

# PRODUCT SPECIFICATION

*Part Number*  
**PDC302SM-CCDIB01**

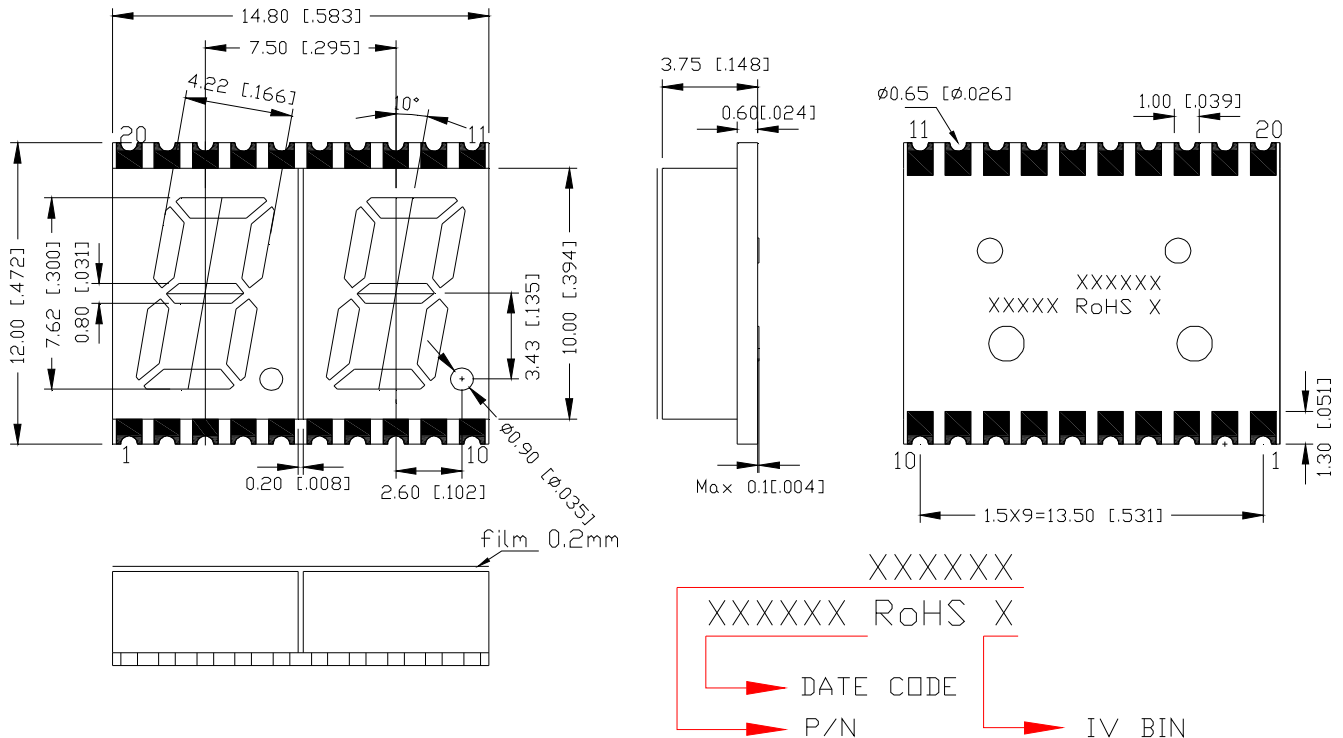
### *Details*

- 0.30" Surface Mount LED Display
- 2 Digit, 7 Segment
- Common Cathode
- InGaN Chip Material
- Emitting Color: Ice Blue

### *Features*

- Low power consumption
- RoHS Compliant
- Gray Face, White Segments, Film Overlay
- Easy mounting on PCB
- JEDEC MSL2a

### *Mechanical Dimensions*



### Notes:

1. Dimensions in millimeters [inch], and tolerance is  $\pm 0.25$  [.010] unless otherwise noted.
2. Bending  $\leq$  Length\*1%
3. Specifications subject to change without notice





**Device Selection Guide**

Model Number	Chip		Note
	Material	Emitting Color	
PDC302SM-CCDIB01	InGaN	Ice Blue	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	1000	V
Operating Temperature	Topr	-40~+105	°C
Storage Temperature	Tstg	-40~+105	°C
Hand Soldering Temp	Tsol	350	°C

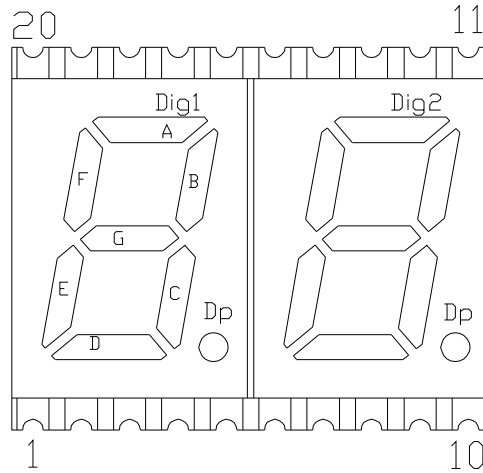
**Electrical and Optical Characteristics at Ta=25 °C**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage Per Segment	VF	--	2.7	3.1	V	IF=5mA
Luminous Intensity Per Segment	Iv	--	12	--	mcd	IF=5mA
Chromaticity Coordinates According to CIE1931	X	--	0.206	--	--	IF=5mA
	Y	--	0.205	--		
Reverse Current	IR	--	--	50	µA	VR=5V
Luminous Intensity Matching Ratio	Iv-m	--	--	2:1	--	IF=5mA

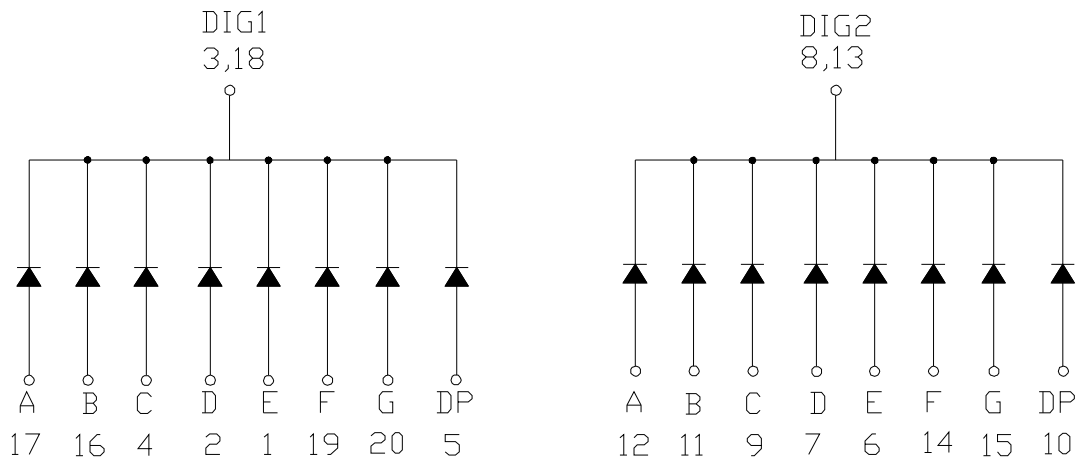
**Luminous General Iv Bin Grade (IF=5mA)**

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**



**Film Diagram**



### Typical Electrical / Optical Characteristic Curves

- (Ta = 25°C Unless Otherwise Noted)

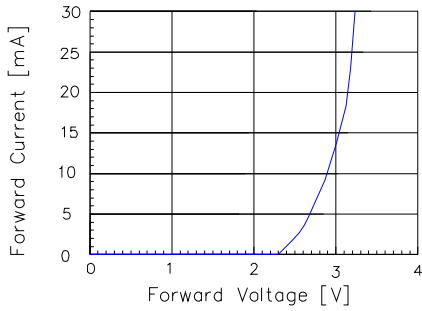


Fig 1. Forward Current vs. Forward Voltage

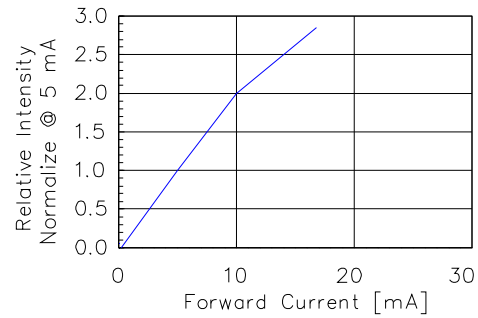


Fig 2. Relative Intensity vs. Forward Current

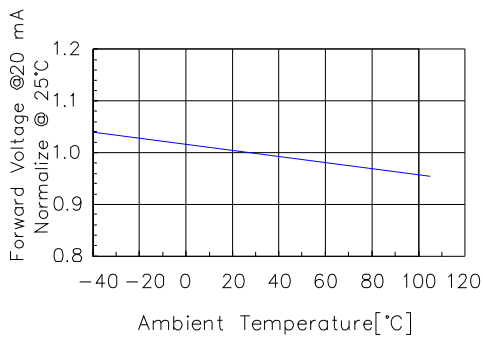


Fig 3. Forward Voltage vs. Temperature

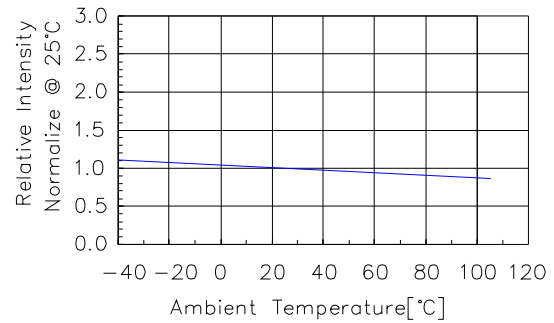


Fig 4. Relative Intensity vs. Temperature

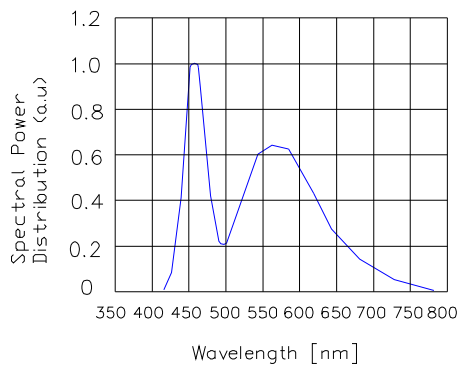


Fig 5. Spectral Power Distribution vs. Wavelength

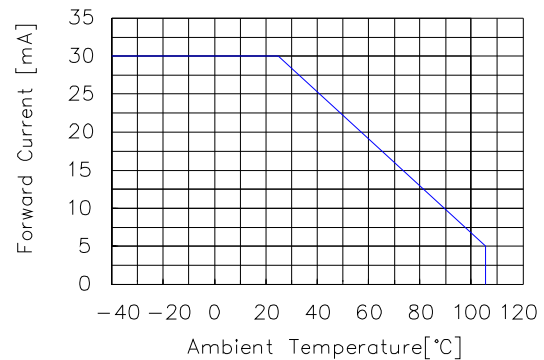
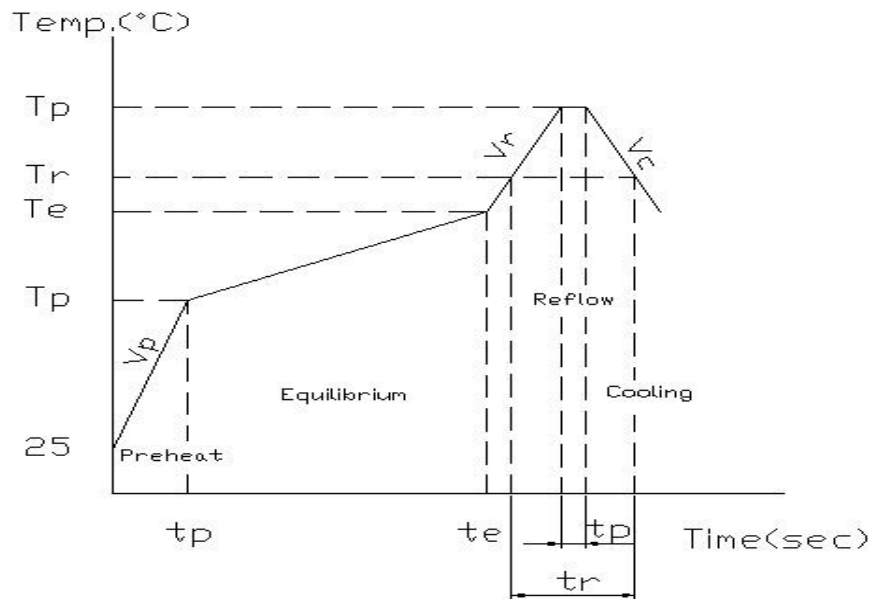


Fig 6. Forward current vs. Temperature

## Soldering Characteristics

### 1. IR-Reflow Soldering Profile (PB Free)

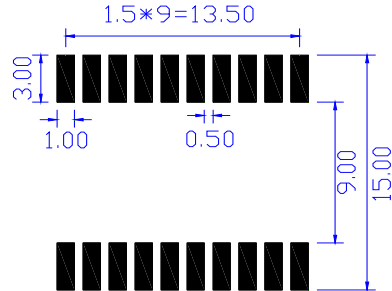
Area	Title	Symbol	Min	Max	Unit
(1)Preheat	Ramp-up rate	Vp	1	5	°C/sec
	temperature	Tp	150	—	°C
	time	tp	—	—	sec
(2)Equilibrium	Ramp-up rate	Ve	—	—	°C/sec
	temperature	Te	150	200	°C
	Time	te	60	120	sec
(3)Reflow	Ramp-up rate	Vr	1	5	°C/sec
	temperature	Tr	220	—	°C
	Time	tr	—	60	sec
	Peak temperature	Trp	—	260	°C
	Peak time	trp	—	10	sec
(4)Cooling	Ramp-down rate	Vc	3	6	°C/sec



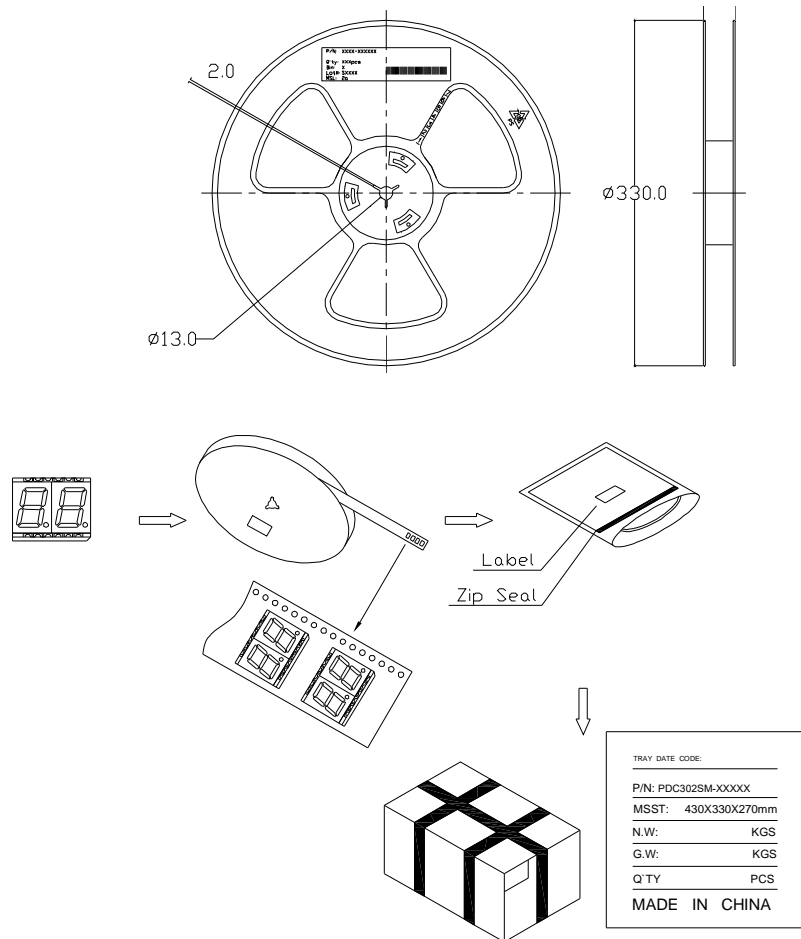
### 2. Hand Soldering (Iron Condition)

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

### Soldering Pad Size



### Reel & Packaging Dimensions



Package Name	Size	Unit	Amount	Unit	Amount	Unit	Note
Reel	Ø330	mm	1	Reel	750	pcs	/
Bag	L450xW430	mm	1	Reel	750	pcs	/
Outer Box	L430xW330xH270	mm	5	Bag	3750	pcs	/



<b>PDC302SM-CCDIB01 Customer Approval Signatures</b>	<b>Approved By</b>	<b>Notes/Remarks</b>

Record Of Revisions			
Rev.	Comments	Page	Date
0	Released Spec	--	02/12/18