



# THE DATASHEET OF CDBB540-G



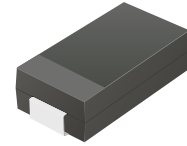
## CDBB540-HF Thru. CDBB5100-HF

Reverse Voltage: 40 to 100 Volts

Forward Current: 5.0 Amp

RoHS Device

Halogen Free

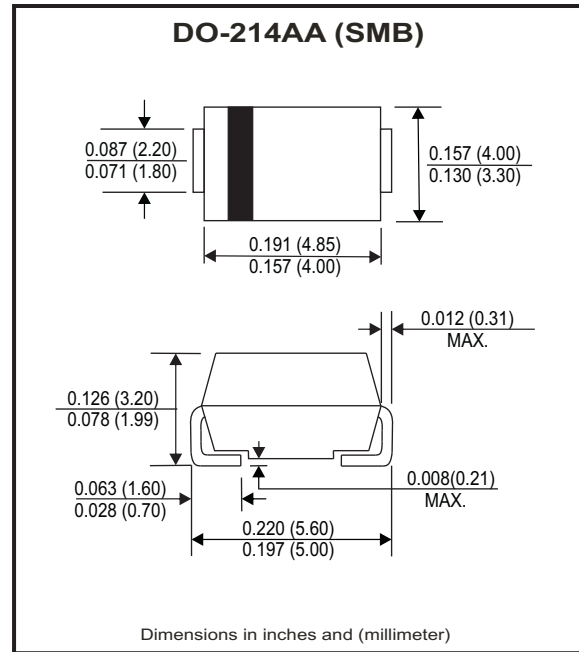


### Features

- 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, DO-214AA / SMB
- Terminals: solderable per MIL-STD-750, method 2026.
- Polarity: Indicated by cathode band.
- Weight: 0.091 grams



### Maximum Ratings and Electrical Characteristics

Ratings at  $T_a=25^{\circ}\text{C}$  unless otherwise noted.  
Single phase, half wave, 60Hz, resistive or inductive loaded.  
For capacitive load, derate current by 20% .

Parameter	Symbol	CDBB 540-HF	CDBB 560-HF	CDBB 5100-HF	Units
Max. Repetitive peak reverse voltage	$V_{RRM}$	40	60	100	V
Max. DC blocking voltage	$V_{DC}$	40	60	100	V
Max. RMS voltage	$V_{RMS}$	28	42	70	V
Max. instantaneous forward voltage @5.0A, $T_A=25^{\circ}\text{C}$	$V_F$	0.55	0.75	0.81	V
Operating Temperature	$T_J$	-50 to +150			$^{\circ}\text{C}$

Parameter	Conditions	Symbol	MIN.	TYP.	MAX.	Units
Forward rectified current	see Fig.1	$I_o$			5.0	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	$I_{FSM}$			125	A
Reverse Current	$V_R = V_{RRM}$ $T_A=25^{\circ}\text{C}$	$I_R$			0.5	mA
	$V_R = V_{RRM}$ $T_A=100^{\circ}\text{C}$	$I_R$			20	mA
Thermal Resistance	Junction to ambient	$R_{\theta JA}$		24		$^{\circ}\text{C}/\text{W}$
Diode Junction capacitance	f=1MHz and applied 4V DC reverse Voltage	$C_J$		380		pF
Storage temperature		$T_{STG}$	-50		+175	$^{\circ}\text{C}$

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

REV:D

## RATING AND CHARACTERISTIC CURVES (CDBB540-HF Thru. CDBB5100-HF)

Fig.1 - Typical Forward Current Derating Curve

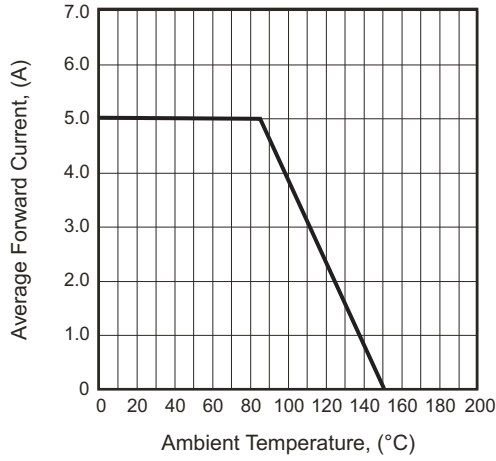


Fig.2 - Typical Forward Characteristics

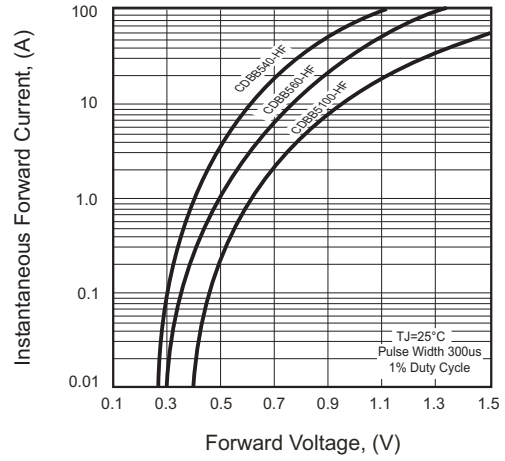


Fig.3 - Maximum Non-repetitive Forward Surge Current

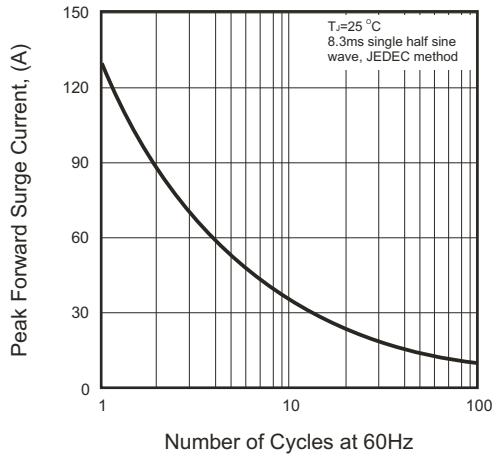


Fig.4 - Typical Junction Capacitance

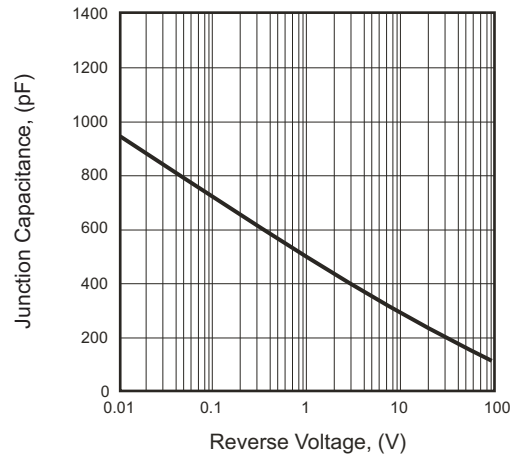
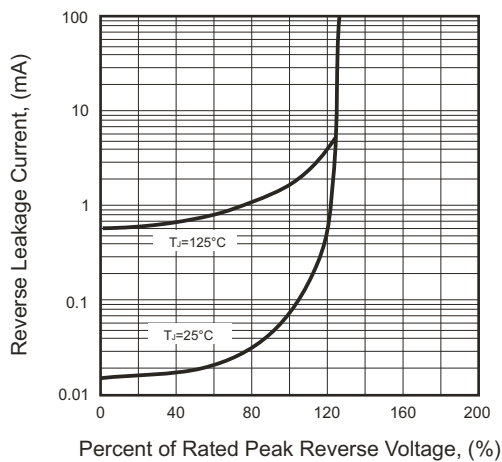
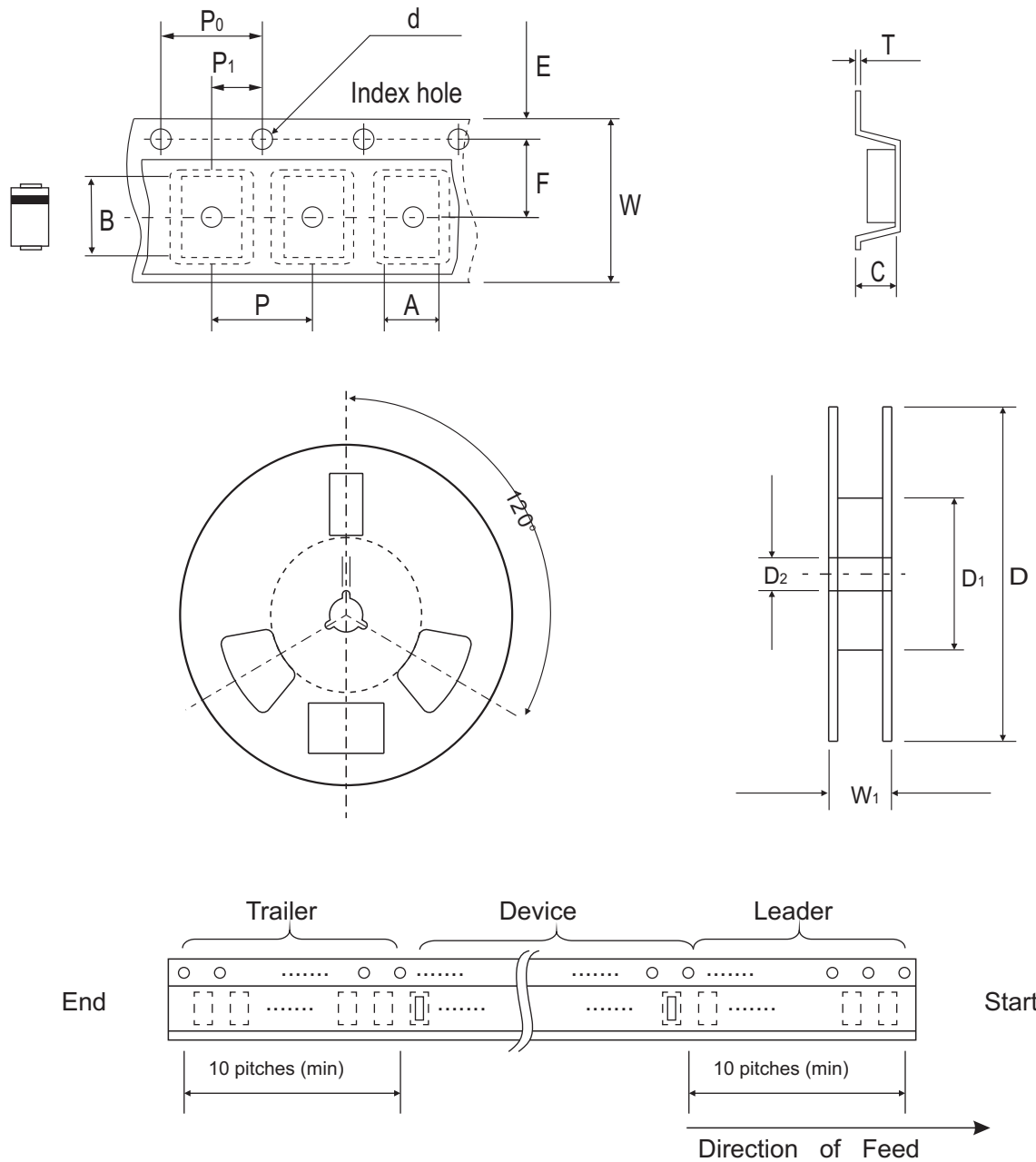


Fig.5 - Typical Reverse Characteristics



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## Reel Taping Specification



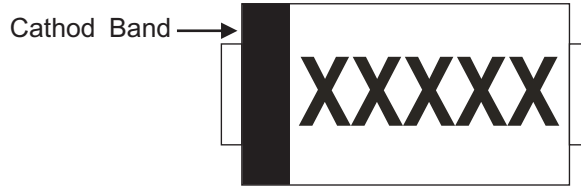
DO-214AA (SMB)	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	4.00 ± 0.10	5.90 ± 0.10	3.00 ± 0.10	1.50 ± 0.10	330 ± 2.00	50.0 MIN.	13.50 ± 0.50
	(inch)	0.157 ± 0.004	0.232 ± 0.004	0.118 ± 0.004	0.059 ± 0.004	12.99 ± 0.079	1.969 MIN.	0.531 ± 0.020

DO-214AA (SMB)	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	5.50 ± 0.10	8.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.60 ± 0.10	12.0 ± 0.30	18.4 ± 1.00
	(inch)	0.069 ± 0.004	0.217 ± 0.004	0.315 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.236 ± 0.004	0.472 ± 0.012	0.724 ± 0.040

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## Marking Code

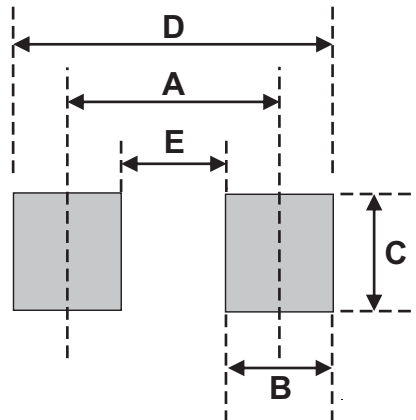
Part Number	Marking Code
CDBB540-HF	SS54
CDBB560-HF	SS56
CDBB5100-HF	SS510



XXXX / XXXXX = Product type marking code

## Suggested PAD Layout

SIZE	DO-214AA (SMB)	
	(mm)	(inch)
A	4.30	0.169
B	2.50	0.098
C	2.30	0.091
D	6.80	0.268
E	1.80	0.071





## Standard Packaging

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

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