



Micro Commercial Components



Micro Commercial Components  
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# 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 ture-on
- Negative temperature coefficient
- ESD Protected up to 6KV (HBM)

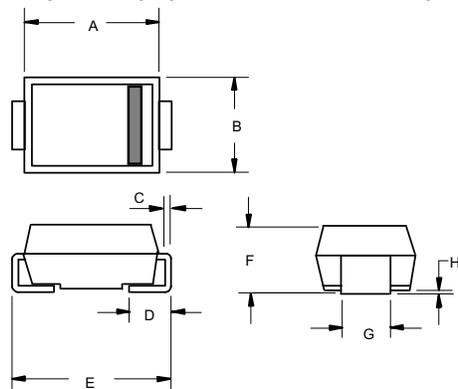
### Maximum Ratings

- 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

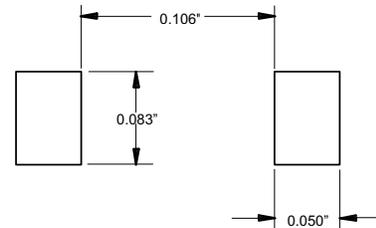
Notes: 1. High Temperature Solder Exemption Applied, see EU Directive Annex Notes 7.

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



DIM	INCHES		MM		NOTE
	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

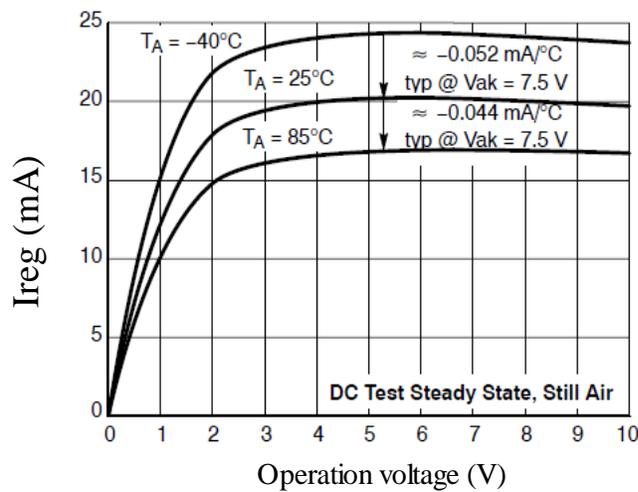
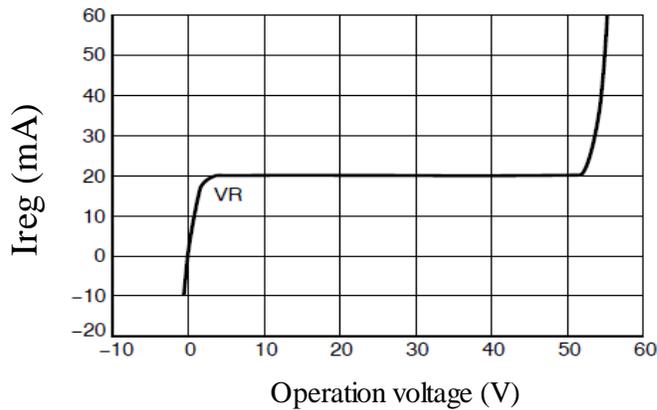


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## ELECTRICAL CHARACTERISTICS @25°C

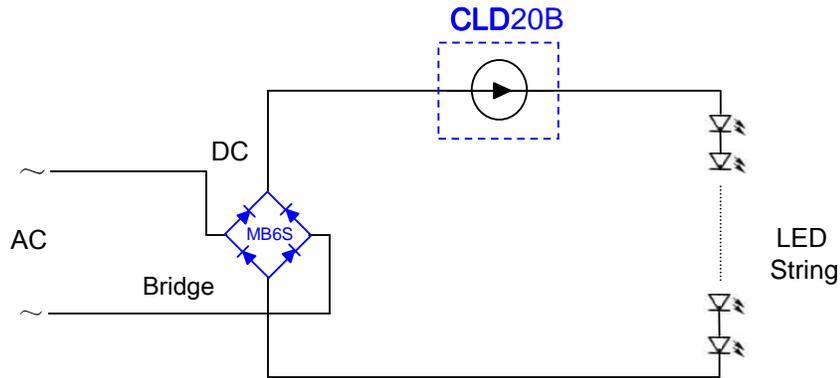
Part number	Steady Current $I_{reg}(SS)$			Limiting Voltage @ 80% $I_{reg}$	Test Voltage	Peak Operating Voltage	Rating Voltage
	Min (mA)	Typ. (mA)	Max (mA)	Max (V)	(V)	(V)	Max (V)
CLD20B	17	20	23	4.5	10	45	25

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.

## Ordering Information

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

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