PRODUCT SPECIFICATION

Part Number

PDC56SM-CxDxxx

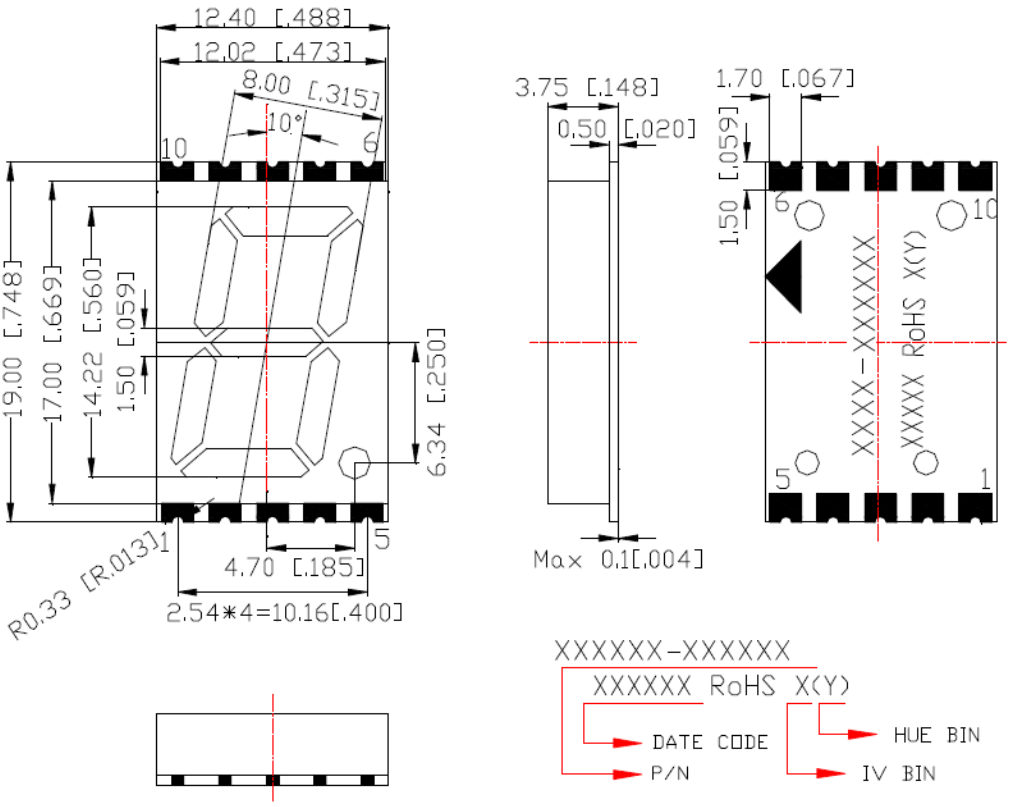
Details

- .56” (14.2mm) Surface Mount LED 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 [.010] and angle is ±1° unless otherwise noted.
2. Bending ≤ Length*1%
3. All pins are 0.50 by 0.30
4. Specifications subject to change without notice

Device Selection Guide

Model Number	Chip		Description	Note
	Material	Emitting Color		
PDC56SM-CxDG05	InGaN	True Green	Common Cathode x=C / Common Anode x=A	Add "BFWS" to end of part number for Black Face, White Segment version
PDC56SM-CxDG17	AlInGaP	Yellow Green		
PDC56SM-CxDY04		Yellow		
PDC56SM-CxDA11		Amber		
PDC56SM-CxDR02		Orange-Red		
PDC56SM-CxDR11		Red		
PDC56SM-CxDR21		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	-40~+105		°C
Storage Temperature	Tstg	-40~+105		°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	--	70	--	mcd	IF=10mA
		G17	--	3	--		
		Y04	--	17	--		
		A11	--	18	--		
		R02	--	8	--		
		R11	--	9			
		R21	--	6	--		
Peak Emission Wavelength / Dominant Wavelength	λP/λd	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	μA	VR=5V
Luminous Intensity Matching Ratio	Iv-m		--	--	2:1	--	IF=10mA

Typical Electrical/Optical Characteristic Curves

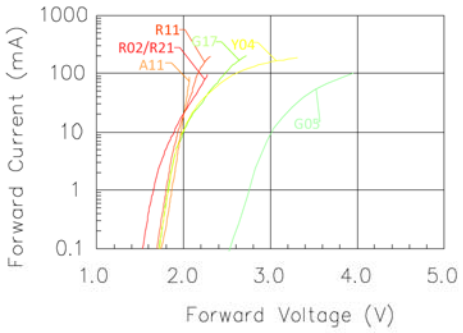


Fig 1. Forward Current vs. Forward Voltage

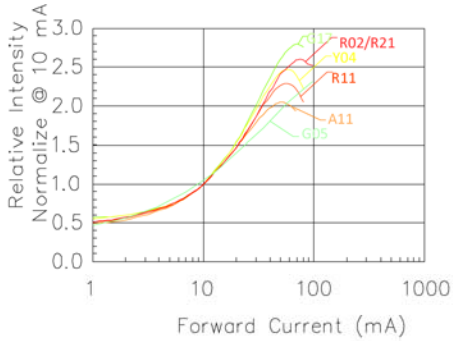


Fig 2. Relative Intensity vs. Forward Current

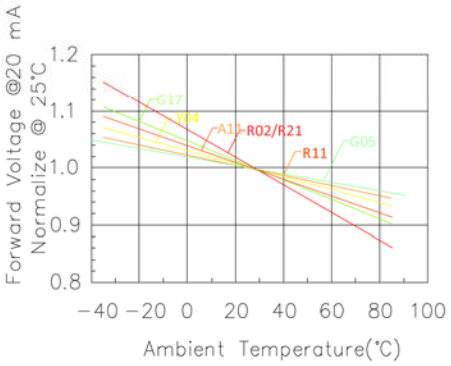


Fig 3. Forward Voltage vs. Temperature

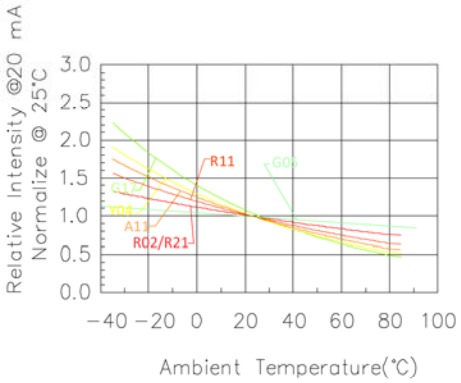


Fig 4. Relative Intensity vs. Temperature

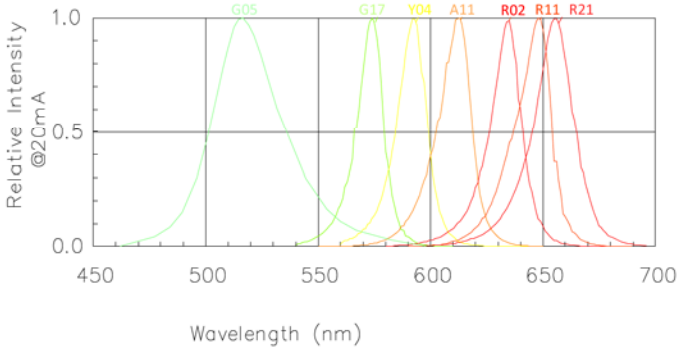


Fig 5. Relative Intensity vs. Wavelength

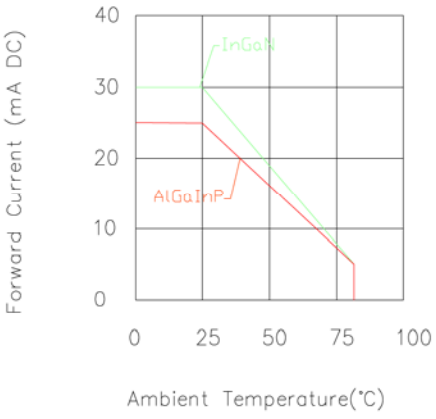


Fig 3. Forward Current vs. Ambient Temperature

Luminous General Iv Bin Grade (I_F = 10mA)

Remark： Unit=mcd
*Tolerance: ±20%

● Pure Green(G05)

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

● Yellow Green(G17)

F	G	H
1.641	2.627	4.204
I	I	I
2.626	4.203	6.726

● Yellow (Y04)

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

● Amber（A11）

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

● Orange（R02）

H	J	K
4.204	6.727	10.764
I	I	I
6.726	10.763	17.223

● Red（R11）

H	J	K
4.204	6.727	10.764
I	I	I
6.726	10.763	17.223

● Deep Red (R21)

G	H	J
2.627	4.204	6.727
I	I	I
4.203	6.726	10.763

Color Rank Limits (IF=20mA)

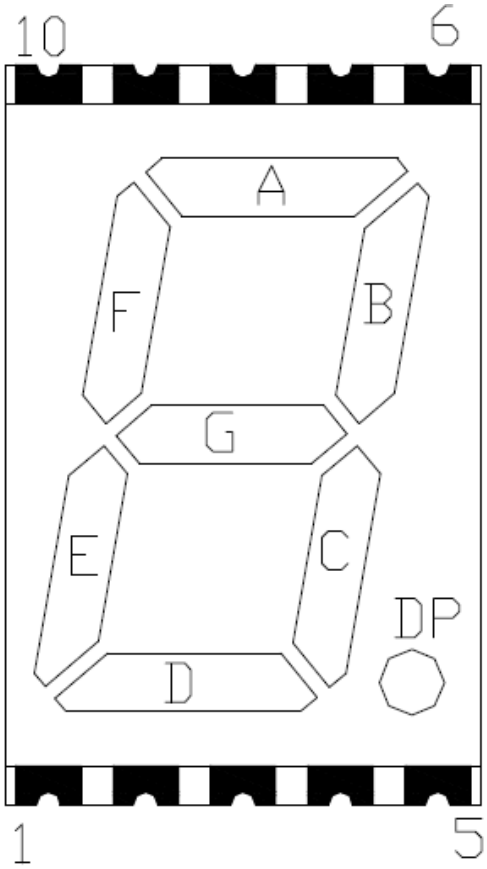
Remark： Unit=nm
*Tolerance: ±1

1	2	3	4	5
515.0	517.0	519.0	521.0	523.0
I	I	I	I	I
517.0	519.0	521.0	523.0	525.0

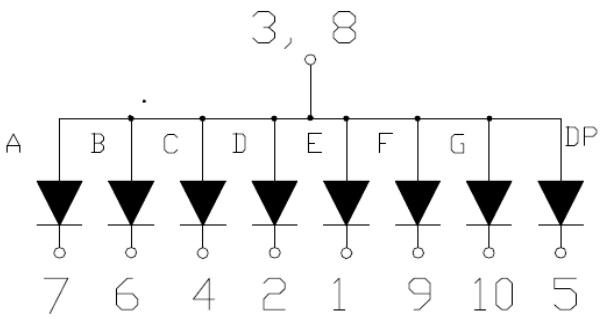
0	1	2	3	4
567.5	569.5	570.5	571.5	573.0
I	I	I	I	I
569.4	570.4	571.4	572.9	575.0

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

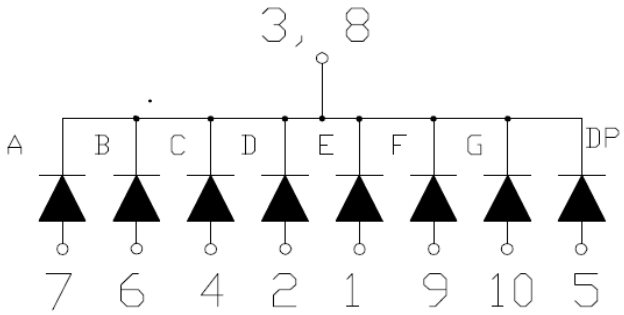
All Light-On Segments Feature & Pad Position



Internal Circuit Diagram



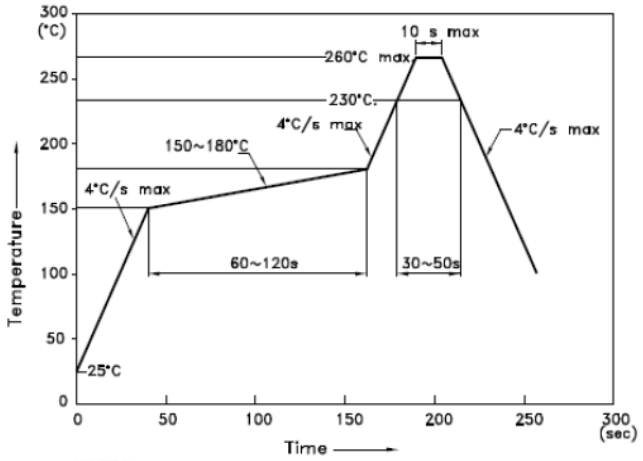
Common Anode



Common Cathode

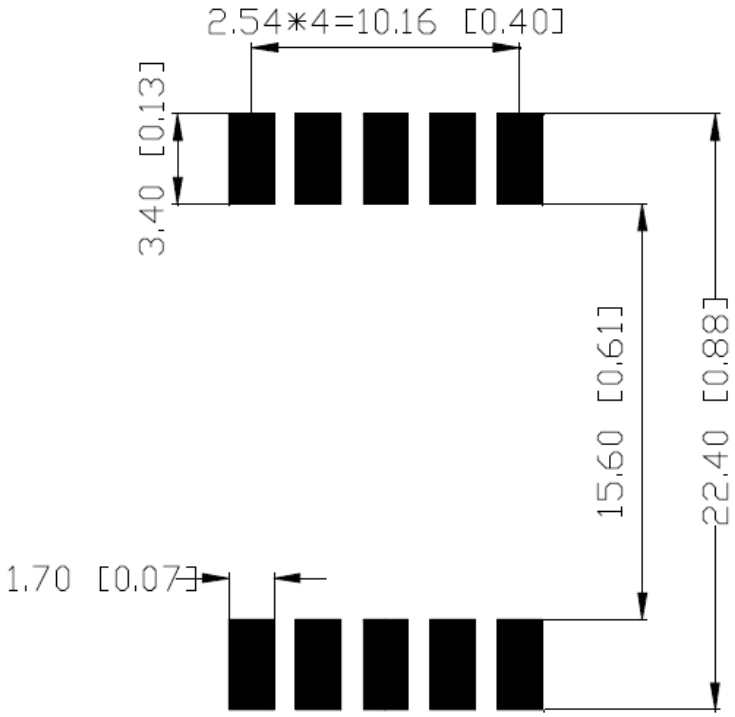
Precautions for Use

1. Recommended soldering conditions
   1.1. Wave soldering

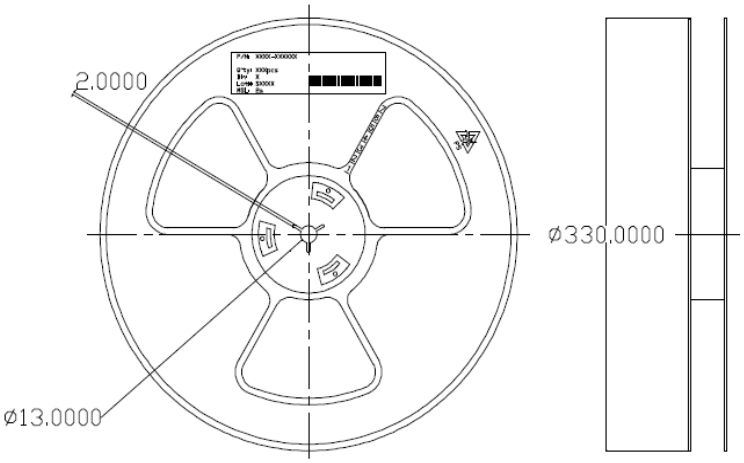


NOTES:
1. We recommend the reflow temperature 245°C(+/−5°C).The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

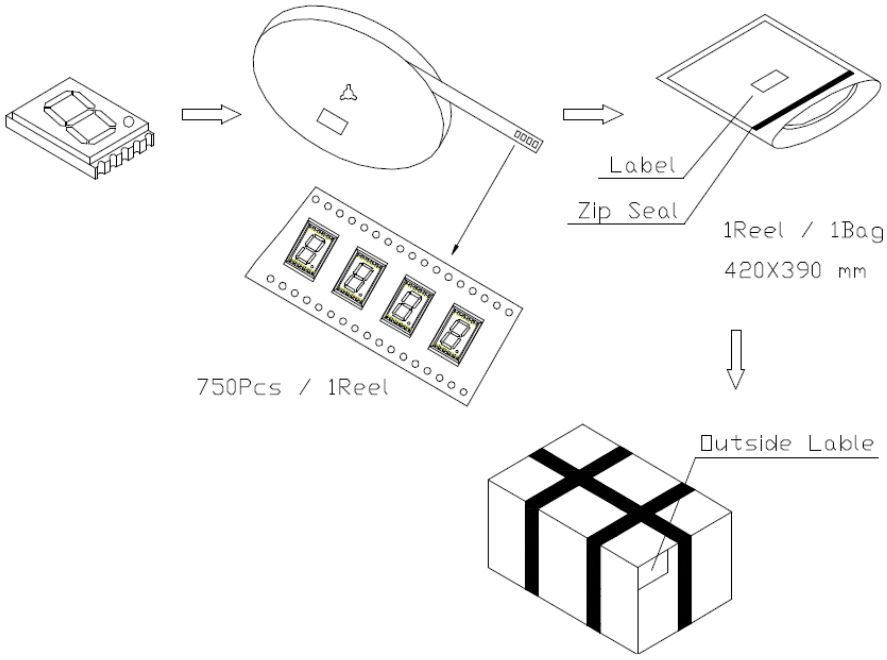
   1.2. Recommended Soldering Pad:



Reel Dimensions



Packing Dimensions



Note: 1. Specifications subject to change without notice.

Customer Approval Signatures	Approved By	Checked By	Prepared By

Record Of Revisions		
Rev.0 01.10.14	JAS	Layout Start
Rev.1 03.25.15	JAS	Logo update