

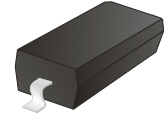
# CDBW120R-HF Thru. CDBW1100R-HF

Reverse Voltage: 20 to 100 Volts

Forward Current: 1.0 Amp

RoHS Device

Halogen Free

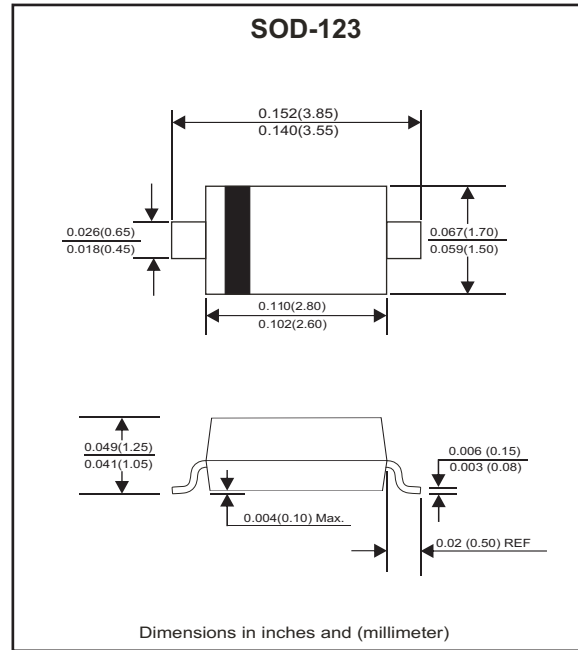


## Features

- Low Profile surface mount applications in order to optimize board space.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- Guard ring for overvoltage protection.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.

## Mechanical data

- Epoxy: UL94-V0 rate flame retardant.
- Case: Molded plastic, SOD-123
- Terminals: Solderable per MIL-STD-750, method 2026.
- Polarity: Indicated by cathode band.
- weight: 0.010 grams(Approx.)



## Circuit Diagram



## Maximum Ratings and Electrical Characteristics

Ratings at Ta=25°C unless otherwise noted.  
Single phase, half wave, 60Hz, resistive or inductive loaded.  
For capacitive load, derate current by 20% .

Parameter	Symbol	CDBW 120R-HF	CDBW 130R-HF	CDBW 140R-HF	CDBW 160R-HF	CDBW 1100R-HF	Units
Max. Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	20	30	40	60	100	V
Max. DC Blocking Voltage	V <sub>DC</sub>	20	30	28	42	70	V
Max. RMS voltage	V <sub>RMS</sub>	14	21	40	60	100	V
Max. Instantaneous Forward Voltage @ 1.0A, T <sub>A</sub> =25°C	V <sub>F</sub>	0.52		0.55	0.75	0.86	V
Operating Temperature	T <sub>J</sub>	-50 to +150					°C

Parameter	Conditions	Symbol	MIN.	TYP.	MAX.	Units
Forward Rectified Current	See Fig.1	I <sub>o</sub>			1.0	A
Forward Surge Current	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	I <sub>FSM</sub>			5.5	A
Reverse Current	V <sub>R</sub> =V <sub>RRM</sub> T <sub>A</sub> =25°C	I <sub>R</sub>			0.1	mA
	V <sub>R</sub> =V <sub>RRM</sub> T <sub>A</sub> =100°C	I <sub>R</sub>			20	mA
Thermal Resistance	Junction to ambient	R <sub>θJA</sub>		88		°C/W
Diode Junction Capacitance	f=1MHz and applied 4V DC reverse Voltage	C <sub>J</sub>		120		pF
Storage Temperature		T <sub>STG</sub>	-50		+150	°C

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

REV: A

## RATING AND CHARACTERISTIC CURVES (CDBW120R-HF thru. CDBW1100R-HF)

Fig.1- Typical Forward Current Derating Curve

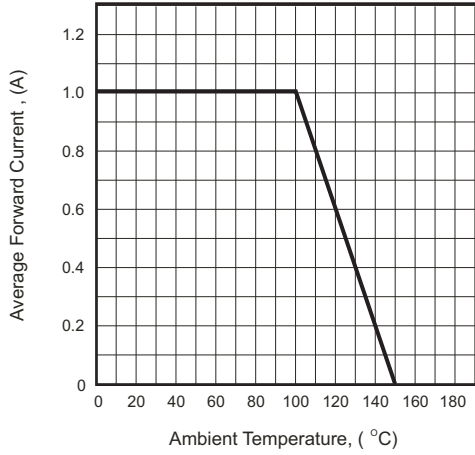


Fig.2- Typical Forward Characteristics

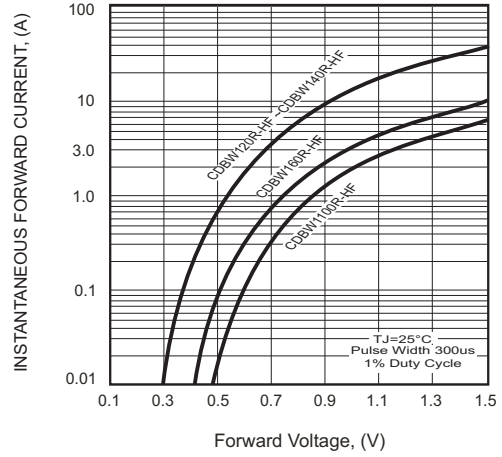


Fig.3- Typical Junction Capacitance

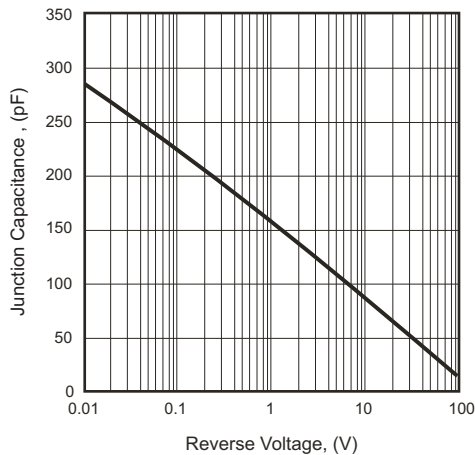
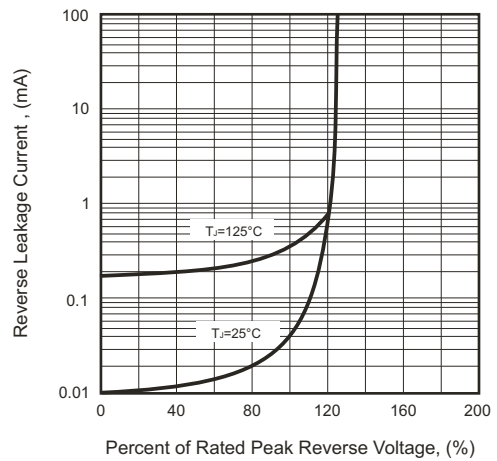
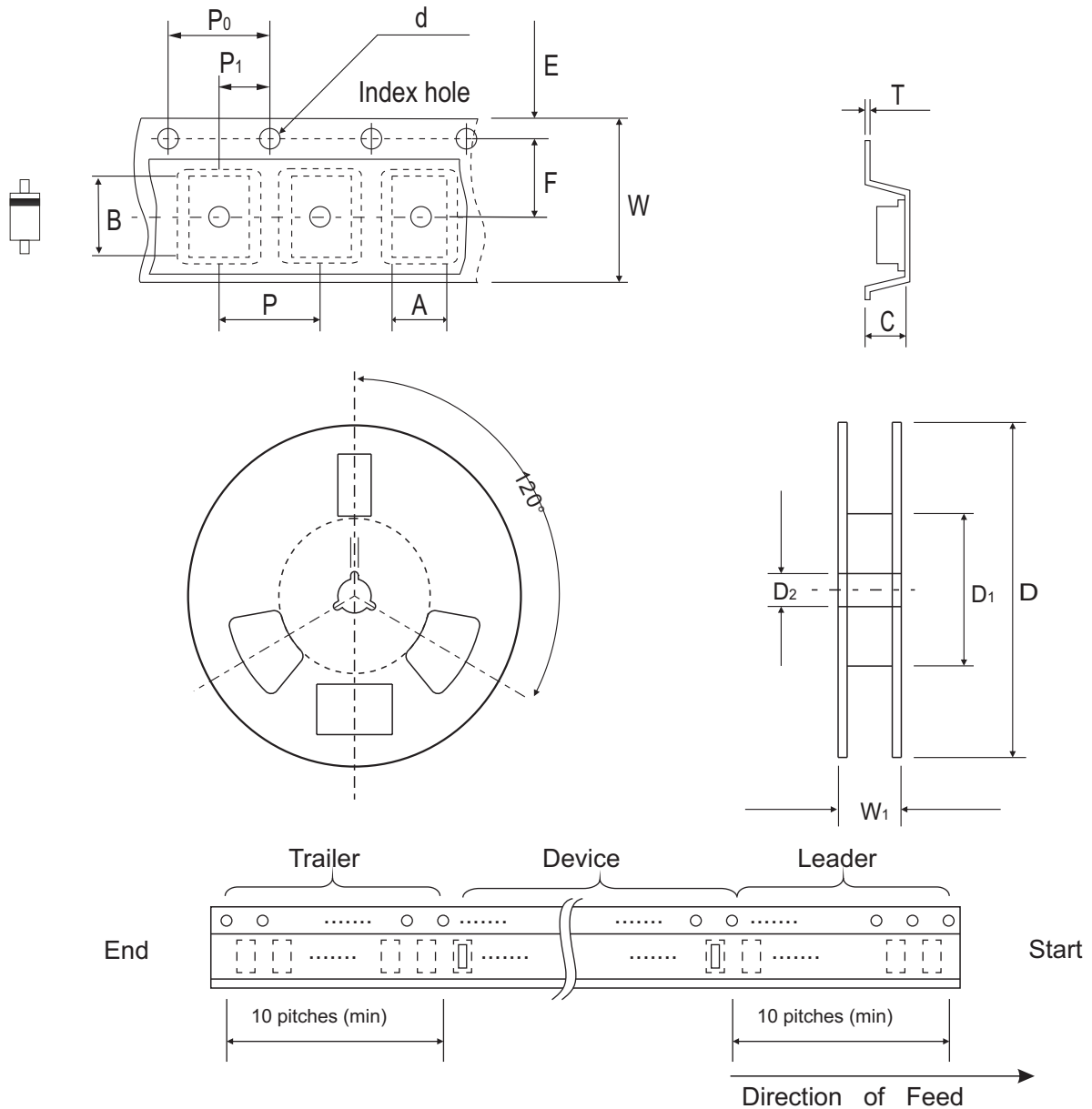


Fig.4- Typical Reverse Characteristics



## Reel Taping Specification



SOD-123	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	1.85 ± 0.10	3.94 ± 0.10	1.57 ± 0.10	1.55 ± 0.10	178 ± 1.00	54.40 ± 0.40	13.0 ± 0.20
	(inch)	0.073 ± 0.004	0.155 ± 0.004	0.062 ± 0.004	0.061 ± 0.004	7.008 ± 0.039	2.142 ± 0.016	0.512 ± 0.008

SOD-123	SYMBOL	E	F	P	P0	P1	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	8.00 + 0.30 / - 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 ± 0.004	0.315 + 0.012 / - 0.004	0.374 ± 0.039

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## Marking Code

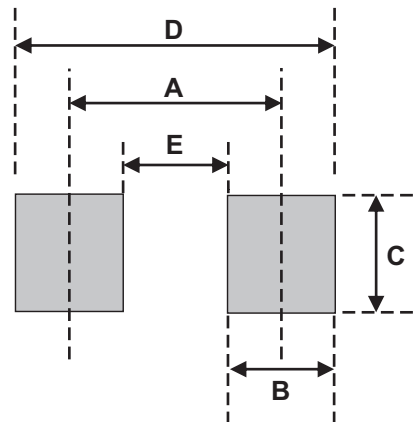
Part Number	Marking Code
CDBW120R-HF	SJ
CDBW130R-HF	SK
CDBW140R-HF	SL
CDBW160R-HF	SM
CDBW1100R-HF	SN



xx= Product type marking code

## Suggested PAD Layout

SIZE	SOD-123	
	(mm)	(inch)
A	3.35	0.132
B	0.80	0.031
C	1.00	0.039
D	4.15	0.163
E	2.55	0.100



## Standard Packaging

Case Type	Qty Per Reel	Reel Size
	(Pcs)	(inch)
SOD-123	3,000	7