

CDBHA10120-HF

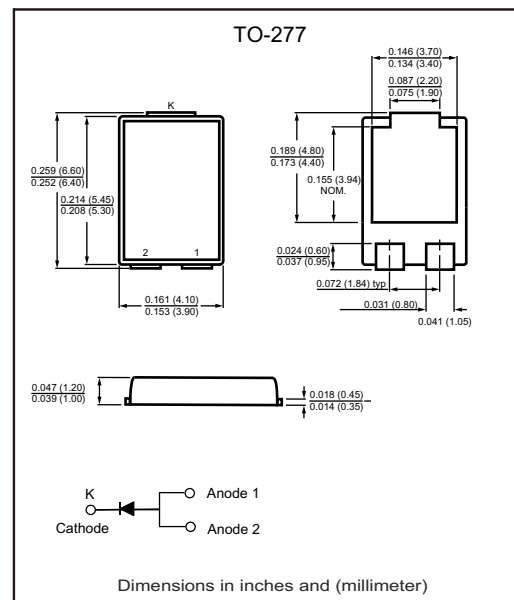
Reverse Voltage: 120 Volts
Forward Current: 10 Amp
RoHS Device
Halogen Free

Features

- Super Low Forward Voltage (SLVF ®) Drop
- Reliable High Temperature Operation
- Softest, fast switching capability
- 150 °C Operating Junction Temperature
- Lead Free Finish, RoHS Compliant
- Green Molding Compound (No Br, Sb)

Typical Applications

Device optimized for low forward voltage drop to maximize efficiency in Power Supply applications



Maximum Ratings and Electrical Characteristics (T_A = 25 °C unless otherwise specified)

Parameter	Symbol	Values	Units
DC Blocking Voltage	V _{RM}	120	Volts
Working Peak Reverse Voltage	V _{RWM}		
Peak Repetitive Reverse Voltage	V _{RRM}		
Average Rectified Forward Current Per device	I _O	10	Amps
Peak Forward Surge Current - 1/2 60hz	I _{FSM}	180	Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I _{RRM}	1	Amps
Typical Thermal Resistance			
Thermal Resistance junction to Ambient Note (1)	R θ _{JA}	72	°C / W
Thermal Resistance junction to Ambient Note (2)	R θ _{JA}	30	
Maximum Rate of Voltage Change (at Rated VR)	dv/dt	10000	V/uS
Operating Junction Temperature	T _J	- 40 to +150	°C
Storage Junction Temperature	T _{STG}	- 40 to +150	

Note: * Pulse width < 300 uS, Duty cycle < 2%

1. FR-4 PCB, 2 oz Copper. Minimum recommended pad layout
2. Polyimide PCB, 2 oz Copper. Cathode pad dimensions 18.8x14.4mm , Anode pad dimensions- (5.6x14.4mm)

Electrical Characteristics (per leg) ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

Parameter	Test Conditions		Symbol	Typ.	Max.	Units
Instantaneous Forward Voltage	IF = 5 A	T _J = 25 °C	VF*	0.55	-----	Volts
	IF = 10 A			0.68	0.74	
	IF = 5 A	T _J = 125 °C		0.49		
	IF = 10 A			0.59	0.65	
Instantaneous Reverse Current	VR=90V	T _J = 25 °C	IR*	5	-----	uA
	VR=120V			12	200	uA
	VR=90V	T _J = 125 °C		6	-----	mA
	VR=120V			13	30	mA

Note: * Pulse width < 300 uS, Duty cycle < 2%

Rating and Characteristics Curves ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

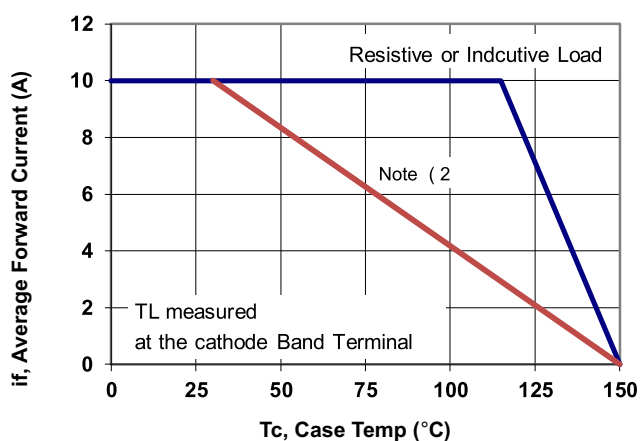


Figure 1: Current Derating, Case

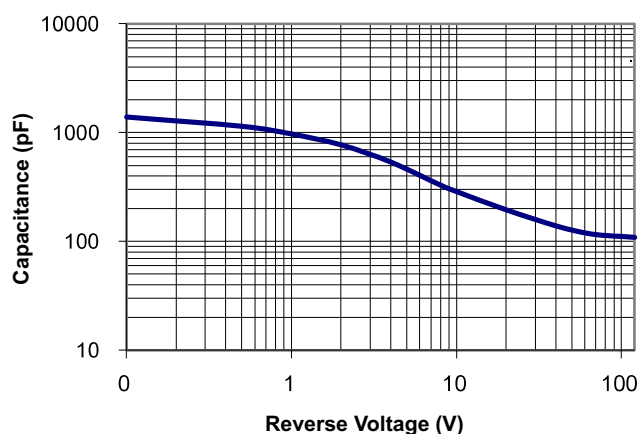


Figure 2: Typical Junction Capacitance

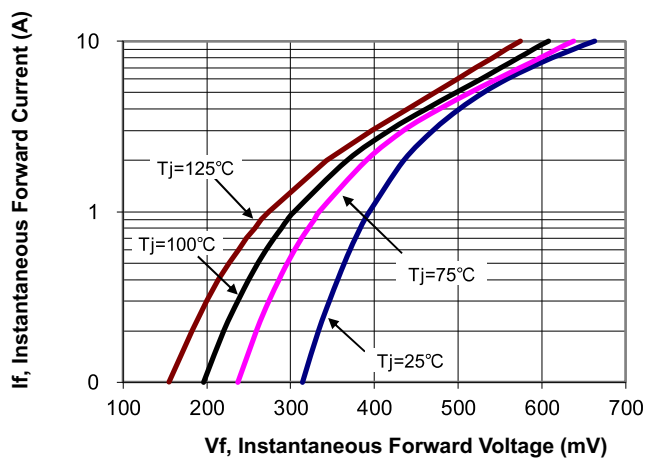


Figure 3: Typical Forward Voltage

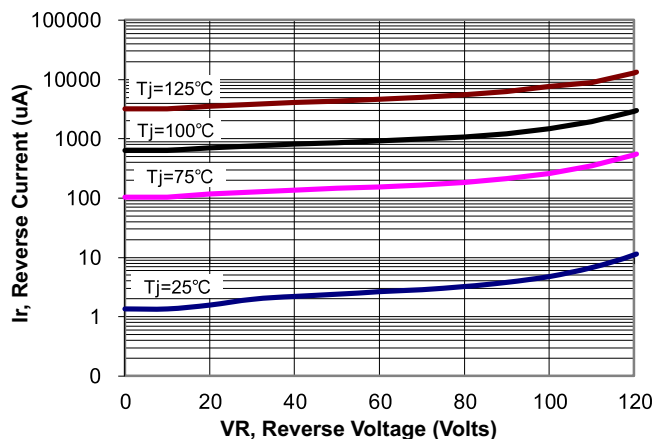
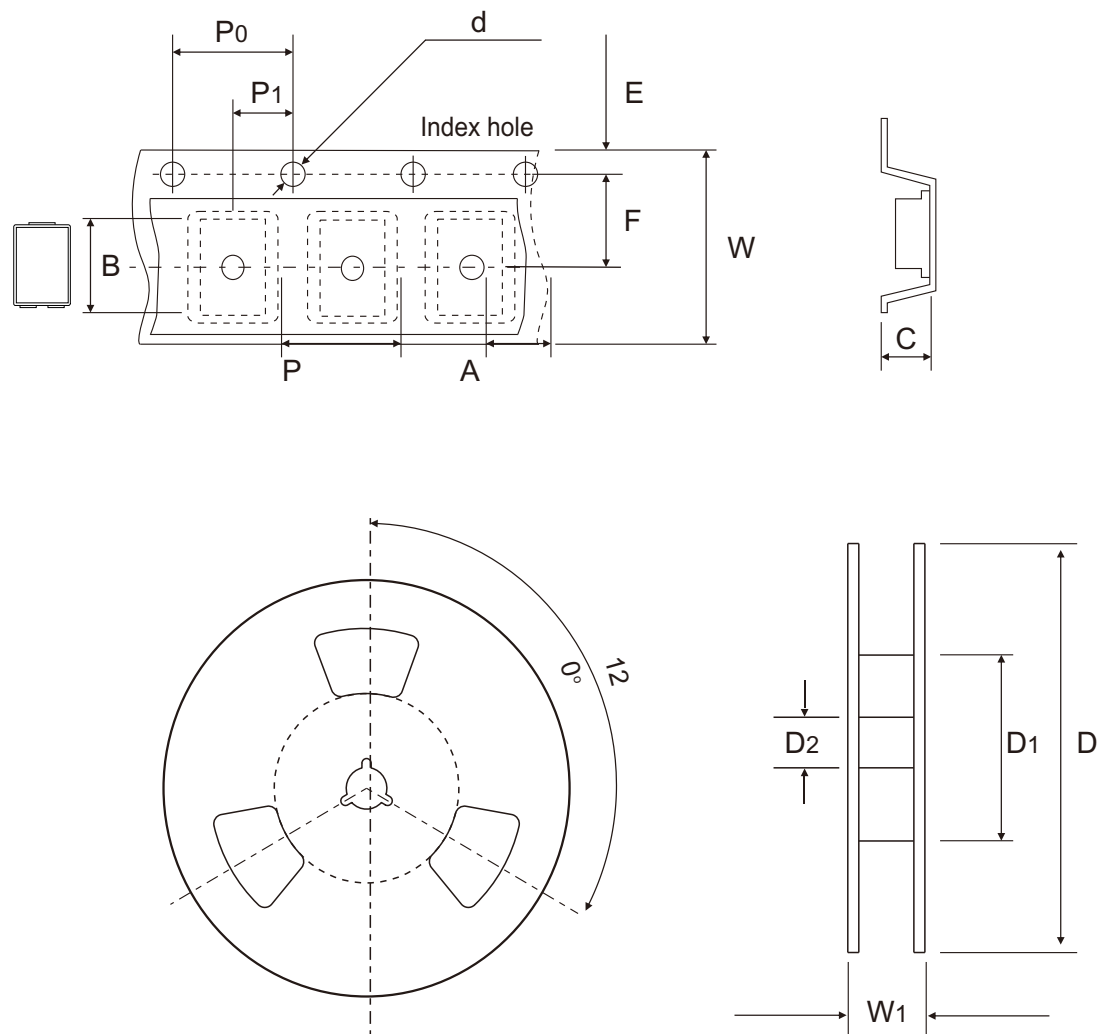


Figure 4: Typical Reverse Current

Reel Taping Specification

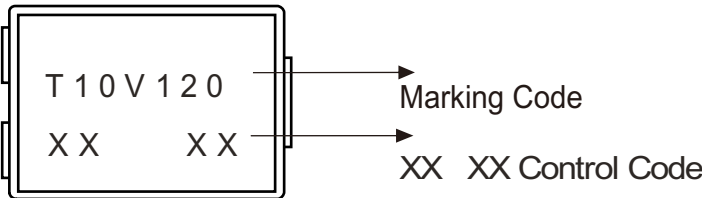


TO-277	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	4.40 ± 0.10	7.00 ± 0.10	1.40 ± 0.10	1.50 ± 0.10	330 ± 2.00	75.00 MIN.	13.50 ± 0.10
	(inch)	0.173 ± 0.004	0.275 ± 0.004	0.055 ± 0.004	0.059 ± 0.004	12.992 ± 0.079	2.952 MIN.	0.531 ± 0.004

TO-277	SYMBOL	E	F	P	P0	P1	W	W1
	(mm)	1.75 ± 0.10	7.50 ± 0.10	8.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	16.00 ± 0.30	22.7 ± 1.50
	(inch)	0.069 ± 0.004	0.295 ± 0.004	0.315 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.630 ± 0.018	0.894 ± 0.06

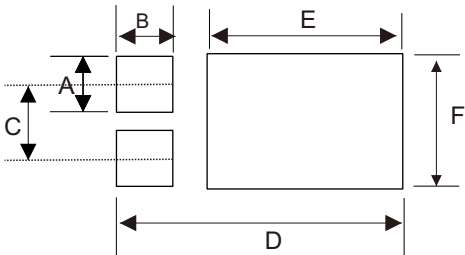
Marking Code

Part Number	Marking code
CDBHA10120-HF	T10V120



Suggested PAD Layout

SIZE	TO-277	
	(mm)	(inch)
A	1.40	0.055
B	1.40	0.055
C	1.84	0.072
D	7.15	0.281
E	4.90	0.193
F	3.40	0.134



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
CDBHA10120-HF	5,000	13