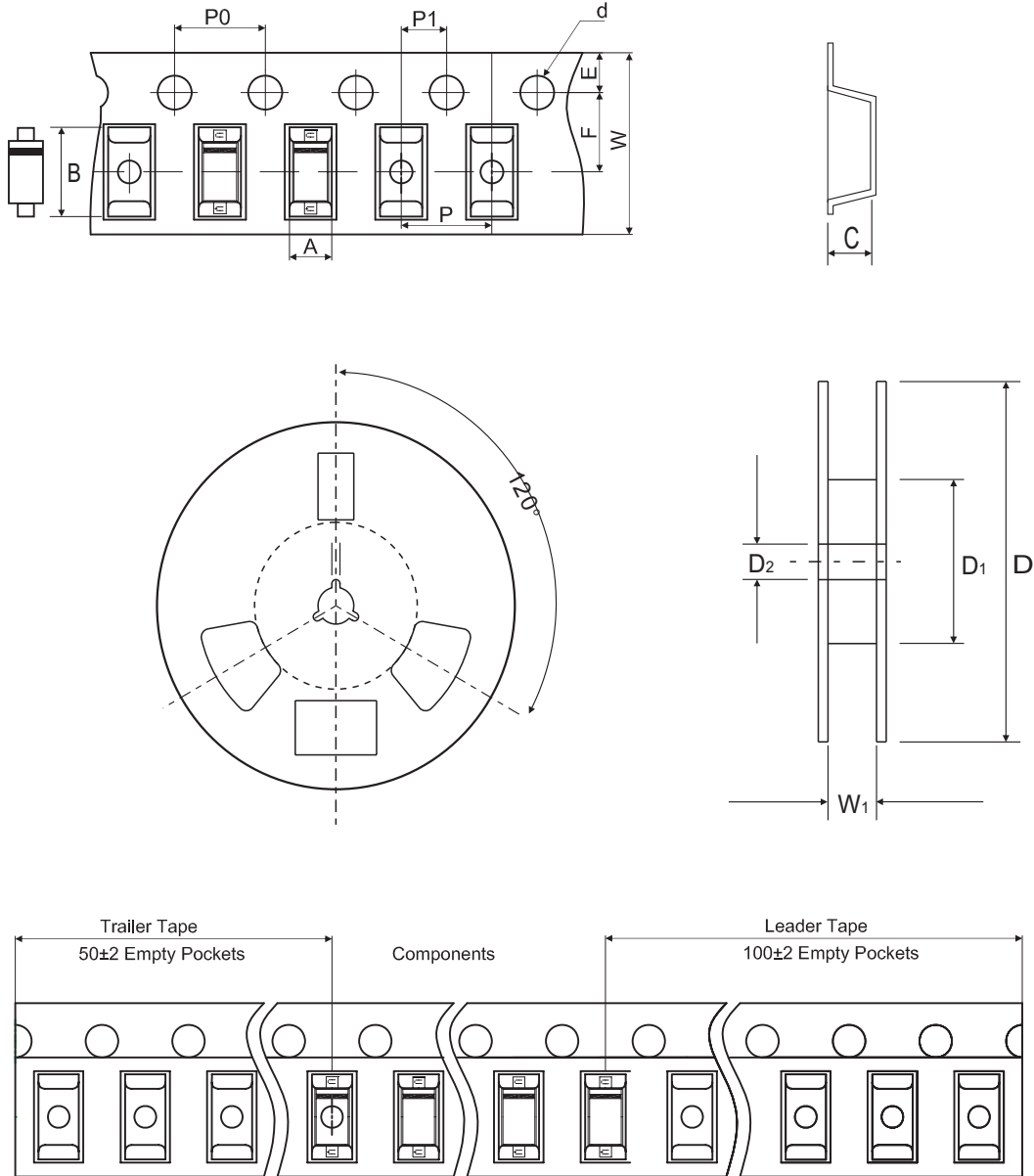Fig.2 - Typical Forward Characteristics of CDBW0540-HF

Fig.3 - Typ. Junction Capacitance vs. Reverse Voltage

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Reel Taping Specification

	SYMBOL	A	B	C	d	D	D1	D2
SOD-123	(mm)	1.85 ± 0.10	3.94 ± 0.10	1.57 ± 0.10	1.55 + 0.05	178 ± 1.00	54.0 ± 0.50	13.0 ± 0.50
	(inch)	0.073 ± 0.004	0.155 ± 0.004	0.062 ± 0.004	0.061 + 0.002	7.008 ± 0.039	2.126 ± 0.020	0.512 ± 0.020

	SYMBOL	E	F	P	P0	P1	W	W1
SOD-123	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	8.00+0.20/-0.10	9.50 ± 1.00
	(inch)	0.069 ± 0.004	0.138± 0.002	0.158 ± 0.004	0.158 ± 0.004	0.079 ± 0.002	0.315+0.008/-0.004	0.374 ± 0.039

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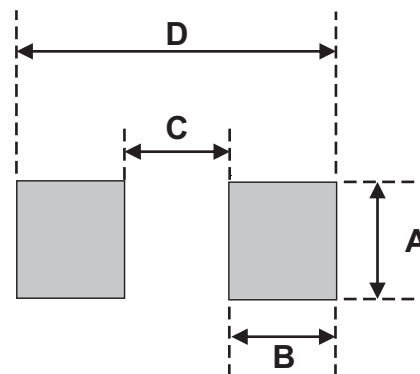
REV: B

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SMD Schottky Barrier Diode

Marking Code

Part Number	Marking Code
CDBW0520L-HF	SD
CDBW0530-HF	SE
CDBW0540-HF	SF

XX

xx = Product type marking code

Suggested PAD Layout

SIZE	SOD-123	
	(mm)	(inch)
A	1.22	0.048
B	0.91	0.036
C	2.36	0.093
D	4.19	0.165

Note:
1. The pad layout is for reference purposes only.

Standard Packaging

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

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