



Micro Commercial Components



Micro Commercial Components  
20736 Marilla Street Chatsworth  
CA 91311  
Phone: (818) 701-4933  
Fax: (818) 701-4939

# CLD20B

## 20mA Current Limiting Diode

### Features

- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Wide operating voltage range
- Immediate turn-on
- Negative temperature coefficient
- ESD Protected up to 6KV (HBM)

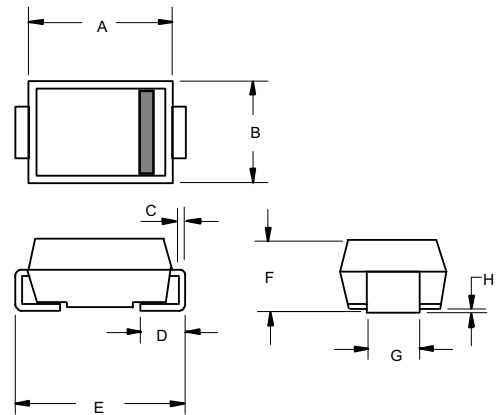
### Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C

RATING	SYMBOL	VALUE	UNITS
Anode-Cathode Voltage	V <sub>AK</sub> max	45	V
Reverse Voltage	V <sub>R</sub>	500	mV

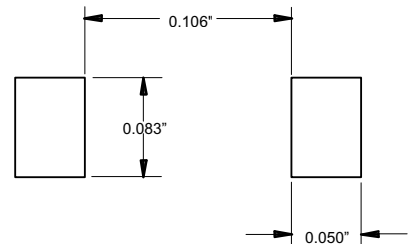
Notes: 1. High Temperature Solder Exemption Applied, see EU Directive Annex Notes 7.

### DO-214AA (SMB) (LEAD FRAME)



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	.160	.185	4.06	4.70	
B	.130	.155	3.30	3.94	
C	.006	.012	0.15	0.31	
D	.030	.060	0.76	1.52	
E	.200	.220	5.08	5.59	
F	.079	.096	2.00	2.44	
G	.075	.087	1.91	2.21	
H	.002	.008	0.05	0.203	

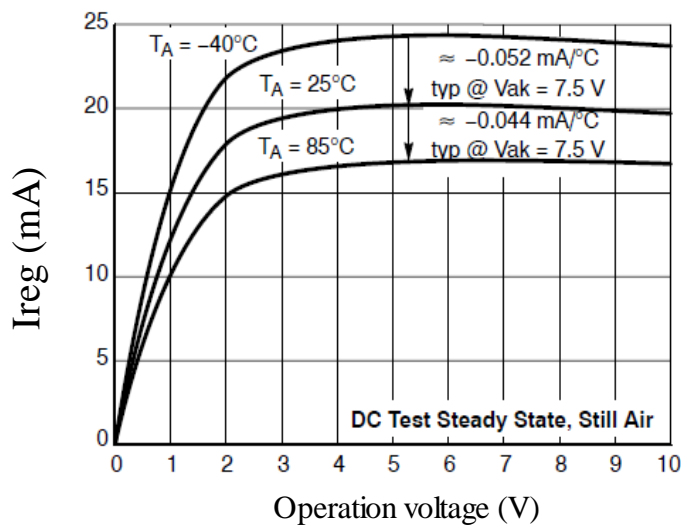
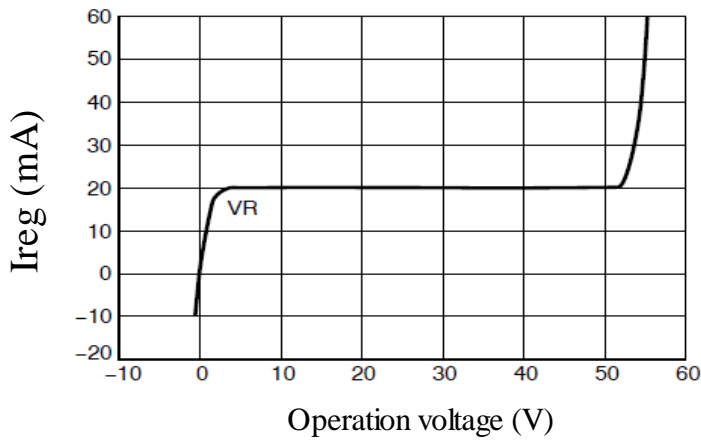
### SUGGESTED SOLDER PAD LAYOUT



## ELECTRICAL CHARACTERISTICS @25°C

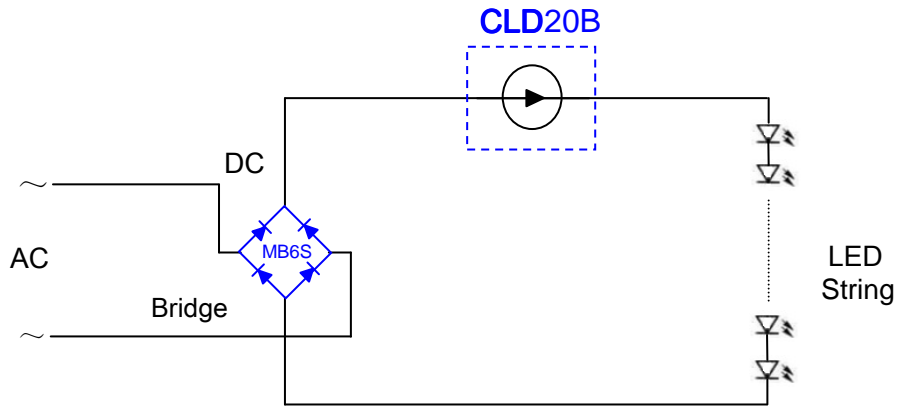
Part number	Steady Current I <sub>reg</sub> (SS)			Limiting Voltage @ 80% I <sub>reg</sub>	Test Voltage	Peak Operating Voltage	Rating Voltage
	Min (mA)	Typ. (mA)	Max (mA)				
CLD20B	17	20	23	4.5	10	45	25

Performance curve for Current Limiting Diode



# CLD20B

## Application



Type Application Circuit  
( 20mA each LED String)

Number of LED's that can be connected is determined by:

$$\text{LEDs} = (\text{Vdc} - \text{Vak}) / \text{LED } V_F$$

Example:  $V_{ac} = 110V$ ,  $CLD V_{ak} = 45V$ ,  $LED V_F = 3.5V @ 20mA$

Using our [P/N:MB6S](#) bridge for whole wave rectifier

After rectifier, Output  $V_{dc} = 150V$

$(150V_{dc} - 45V_{dc}) / 3.5V_{dc} = 30$  LEDs in series.



Micro Commercial Components

## Ordering Information

Device	Packing
(Part Number)-TP	Tape&Reel:3Kpcs/Reel

### \*\*\*IMPORTANT NOTICE\*\*\*

**Micro Commercial Components Corp.** reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . **Micro Commercial Components Corp .** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp .** and all the companies whose products are represented on our website, harmless against all damages.

### \*\*\*LIFE SUPPORT\*\*\*

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

### \*\*\*CUSTOMER AWARENESS\*\*\*

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.

[www.mccsemi.com](http://www.mccsemi.com)