

PRODUCT SPECIFICATION

Series Number
PDC150

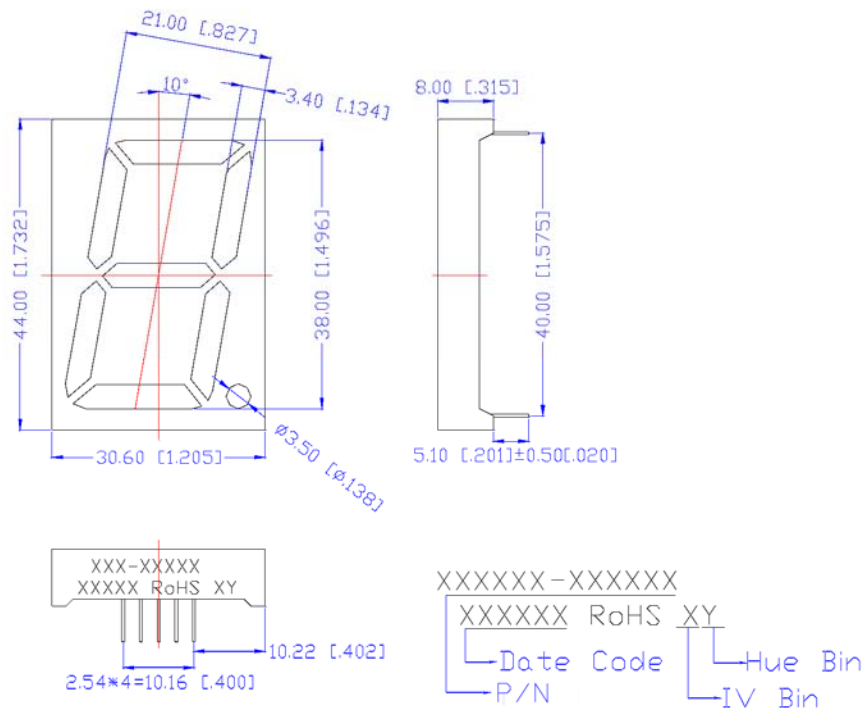
Details

- 1.5" (38mm) Display
- 1 Digit, 7 Segment
- Common Anode or 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] and angle is $\pm 1^\circ$ unless otherwise noted.
2. Bending \leq Length*1%
3. All pins are $\phi 0.510$ [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	
PDC150-CADG05	PDC150-CCDG05	InGaN	True Green	Add "BW" to end of part number for Black Face, White Segment version
PDC150-CADG17	PDC150-CCDG17	AlInGaP	Yellow Green	
PDC150-CADY04	PDC150-CCDY04		Yellow	
PDC150-CADA11	PDC150-CCDA11		Amber	
PDC150-CADR02	PDC150-CCDR02		Orange-Red	
PDC150-CADR11	PDC150-CCDR11		Red	
PDC150-CADR21	PDC150-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	--	6.4(3.2)	7.6(3.8)	V	IF=20mA
		G17/Y04/A11/R02/R11/R21	--	4(2)	5.6(2.8)		
Luminous Intensity Per Segment	Iv	G05	--	1026	--	mcd	IF=10mA
		G17	--	34	--		
		Y04	--	152	--		
		A11	--	205	--		
		R02	--	101	--		
		R11	--	68	--		
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	--		
Reverse Current	IR		--	--	100	μ A	VR=10(5)V
Luminous Intensity Matching Ratio	Iv-m		--	--	2:1	--	IF=10mA

Typical Electrical/Optical Characteristic Curves

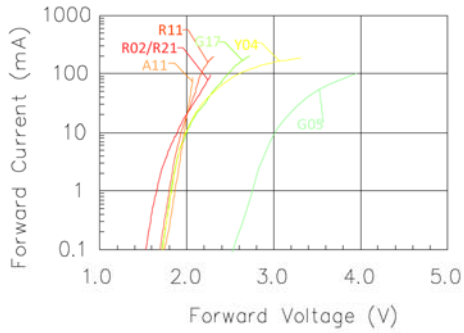


Fig 1. Forward Current vs. Forward Voltage

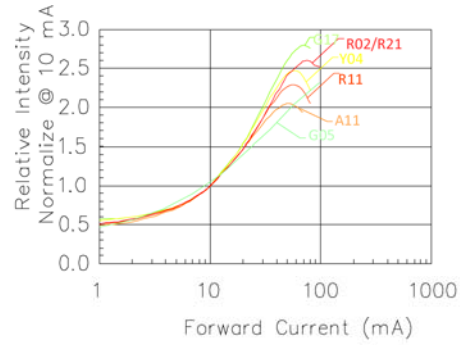


Fig 2. Relative Intensity vs. Forward Current

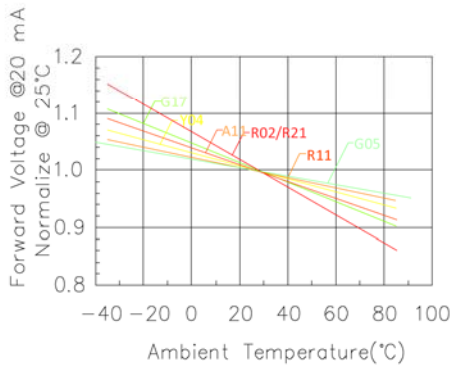


Fig 3. Forward Voltage vs. Temperature

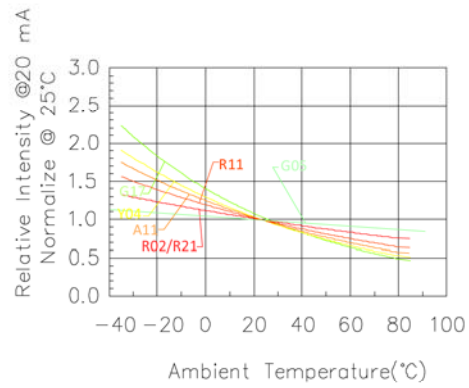


Fig 4. Relative Intensity vs. Temperature

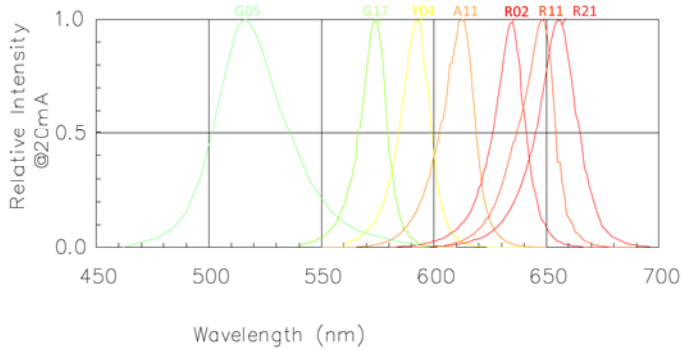


Fig 5. Relative Intensity vs. Wavelength

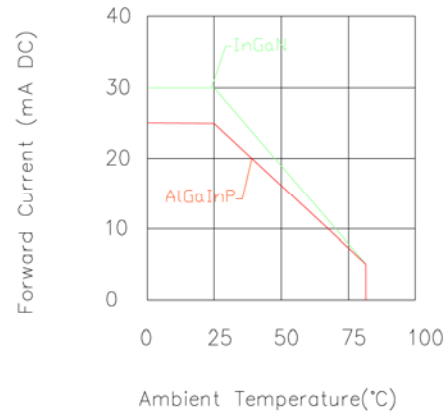


Fig 3. Forward Current vs. Ambient Temperature



Luminous General lv Bin Grade (IF = 10mA)

Color Rank Limits (IF = 20mA)

● Pure Green (G05)

T	U	V
462.397	739.836	1183.738
I	I	I
739.835	1183.737	1893.981

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)

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

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)

P	Q	R
70.555	112.889	180.623
I	I	I
112.888	180.622	288.996

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)

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

● Orange (R02)

N	P	Q
44.096	70.555	112.889
I	I	I
70.554	112.888	180.622

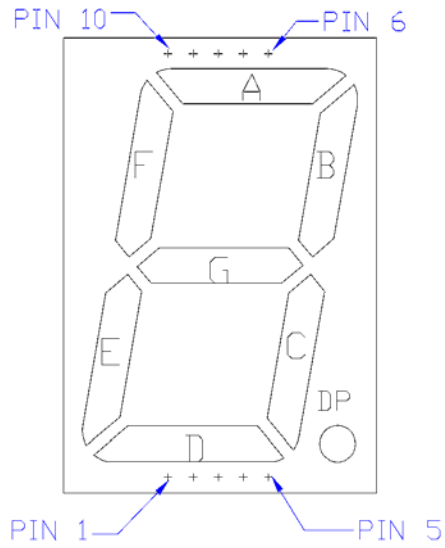
● Red (R11)

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

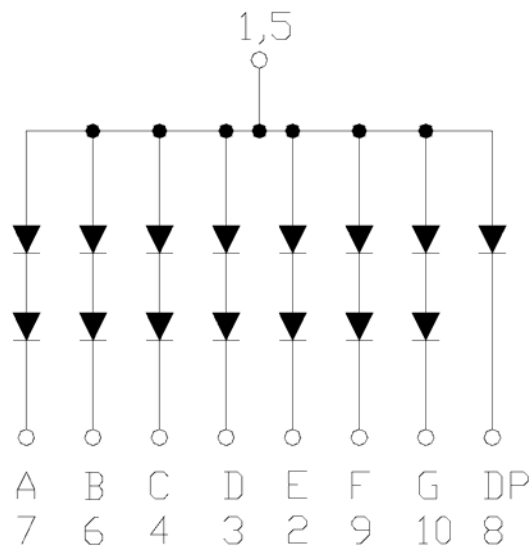
● Deep Red (R21)

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

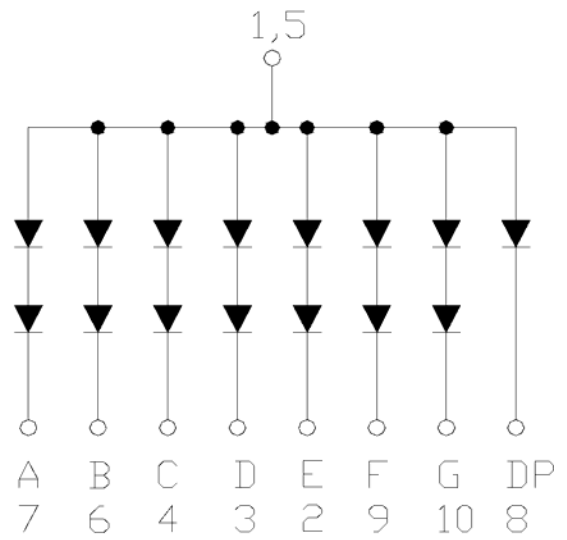
All Light-On Segments Feature & Pad Position



Internal Circuit Diagram



Common Anode



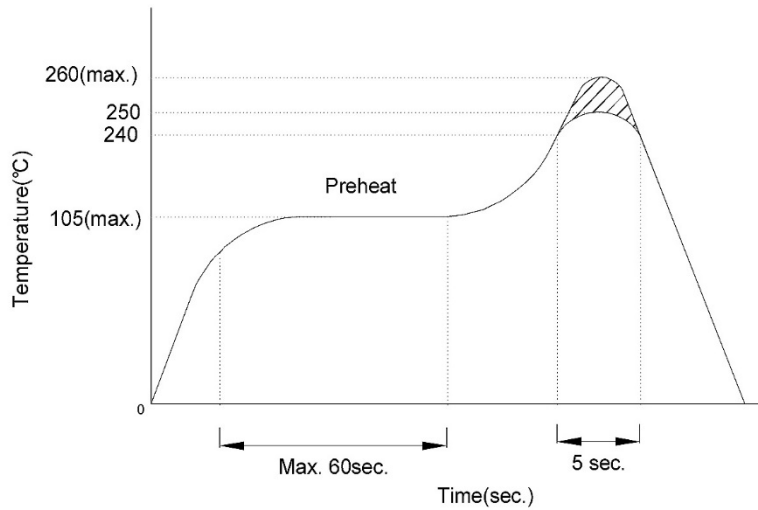
Common Cathode

Precautions for Use

1. Recommended soldering conditions

1.1. Wave soldering

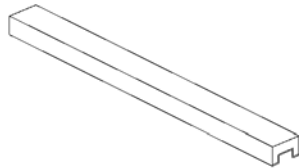
Basic SPEC is ≤ 5 sec. When 260°C . If temperature is higher, time should be shorter ($+10^{\circ}\text{C} \rightarrow -1$ sec.).



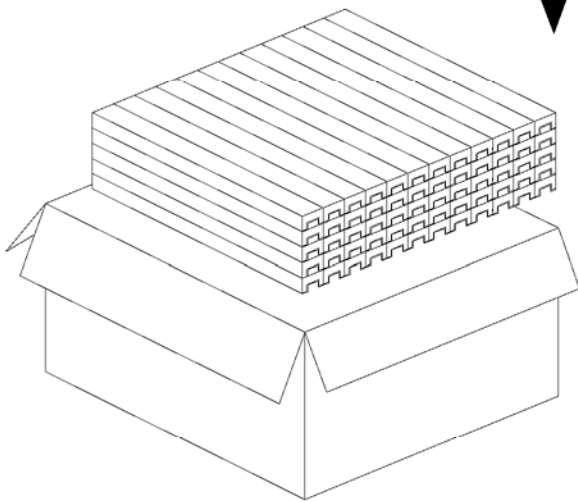
1.2. Soldering Iron:

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

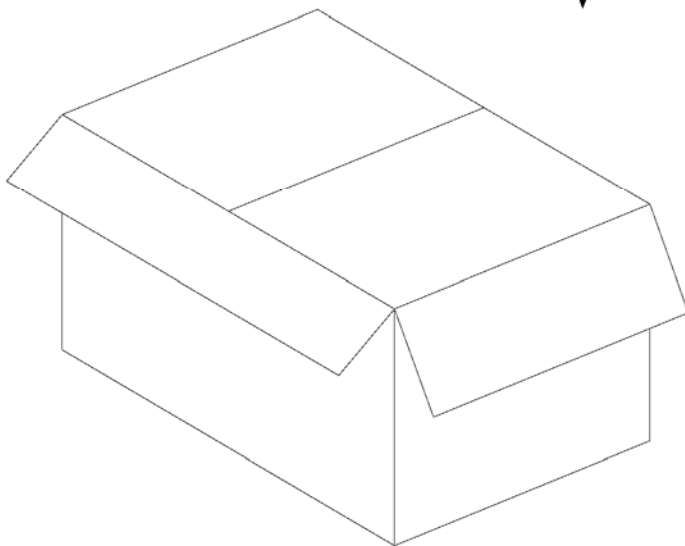
Packing Dimensions



16 PCS Per Tube
Tube Size:
L520*W58.5*H22 mm



24 Tubes Per Inner Box
Total Q'TY: 384 Pcs
Box Size:
L530*W265*H155 mm



2 Inner Boxes Per Carton.
Total Q'TY: 768 Pcs
Box Size:
L540*W345*H290 mm

Note: 1. Specifications subject to change without notice.

