

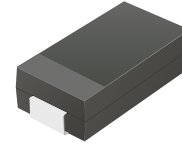
# CDBC120SL-HF Thru. CDBC140SL-HF

Reverse Voltage: 20 to 40 Volts

Forward Current: 1.0 Amp

RoHS Device

Halogen Free

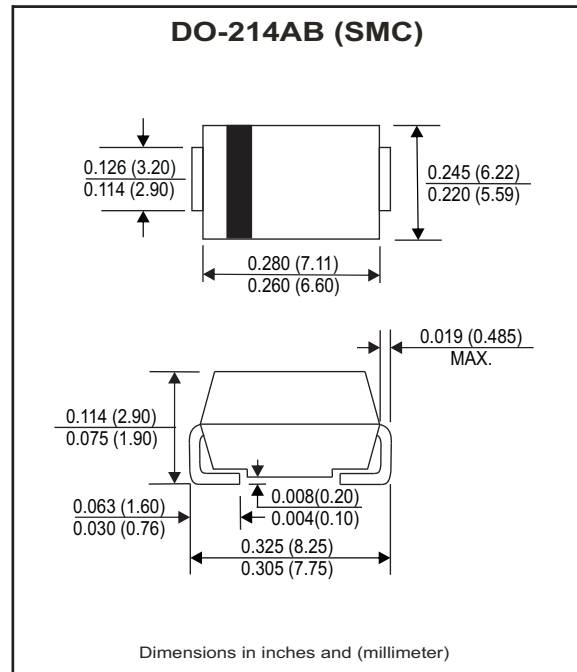


## Features

- 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.
- Guardring 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, DO-214AB / SMC
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Polarity: Indicated by cathode band.
- weight: 0.226 grams



## 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	CDBC120SL-HF	CDBC130SL-HF	CDBC140SL-HF	Units
Max. Repetitive peak reverse voltage	V <sub>RRM</sub>	20	30	40	V
Max. DC blocking voltage	V <sub>DC</sub>	20	30	40	V
Max. RMS voltage	V <sub>RMS</sub>	14	21	28	V
Max. instantaneous forward voltage @1.0A, T <sub>A</sub> =25°C	V <sub>F</sub>	0.33			V
Operating Temperature	T <sub>J</sub>	-50 to +100			°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>			30	A
Reverse current	V <sub>R</sub> =V <sub>RRM</sub> T <sub>A</sub> =25°C	I <sub>R</sub>			1.0	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>		70		°C/W
Diode junction capacitance	f=1MHz and applied 4V DC reverse Voltage	C <sub>J</sub>		160		pF
Storage temperature		T <sub>STG</sub>	-50		+150	°C

## RATING AND CHARACTERISTIC CURVES (CDBC120SL-HF Thru. CDBC140SL-HF)

Fig.1 - Typical Forward Current Derating Curve

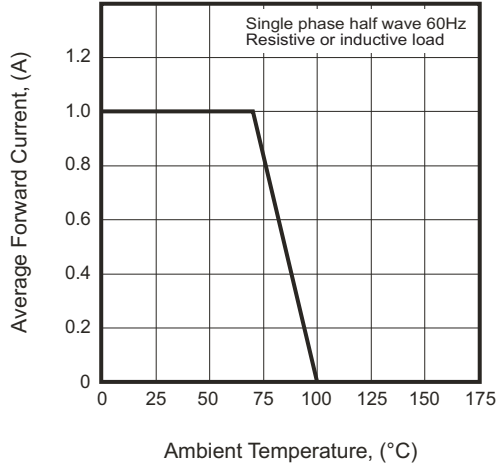


Fig.2 - Typical Forward Characteristics

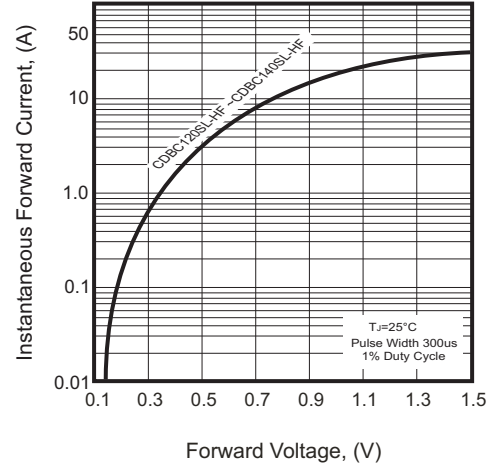


Fig.3 - Maximum Non-repetitive Forward Surge Current

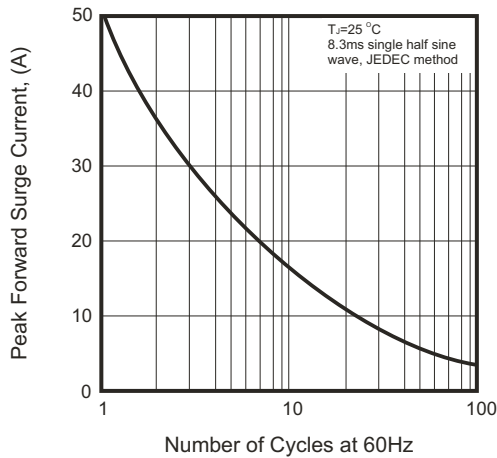


Fig.4 - Typical Junction Capacitance

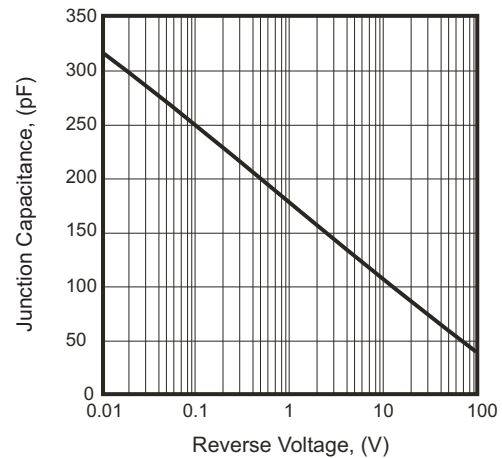
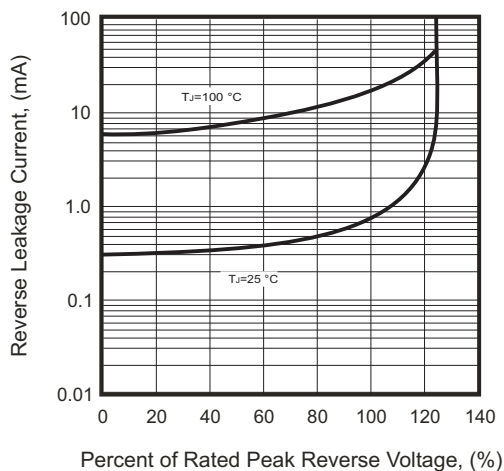
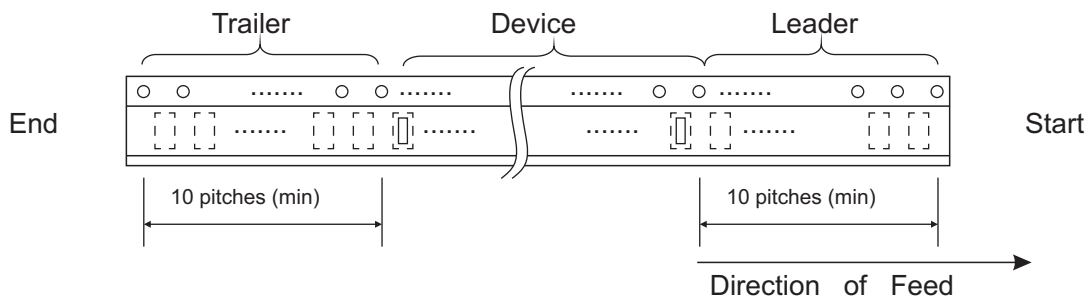
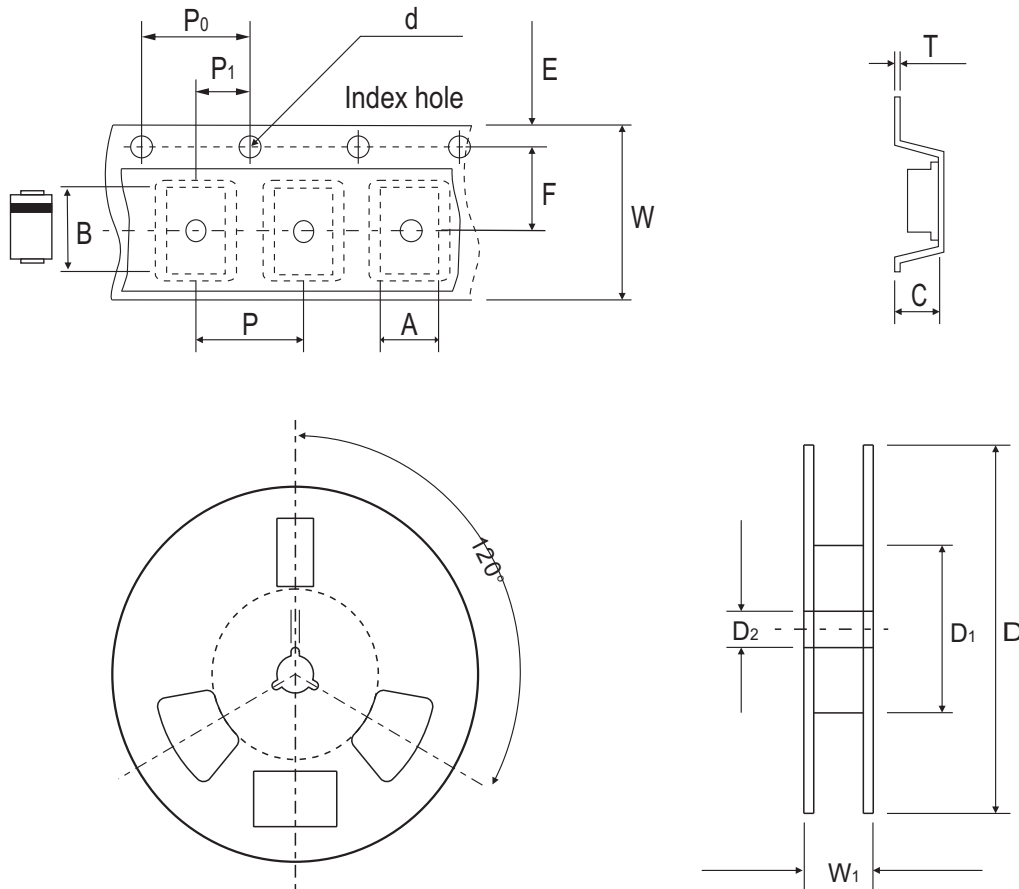


Fig.5 - Typical Reverse Characteristics



## Reel Taping Specification

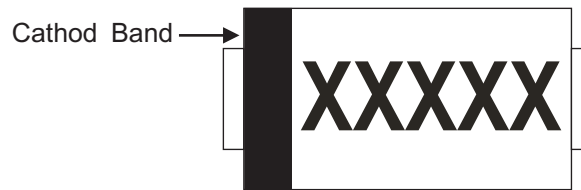


DO-214AB (SMC)	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	6.30 ± 0.10	8.60 ± 0.10	2.90 ± 0.10	1.50 ± 0.10	330 ± 2.00	50.0 MIN.	13.50 ± 0.50
	(inch)	0.248 ± 0.004	0.339 ± 0.004	0.114 ± 0.004	0.059 ± 0.004	12.99 ± 0.079	1.969 MIN.	0.531 ± 0.020

DO-214AB (SMC)	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	7.50 ± 0.10	8.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.60 ± 0.10	16.00 ± 0.30	22.40 ± 1.00
	(inch)	0.069 ± 0.004	0.295 ± 0.004	0.315 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.236 ± 0.004	0.630 ± 0.012	0.882 ± 0.039

## Marking Code

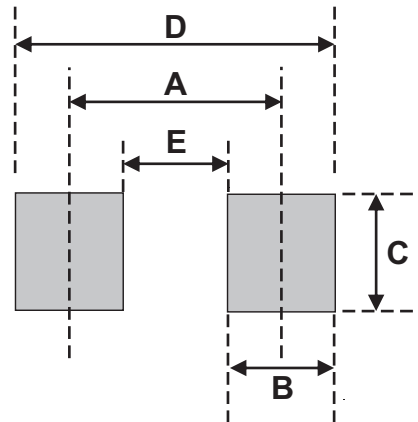
Part Number	Marking Code
CDBC120SL-HF	SLS12
CDBC130SL-HF	SLS13
CDBC140SL-HF	SLS14



xxxxxx = Product type marking code

## Suggested PAD Layout

SIZE	DO-214AB (SMC)	
	(mm)	(inch)
A	6.90	0.272
B	2.50	0.098
C	3.30	0.130
D	9.40	0.370
E	4.40	0.173



## Standard Packaging

Case Type	REEL PACK	
	REEL ( pcs )	Reel Size (inch)
DO-214AB (SMC)	3,000	13