

# PRODUCT SPECIFICATION

*Part Number*  
**PDC56B-CxDxxx**

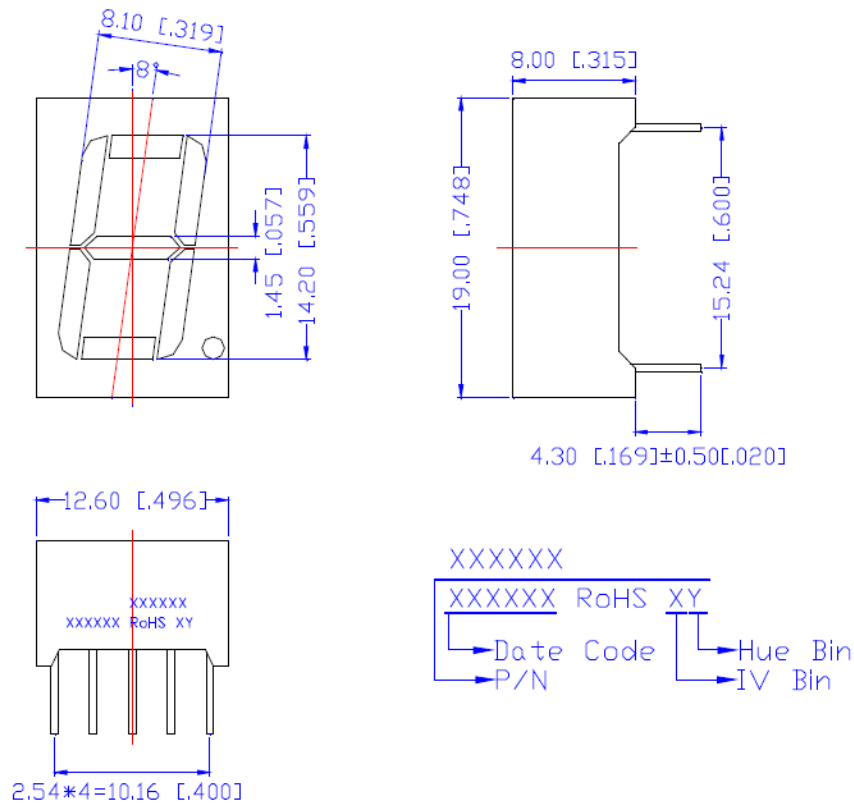
## Details

- 0.56" (14.20mm) LED Display
- 1 Digit, 7 Segment
- Common Anode or Common Cathode
- AlInGaP or InGaN dice used

## Features

- Low power consumption
- RoHS Compliant
- Gray Face, White Segments or Black Face, White Segments
- Easy mounting on PCB or socket

## Mechanical Dimensions



## Notes:

1. Dimensions in millimeters [inch], and tolerance is ±0.25 [.010] unless otherwise noted.
2. Bending ≤ Length\*1%
3. All pins are ∅0.51 [.020] ± 0.1 [.004]
4. Specifications subject to change without notice





**Device Selection Guide**

Model Number		Chip		Note
Common Anode	Common Cathode	Material	Emitting Color	
PDC56B-CADG05	PDC56B-CCDG05	InGaN	Pure Green	Add “-BW” to end of part number for Black Surface with White Segments
PDC56B-CADG17	PDC56B-CCDG17	AlInGaP	Yellow Green	
PDC56B-CADY04	PDC56B-CCDY04		Yellow	
PDC56B-CADA11	PDC56B-CCDA11		Amber	
PDC56B-CADR02	PDC56B-CCDR02		Orange-Red	
PDC56B-CADR11	PDC56B-CCDR11		Red	
PDC56B-CADR21	PDC56B-CCDR21		Deep Red	

**Absolute Maximum Ratings at Ta=25 °C**

Parameter	Symbol	Rating		Unit
		G17/Y04/A11/R02/R11/R21	G05	
Power Dissipation per Dice	PAD	70	114	mW
Derating Liner from 25°C per Dice	--	0.33	0.4	mA/°C
Continuous Forward Current Per Dice	IAF	25	30	mA
Peak Current Per Dice (duty cycle 1/10, 1KHz)	IPF	90	100	mA
Reverse Voltage Per Dice	VR	5	5	V
Electrostatic Discharge (HBM)	ESD	/	1000	V
Operating Temperature	Topr	-35~+85		°C
Storage Temperature	Tstg	-35~+85		°C

Solder Conditions: 1/16 inch below seating plane for 3 -5 seconds at 260°C.



**Electrical and Optical Characteristics at Ta=25 °C**

Parameter	Symbol	Chip	Min.	Typ.	Max.	Unit	Condition
Forward Voltage Per Segment	VF	G05	--	3.2	3.8	V	IF=20mA
		G17/Y04/A11/ R02/R11/R21	--	2	2.8		
Luminous Intensity Per Segment	Iv	G05	--	218	--	mcd	IF=10mA
		G17	--	15	--		
		Y04	--	50	--		
		A11	--	70	--		
		R02	--	40	--		
		R11	--	30	--		
		R21	--	25	--		
Peak Emission Wavelength / Dominant Wavelength	$\lambda_P/\lambda_d$	G05	--	*525	--	nm	IF=20mA
		G17	--	572/570	--		
		Y04	--	592/590	--		
		A11	--	612/605	--		
		R02	--	632/625	--		
		R11	--	644/630	--		
		R21	--	660/645	--		
Reverse Current	IR		--	--	100	$\mu$ A	VR=5V
Luminous Intensity Matching Ratio	Iv-m		--	--	2:1	--	IF=10mA

**Luminous General lv Bin Grade (IF = 10mA)**
**Color Rank Limits (IF=10mA)**

Remark: Unit=mcd

\*Tolerance: ±20%

Remark: Unit=nm

\*Tolerance: ±1

**● Pure Green (G05)**

Q	R	S
112.889	180.623	288.997
I	I	I
180.622	288.996	462.396

1	2	3	4	5
515.0	518.0	520.0	522.0	524.0
I	I	I	I	I
518.0	520.0	522.0	524.0	527.0

**● Yellow Green (G17)**

J	K	L
6.727	10.764	17.224
I	I	I
10.763	17.223	27.558

0	1	2	3	4
567.5	569.5	570.5	571.5	573.0
I	I	I	I	I
569.5	570.5	571.5	573.0	575.0

**● Yellow (Y04)**

M	N	P
27.559	44.096	70.555
I	I	I
44.095	70.554	112.888

1	2	3	4	5
583.0	585.0	587.0	589.0	591.0
I	I	I	I	I
585.0	587.0	589.0	591.0	593.0

**● Amber (A11)**

M	N	P
27.559	44.096	70.555
I	I	I
44.095	70.554	112.888

**● Orange-Red (R02)**

L	M	N
17.224	27.559	44.096
I	I	I
27.558	44.095	70.554

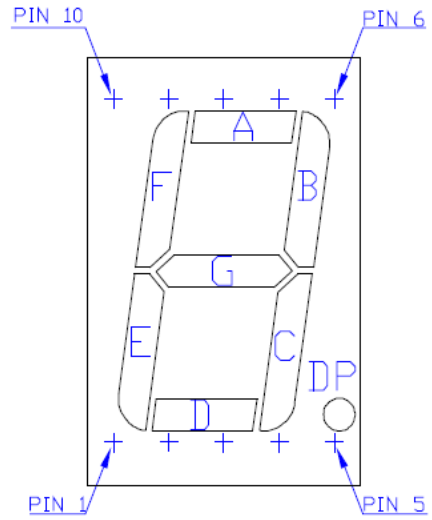
**● Red (R11)**

K	L	M
10.764	17.224	27.559
I	I	I
17.223	27.558	44.095

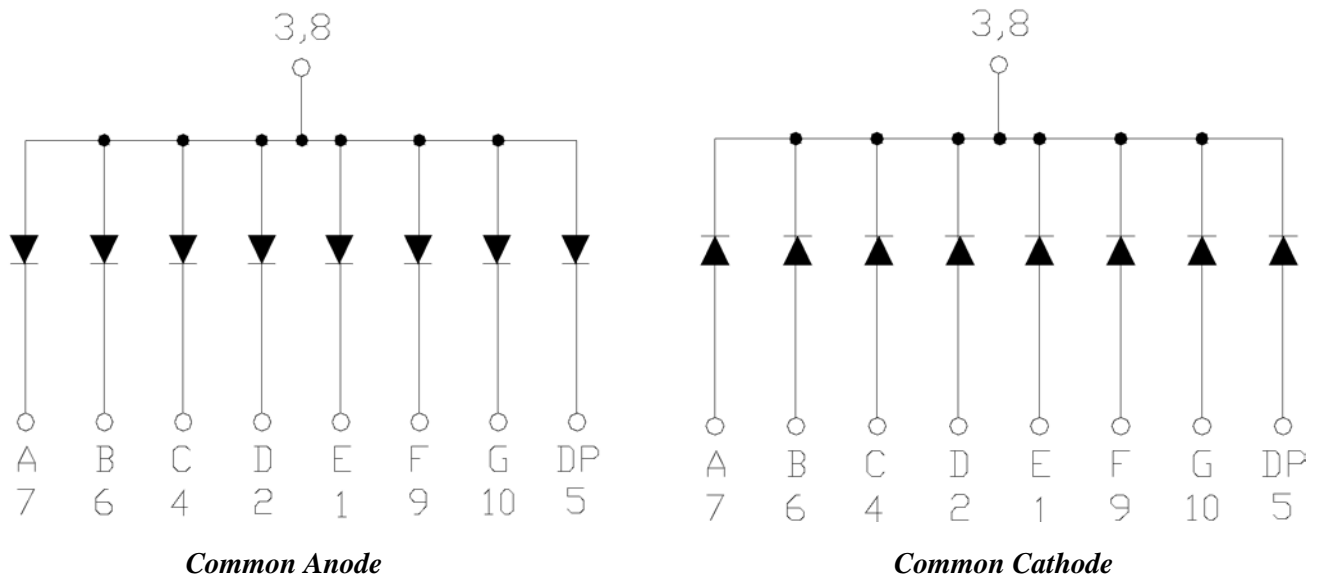
**● Deep Red (R21)**

K	L	M
10.764	17.224	27.559
I	I	I
17.223	27.558	44.095

**All Light-On Segments Feature & Pad Position**



**Internal Circuit Diagram**



### Typical Electrical / Optical Characteristic Curves

- (Ta = 25°C Unless Otherwise Noted)

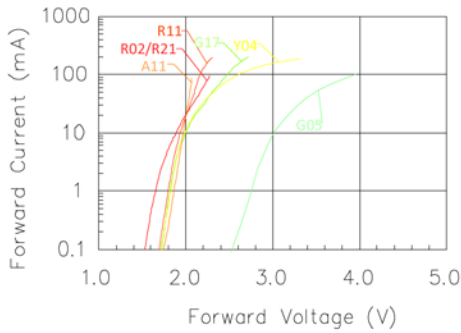


Fig 1. Forward Current vs. Forward Voltage

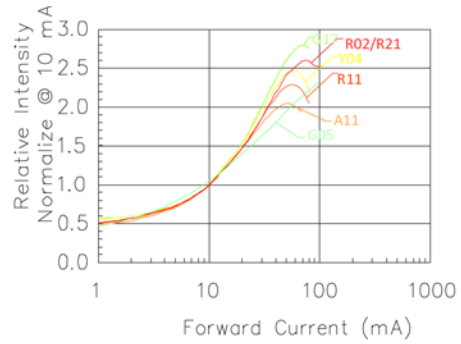


Fig 2. Relative Intensity vs. Forward Current

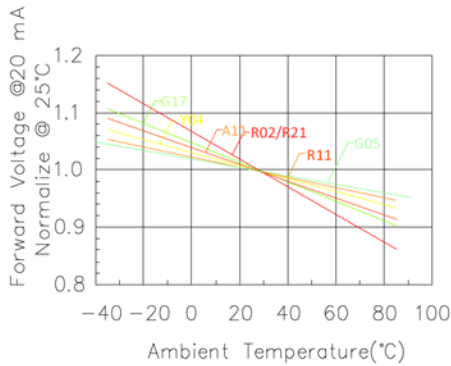


Fig 3. Forward Voltage vs. Temperature

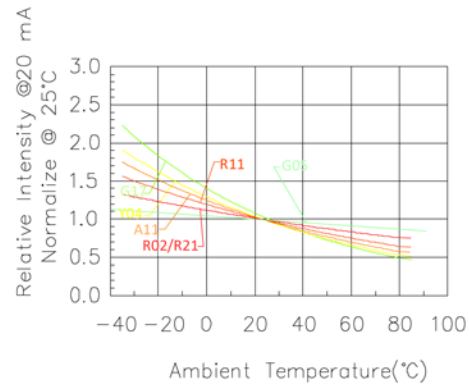


Fig 4. Relative Intensity vs. Temperature

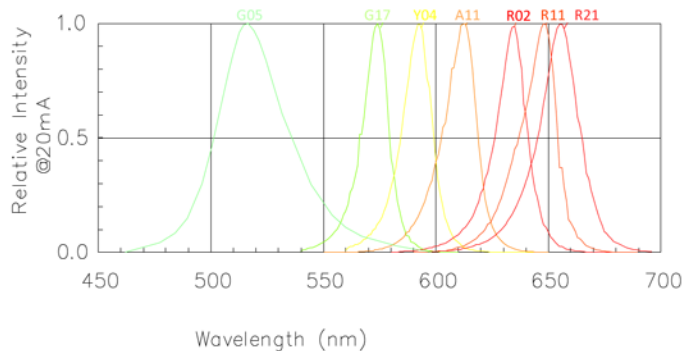


Fig 5. Relative Intensity vs. Wavelength

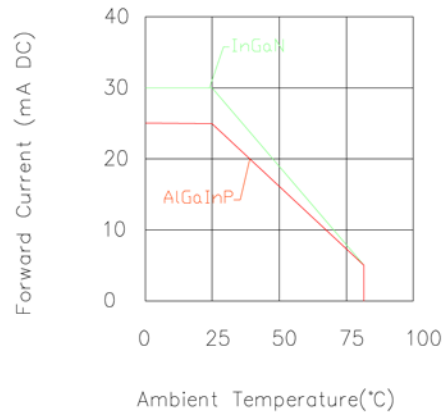


Fig 3. Forward Current vs. Ambient Temperature

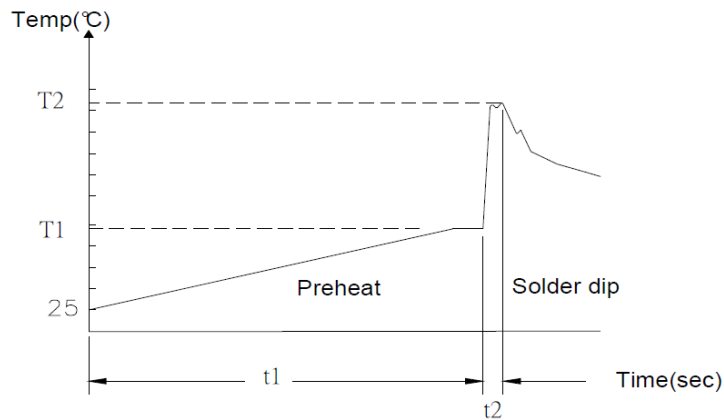
### *Precautions for Use*

1. Recommended soldering conditions

a. Wave soldering profile

i. Distance: 1.6mm min (from seating plane)

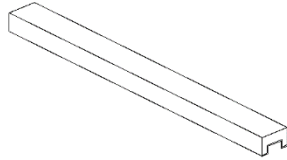
Item	Condition		Note
Preheat	Temperature T1	80 – 120°C	PWB temperature (Soldering side surface)
	Time t1	60 – 180sec	
Solder Dip	Temperature T2	230 – 260°C	Bath temperature
	Time t2	2 – 4sec	Solder tank passage time



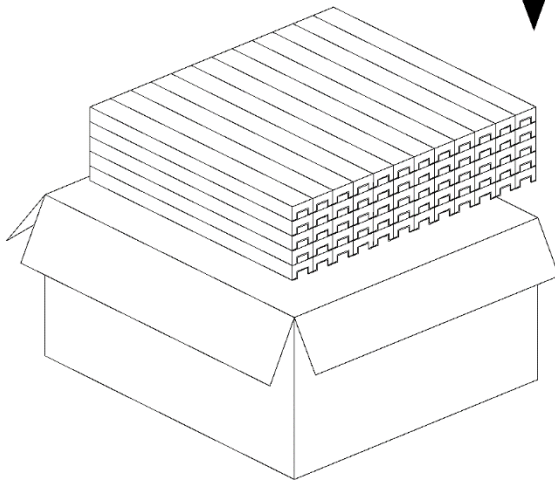
2. Hand Soldering (Iron Condition):

- a. Soldering Iron: 30W Max
- b. Temperature 350C Max
- c. Soldering Time: 3 Second Max (One Time)
- d. Distance 1.6mm min (from seating plane)

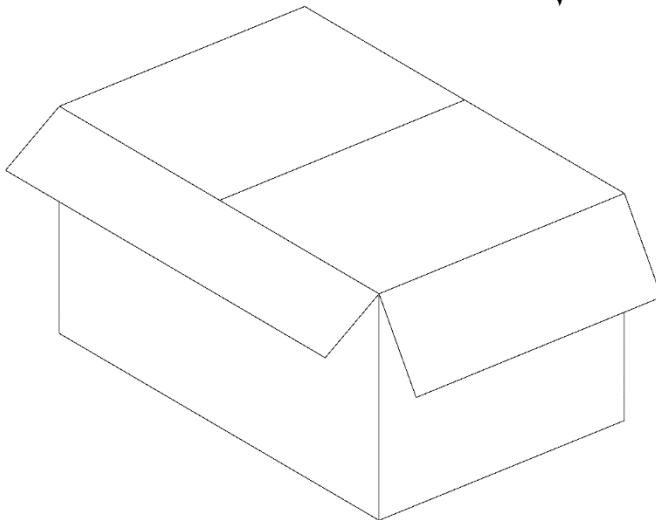
***Packing Dimensions***



40 PCS Per Tube  
Tube Size:  
L520\*W23\*H21 mm



60 Tubes Per Inner Box  
Total Q'TY: 2400 Pcs  
Box Size:  
L530\*W265\*H155 mm



2 Inner Boxes Per Carton.  
Total Q'TY: 4800 Pcs  
Box Size:  
L530\*W345\*H290 mm



