

## CDBS120-HF Thru. CDBS160-HF

Forward current: 1.0A

Reverse voltage: 20 to 60V

RoHS Device  
Halogen Free

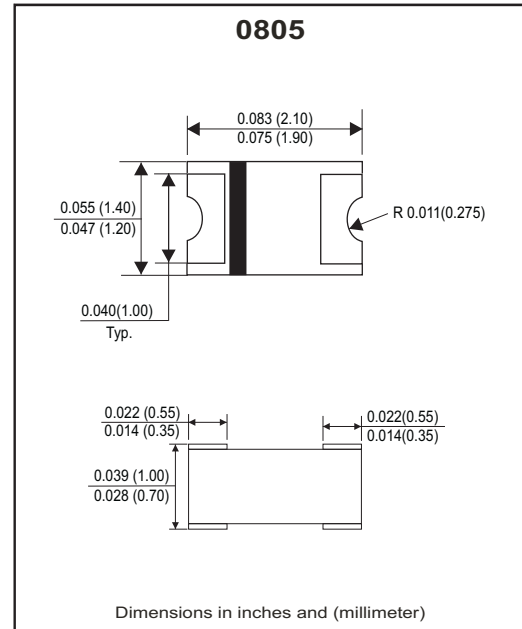


### Features

- Low power loss, High efficiency.
- High current capability, low VF
- Plastic package has underwriters laboratory flammability classification 94V-0.

### Mechanical Data

- Case: Packed with FRP substrate and epoxy underfilled.
- Terminals: Pure Tin plated (Lead-Free),solderable per MIL-STD-750, method 2026.
- Polarity: Laser cathode band marking.
- Weight: 0.005 grams (approx).



### Circuit diagram



### Maximum Ratings (At Ta=25°C, unless otherwise noted)

Parameter	Symbol	CDBS120-HF	CDBS140-HF	CDBS160-HF	Unit
Repetitive peak reverse voltage	$V_{RM}$	20	40	60	V
Average forward current	$I_{F(AV)}$	1			A
Peak forward surge current @8.3ms single half sine-wave	$I_{FSM}$	10			A
Operating junction temperature range	$T_J$	-55 to +125		-55 to +150	°C
Storage temperature	$T_{STG}$	-55 ~ +150			°C

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

Parameter	Conditions	Type	Symbol	Min.	Typ.	Max.	Unit
Forward voltage (Note1)	$I_F=0.1A$ $I_F=0.5A$ $I_F=1.0A$	CDBS120-HF	$V_F$	-	0.32	-	V
				-	0.39	-	
				-	0.42	0.45	
	$I_F=0.1A$ $I_F=0.5A$ $I_F=1.0A$	CDBS140-HF		-	0.33	-	
				-	0.40	-	
				-	0.47	0.50	
	$I_F=0.1A$ $I_F=0.5A$ $I_F=1.0A$	CDBS160-HF		-	0.38	-	
				-	0.50	-	
				-	0.62	0.65	
Reverse peak reverse current (Note1)	$V_R=Max.V_{RRM}, T_a=25^\circ C$		$I_{RRM}$	-	0.028	0.20	mA
Junction capacitance	$V_R=4V, f=1.0MHz$		$C_j$	-	115	-	pF
Thermal resistance	Junction to ambient (Note 2)		$R_{\theta JA}$	-	120	-	°C/W
	Junction to lead (Note 2)		$R_{\theta JL}$	-	28	-	°C/W

Notes: (1) Pulse test width  $p_w=300\mu sec$ , 1% duty cycle.

(2) Mounted on P.C. board with  $0.2 \times 0.2$  (5.0\*5.0mm) copper pad areas.

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

REV:A

## RATING AND CHARACTERISTIC CURVES (CDBS120-HF Thru. CDBS160-HF)

Fig.1- Typical Forward Current Derating Curve

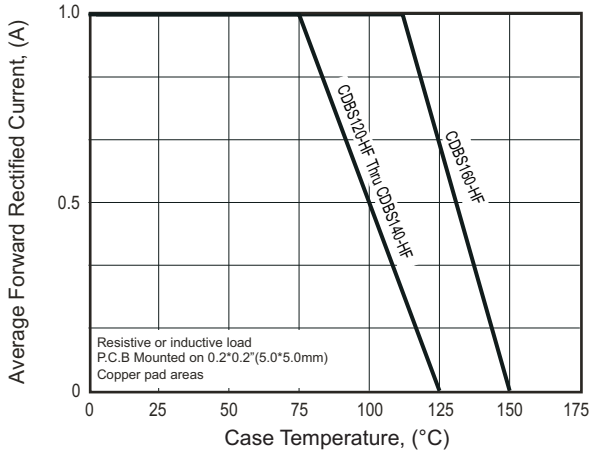


Fig.2- Maximum Non-Repetitive Peak Forward Surge Current

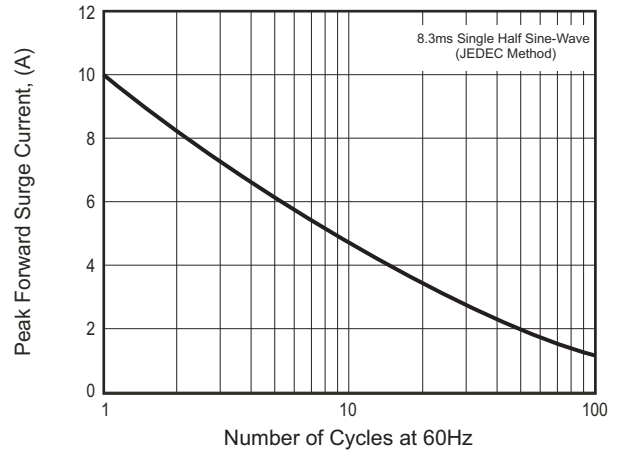


Fig.3- Typical Instantaneous Forward Characteristics

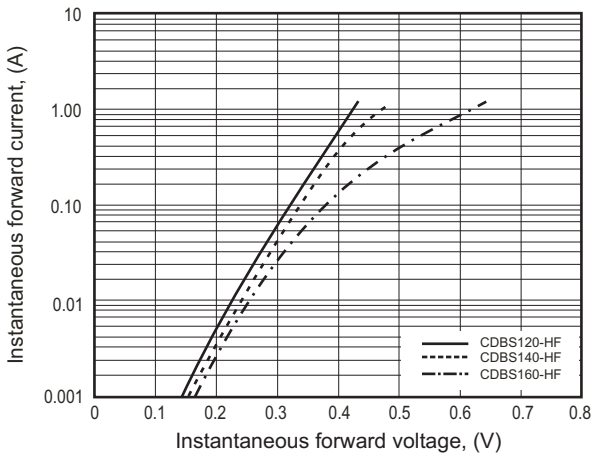


Fig.4- Typical Reverse Characteristics

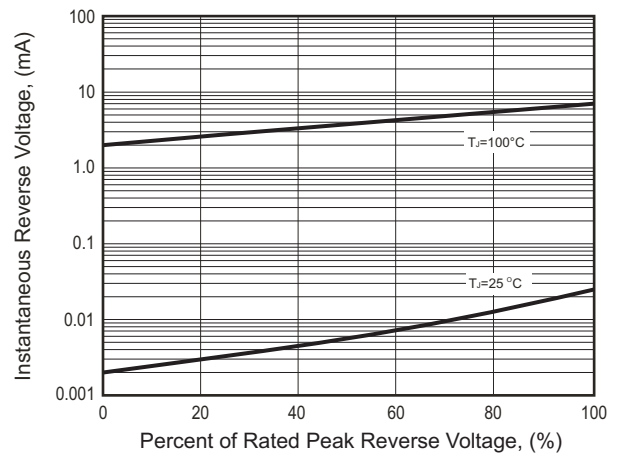
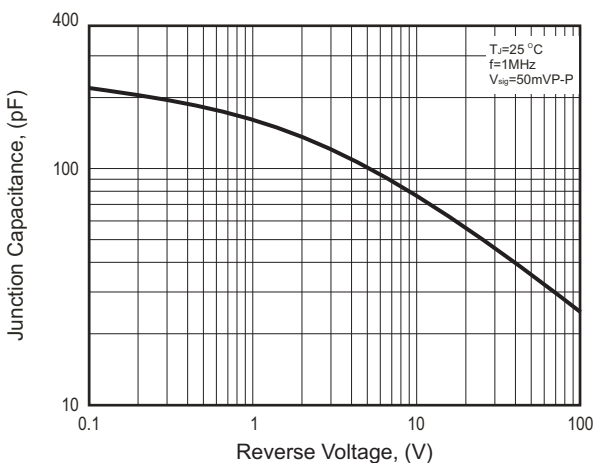
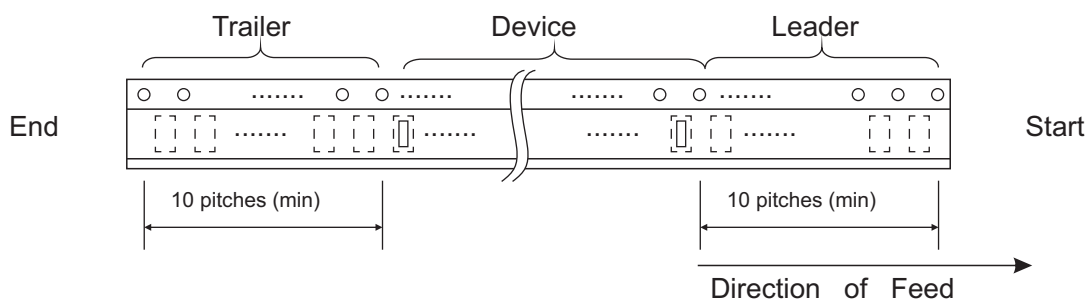
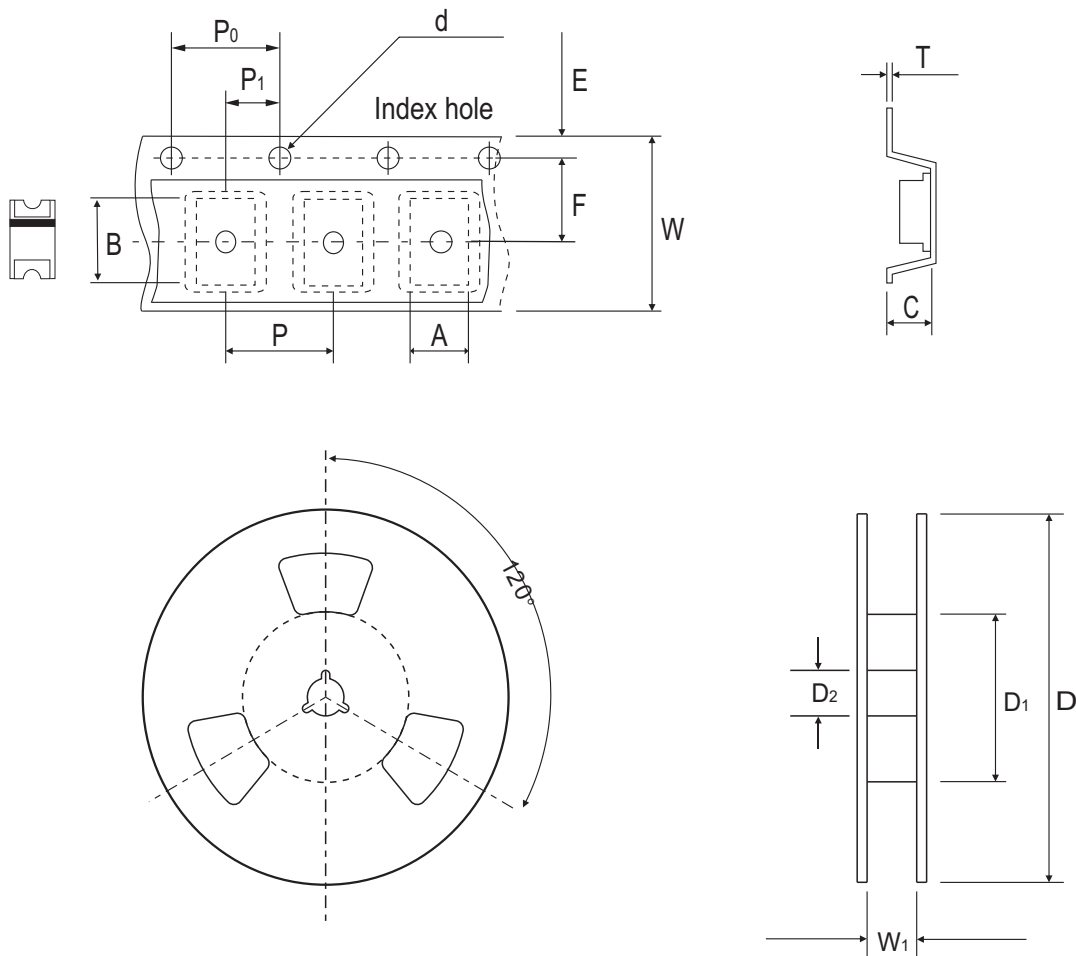


Fig.5- Typical Junction Capacitance



## Reel Taping Specification

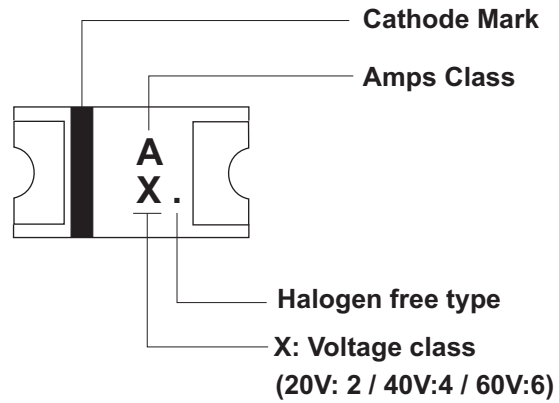


0805	SYMBOL	A	B	C	d	D	D <sub>1</sub>	D <sub>2</sub>
	(mm)	1.45 ± 0.10	2.25 ± 0.10	1.10 ± 0.10	1.50 ± 0.10	178 ± 2.00	60 ± 0.50	13.50 ± 0.50
	(inch)	0.057 ± 0.004	0.089 ± 0.004	0.043 ± 0.004	0.059 ± 0.004	7.008 ± 0.079	2.362 ± 0.020	0.531 ± 0.020

0805	SYMBOL	E	F	P	P <sub>0</sub>	P <sub>1</sub>	W	W <sub>1</sub>
	(mm)	1.75 ± 0.10	3.50 ± 0.05	8.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	8.00 ± 0.30	9.0 ± 0.50
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.315 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.315 ± 0.012	0.354 ± 0.02

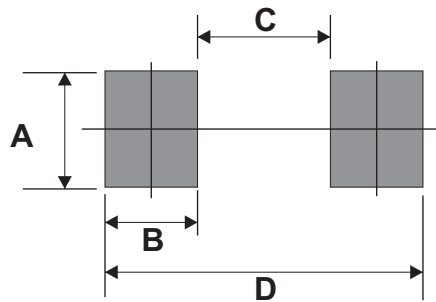
## Marking Code

Part Number	Marking Code
CDBS120-HF	A 2 .
CDBS140-HF	A 4 .
CDBS160-HF	A 6 .



## Suggested PAD Layout

SIZE	0805	
	(mm)	(inch)
<b>A</b>	0.90 MIN.	0.035 MIN.
<b>B</b>	0.80 MIN.	0.031 MIN.
<b>C</b>	1.30 MAX.	0.051 MAX.
<b>D</b>	2.90 REF.	0.114 REF.



## Standard Packaging

Case Type	REEL PACK	
	REEL ( pcs )	Reel Size (inch)
<b>0805</b>	3,000	7