

PRODUCT SPECIFICATION

Part Number
PDC56A-CxDxxx

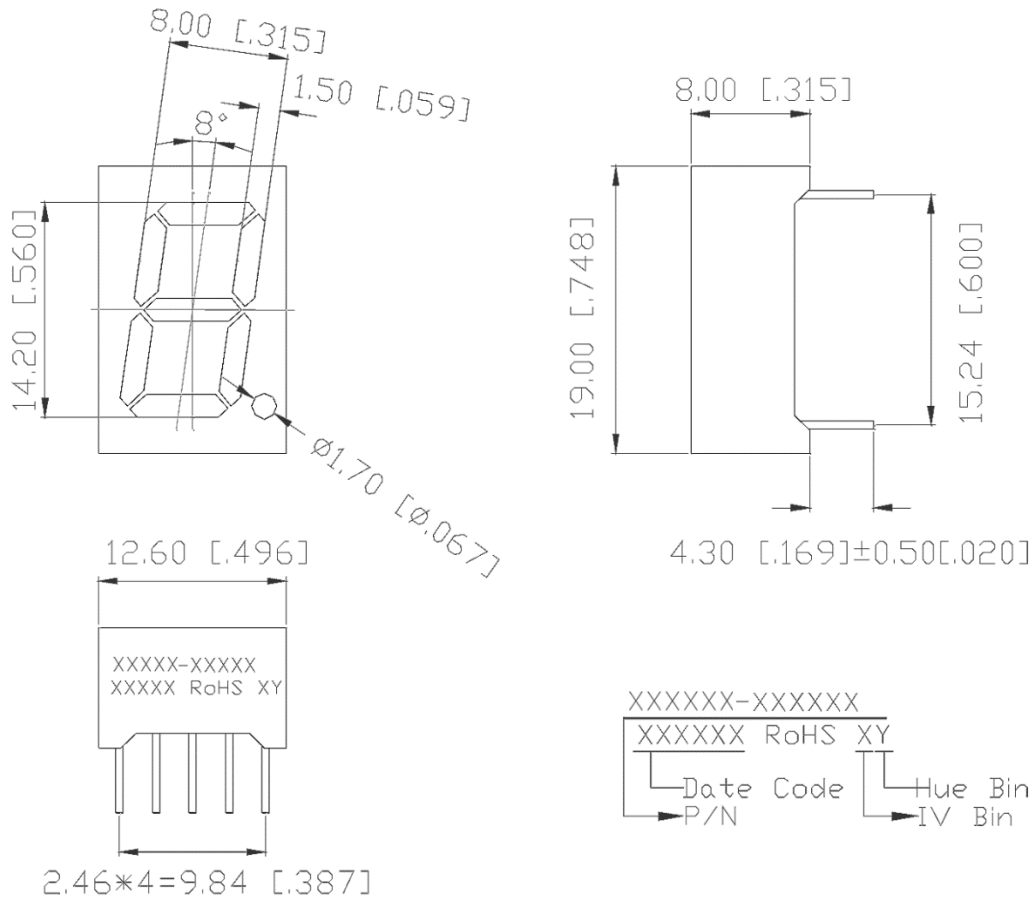
Details

- 0.56" (14.20mm) LED Display
- 1 Digit, 7 Segment
- Common Anode and 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 [0.010] unless otherwise noted.
2. Bending \leq Length*1%
3. All pins are $\varnothing 0.51$ [0.020] ± 0.1 [0.004]
4. Specifications subject to change without notice





Device Selection Guide

Model Number		Chip		Note
Common Anode	Common Cathode	Material	Emitting Color	
PDC56A-CADG05	PDC56A-CCDG05	InGaN	Pure Green	Add “-BW” to end of part number for Black Surface with White Segments
PDC56A-CADG17	PDC56A-CCDG17	AlInGaP	Yellow Green	
PDC56A-CADY04	PDC56A-CCDY04		Yellow	
PDC56A-CADA11	PDC56A-CCDA11		Amber	
PDC56A-CADR02	PDC56A-CCDR02		Orange-Red	
PDC56A-CADR11	PDC56A-CCDR11		Red	
PDC56A-CADR21	PDC56A-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	--	200	--	mcd	IF=10mA
		G17	--	12	--		
		Y04	--	50	--		
		A11	--	68	--		
		R02	--	32	--		
		R11	--	24	--		
		R21	--	18	--		
Peak Emission Wavelength / Dominant Wavelength	λ_P/λ_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	μ A	VR=5V
Luminous Intensity Matching Ratio	Iv-m		--	--	2:1	--	IF=10mA



Luminous General lv Bin Grade (IF = 10mA)

Color Rank Limits (IF=20mA)

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

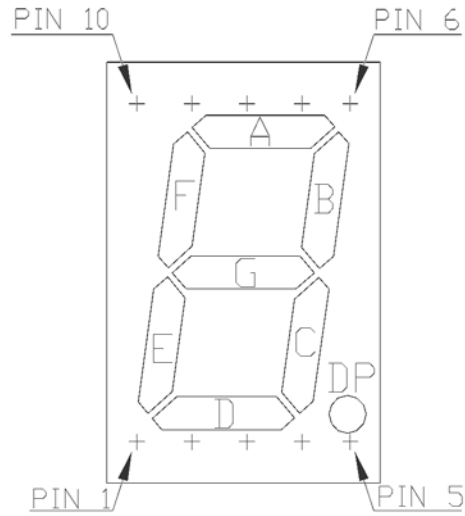
● Red (R11)

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

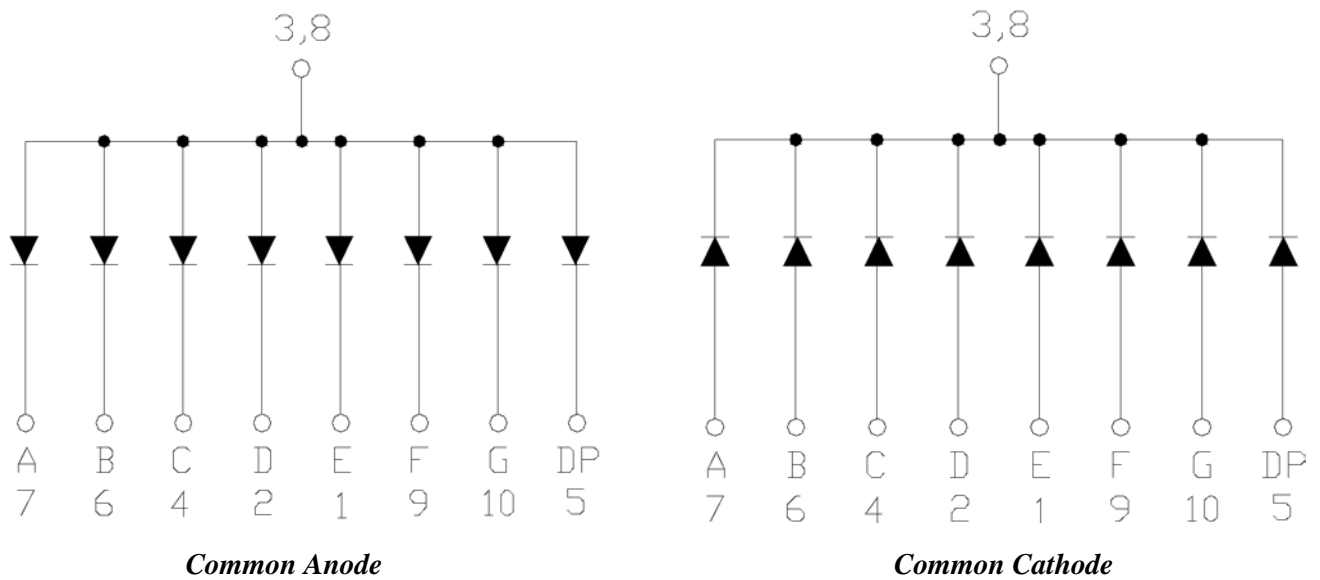
● Deep Red (R21)

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)

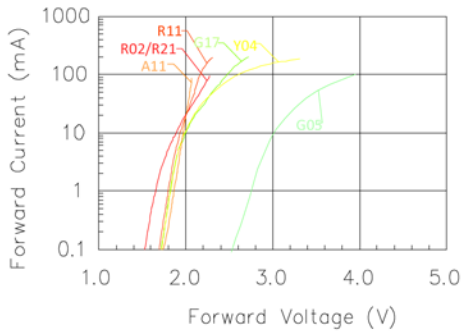


Fig 1. Forward Current vs. Forward Voltage

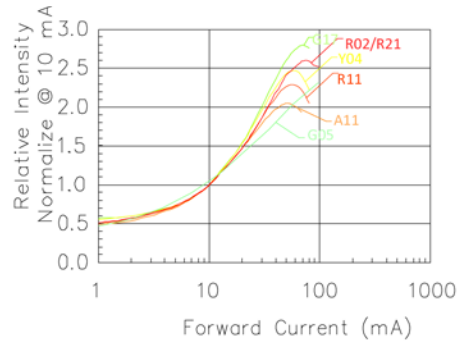


Fig 2. Relative Intensity vs. Forward Current

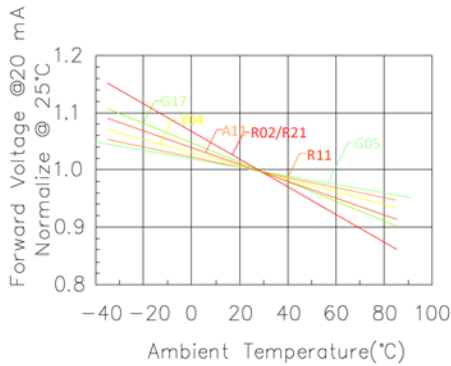


Fig 3. Forward Voltage vs. Temperature

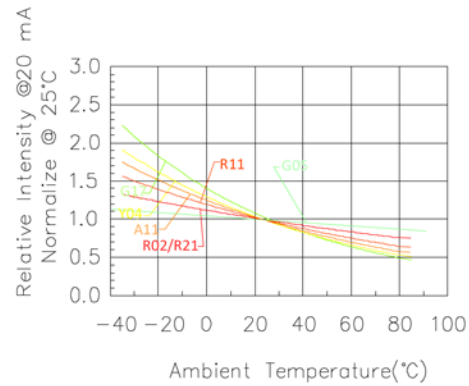


Fig 4. Relative Intensity vs. Temperature

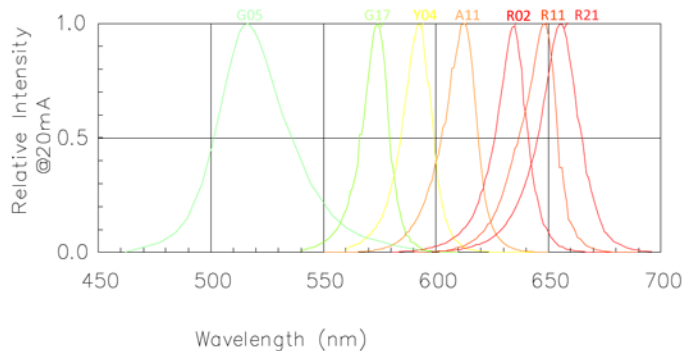


Fig 5. Relative Intensity vs. Wavelength

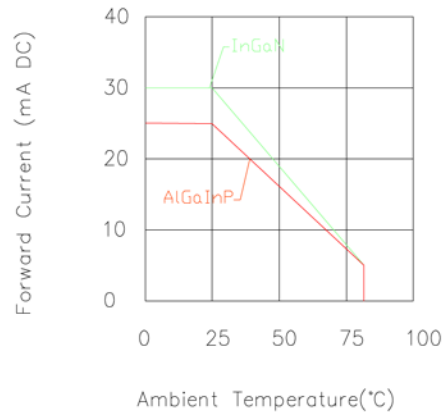


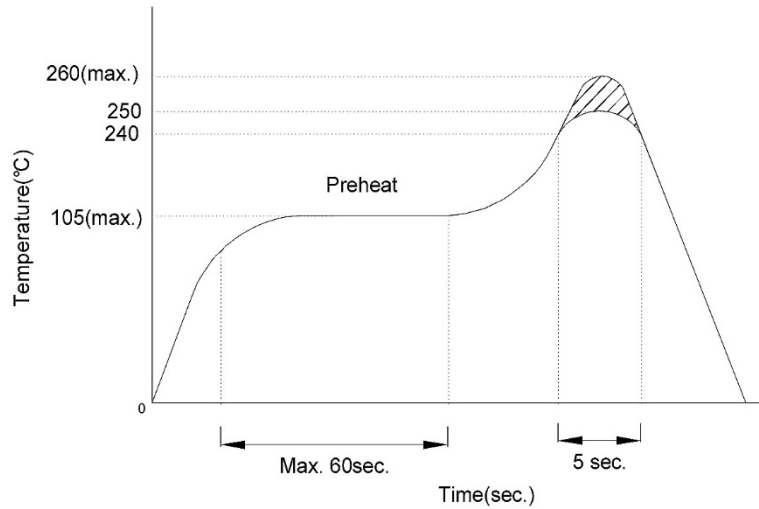
Fig 3. Forward Current vs. Ambient Temperature

Precautions for Use

1. Recommended soldering conditions

a. Wave soldering

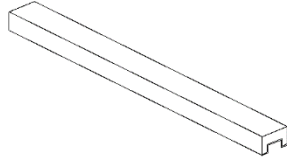
- i. Basic SPEC is ≤ 5 sec. When 260°C . If temperature is higher, time should be shorter ($+10^{\circ}\text{C} \rightarrow -1\text{sec.}$).



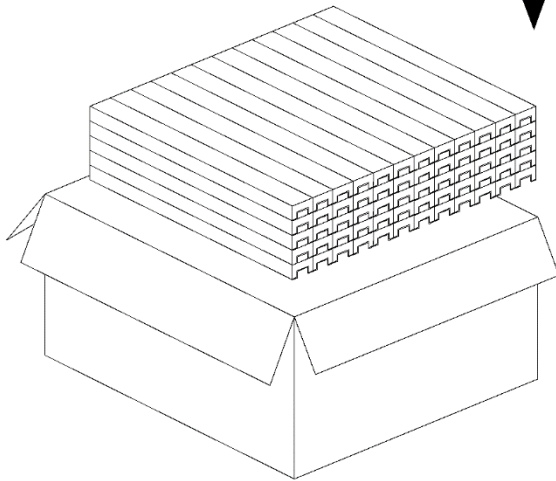
2. Soldering Iron:

- a. Power dissipation of iron should be smaller than 15W and temp should be controllable. Soldering temperature should be under 260°C , time ≤ 3 sec.

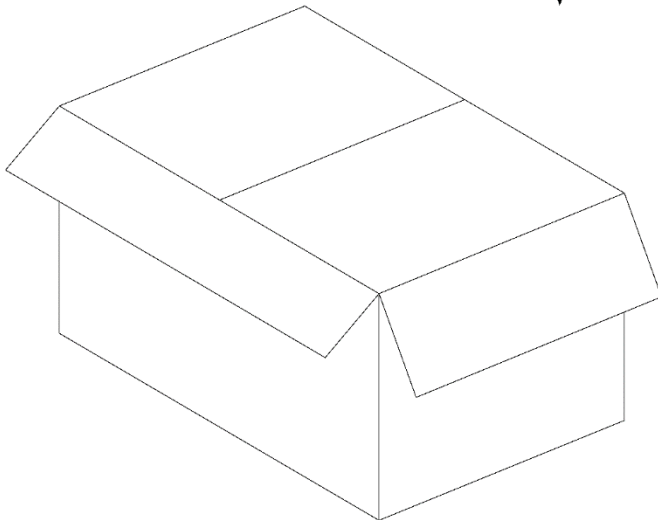
Packing Dimensions



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

