

# PRODUCT SPECIFICATION

**Part Number**  
**PDC563-CxMW01**

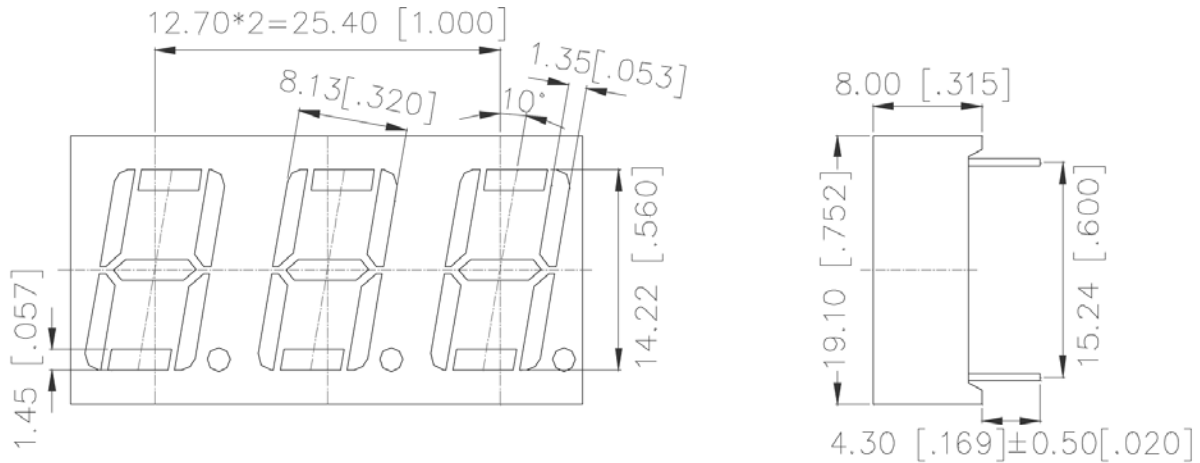
## Details

- 0.56" (14.20mm) Digit Height
- 3 Digit, 7 Segment
- Common Anode or Cathode
- Emitting Color: Super Bright White
- InGaN dice used

## Features

- Low power consumption
- RoHS Compliant
- Case mold type
- Easy mounting on PCB or socket

## Mechanical Dimensions



### Notes:

1. Dimensions in millimeters [inch], and tolerance is  $\pm 0.25$  [.010] unless otherwise noted.
2. Bending  $\leq$  Length\*1%
3. All pins are  $\varnothing 0.51$  [.020]  $\pm 0.1$  [.004]





**Device Selection Guide**

Model Number	Chip		Description	Note
	Material	Emitting Color		
PDC563-CAMW01	InGaN	White	Common Anode	Add "BW" to end of part number for black surface with white segments
PDC563-CCMW01			Common Cathode	

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

Parameter	Symbol	Rating	Unit
Power Dissipation per Dice	PAD	114	mW
Derating Liner from 25°C per Dice	--	0.4	mA/°C
Continuous Forward Current Per Dice	IAF	30	mA
Peak Current Per Dice (duty cycle 1/10, 1KHz)	IPF	100	mA
Reverse Voltage Per Dice	VR	5	V
Electrostatic Discharge (HBM)	ESD	1500	V
Operating Temperature	Topr	-35~+85	°C
Storage Temperature	Tstg	-35~+85	°C

Note 1: Solder conditions: 1/16 inch below seating plane for 3 seconds at 260°C. Or temperature of unit (during assembly) not over max. temperature rating above.

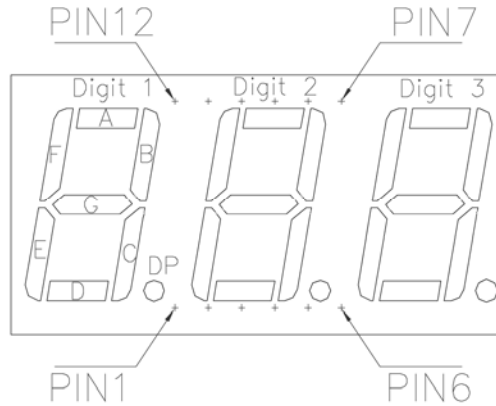
**Electrical and Optical Characteristics at Ta=25 °C**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage Per Segment	VF	--	3.2	3.8	V	IF=20mA
Luminous Intensity Per Segment	Iv	--	98	--	mcd	IF=10mA
Chromaticity Coordinates (Tolerance ±0.01)	X	--	0.27	--	--	IF=10mA
	Y	--	0.25	--	--	
Reverse Current	IR	--	--	100	µA	VR=5V
Luminous Intensity Matching Ratio	Iv-m	--	--	2:1	--	IF=10mA

**Luminous General I<sub>v</sub> Bin Grade (IF = 10mA)**

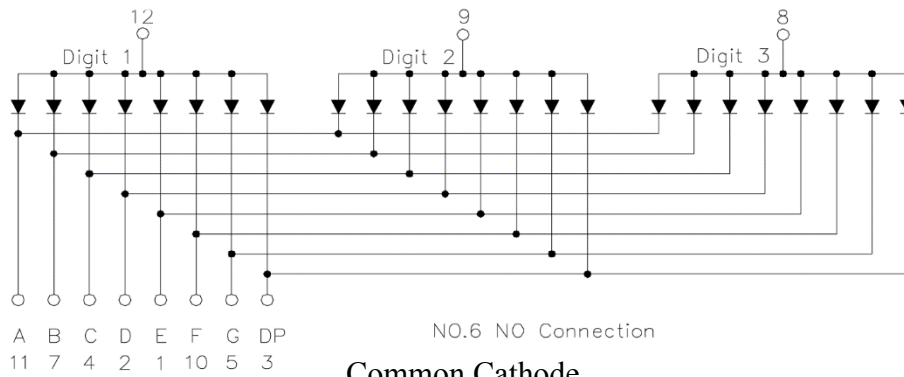
A	B	C	D	E	F	G	H	J	K	L	M
0.155	0.249	0.399	0.640	1.025	1.641	2.627	4.204	6.727	10.764	17.224	27.559
}	}	}	}	}	}	}	}	}	}	}	}
0.248	0.398	0.639	1.024	1.640	2.626	4.203	6.726	10.763	17.223	27.558	44.095
N	P	Q	R	S	T	U	V	W	X	Y	1
44.096	70.555	112.889	180.622	288.997	462.397	739.836	1183.738	1893.982	3030.372	4848.597	7757.756
}	}	}	}	}	}	}	}	}	}	}	}
70.554	112.888	180.622	288.996	462.396	739.835	1183.737	1893.981	3030.371	4848.596	7757.755	12412.409
2	3	4	5	6	7	8	9				
4034.034	19859.858	31775.773	50841.238	81345.982	130153.573	208245.718	333193.149				
}	}	}	}	}	}	}	}				
19859.857	31775.772	50841.237	81345.981	130153.572	208245.717	333193.148	533109.039				

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

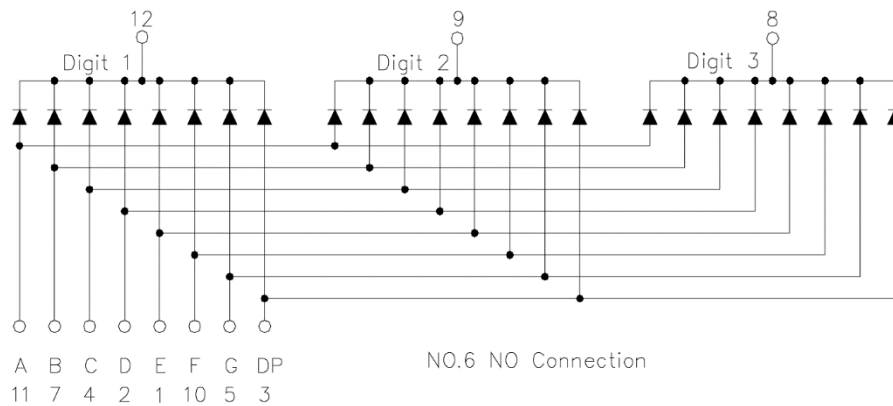


**Internal Circuit Diagram**

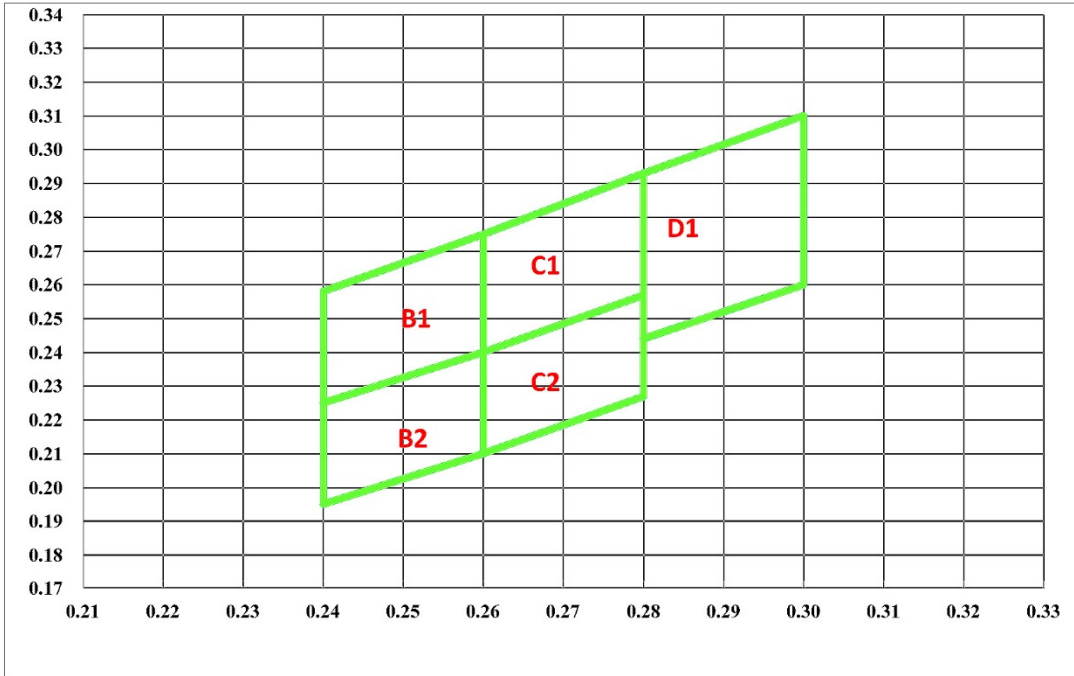
**Common Anode**



**Common Cathode**



**Color Rank Limits (IF = 10mA)**



B1				
X	0.240	0.240	0.260	0.260
Y	0.225	0.258	0.275	0.240

B2				
X	0.240	0.240	0.260	0.260
Y	0.195	0.225	0.240	0.210

C1				
X	0.260	0.260	0.280	0.280
Y	0.240	0.275	0.293	0.257

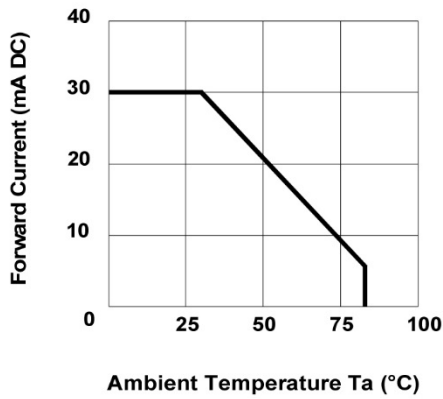
C2				
X	0.260	0.260	0.280	0.280
Y	0.210	0.240	0.257	0.227

D1				
X	0.280	0.280	0.300	0.300
Y	0.244	0.293	0.310	0.260

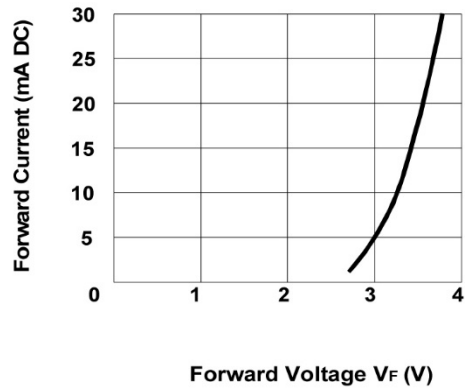
**Typical Electrical / Optical Characteristic Curves**

- (Ta = 25°C Unless Otherwise Noted)

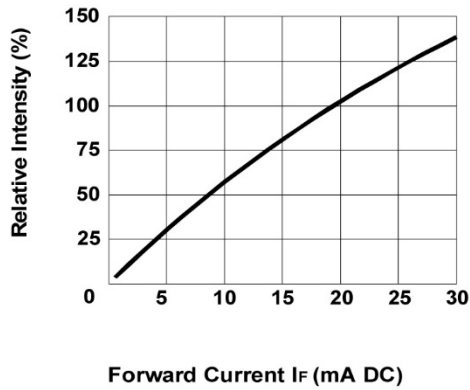
**Fig 1. Forward Current Vs. Ambient Temperature**



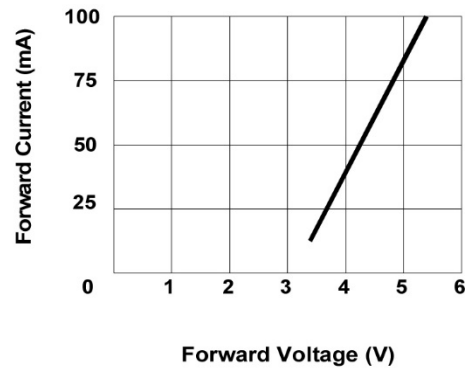
**Fig 2. Forward Current Vs. Forward Voltage**



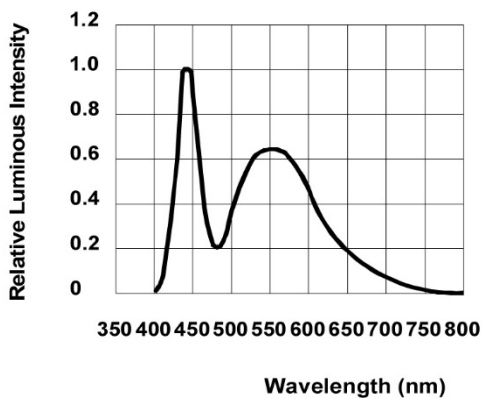
**Fig 3. Relative Intensity Vs. Forward Current**



**Fig 4. Peak Forward Voltage Vs. Forward Current (100us test pulse, 1% duty cycle)**



**Fig 5. Relative Intensity Vs. Wavelength**

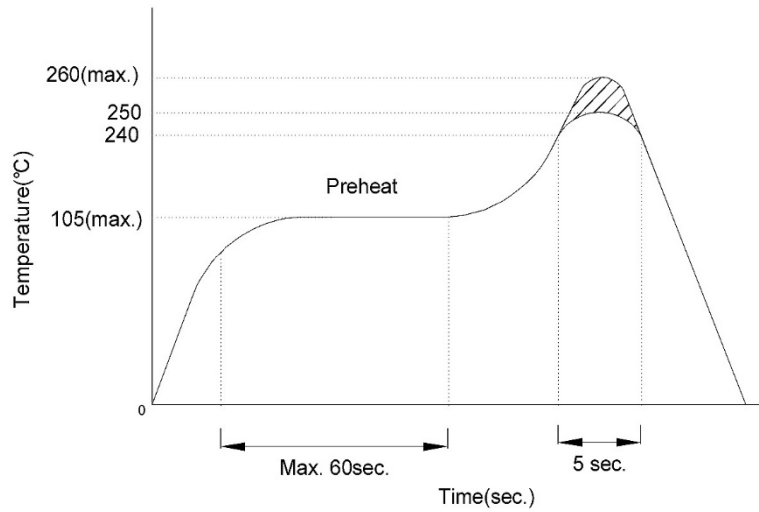


## *Precautions for Use*

### 1. Recommended soldering conditions

#### a. Wave soldering

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



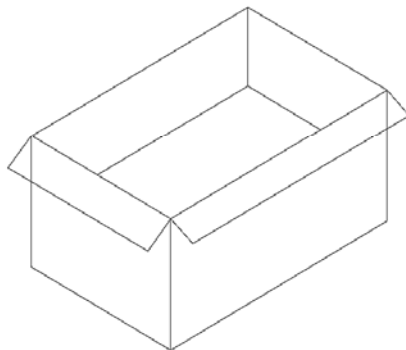
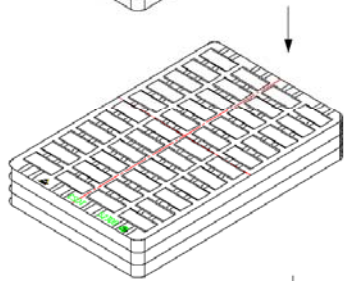
### 2. Soldering Iron:

- a. Power dissipation of iron should be smaller than 15W and temp should be controllable. Soldering temperature should be under  $260^{\circ}\text{C}$ , time  $\leq 3$ sec.

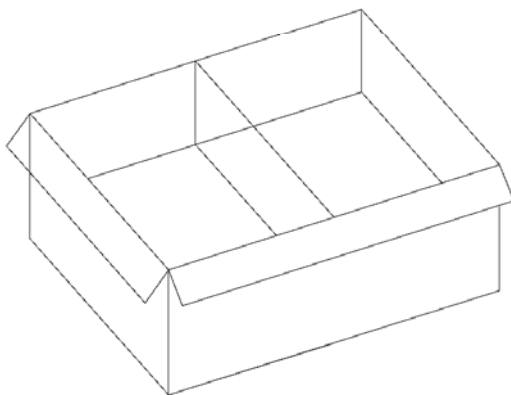
### *Packing Dimensions*



1 Tray From Box = 44 PCS  
Tray Size:  
L300 x W190 x H16mm



14 Trays Per Inner Box  
Q'TY: 616 PCS.  
Box Size:  
L300 x W205 x H240mm



2 Inner Boxes Per Carton.  
Total Q'TY: 1232 Pcs  
Carton Size:  
L431 x W320 x H252mm

