

PRODUCT SPECIFICATION

Series Number
PAC542

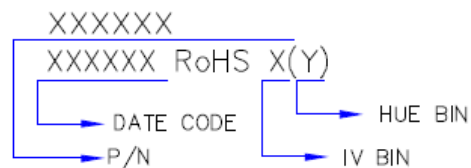
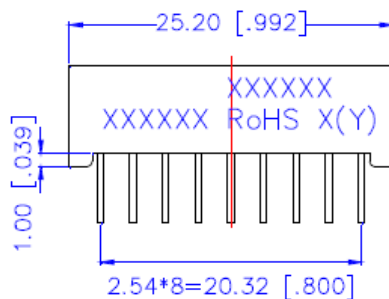
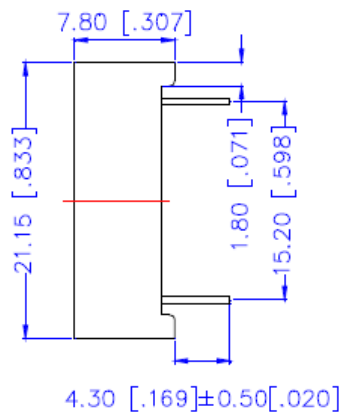
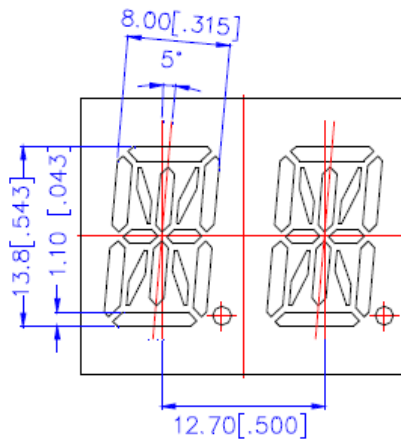
Details

- 0.54" (13.8mm) Alphanumeric LED Display
- 2 Digit
- Common Anode and Common Cathode
- AlInGaP or InGaN chip material

Features

- Low power consumption
- RoHS Compliant
- Gray Face or Black Surface with White Segments
- Easy mounting on PCB or socket

Mechanical Dimensions



Notes:

1. Dimensions in millimeters [inch], and tolerance is ± 0.25 [.010] unless otherwise noted.
2. Bending \leq Length*1%
3. All pins are $\varnothing 0.51$ [.020] ± 0.1 [.004]
4. Specifications subject to change without notice





Device Selection Guide

Model Number		Chip		Note
Common Anode	Common Cathode	Material	Emitting Color	
PAC542-CAMG05	PAC542-CCMG05	InGaN	Pure Green	Add "BW" to end of part number for Black Face, White Segment version
PAC542-CAMG17	PAC542-CCMG17	AlInGaP	Yellow Green	
PAC542-CAMY04	PAC542-CCMY04		Yellow	
PAC542-CAMA11	PAC542-CCMA11		Amber	
PAC542-CAMR02	PAC542-CCMR02		Orange-Red	
PAC542-CAMR11	PAC542-CCMR11		Red	
PAC542-CAMR21	PAC542-CCMR21		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	--	218	--	mcd	IF=10mA
		G17	--	15	--		
		Y04	--	50	--		
		A11	--	70	--		
		R02	--	40	--		
		R11	--	30	--		
		R21	--	25	--		
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	--		
		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

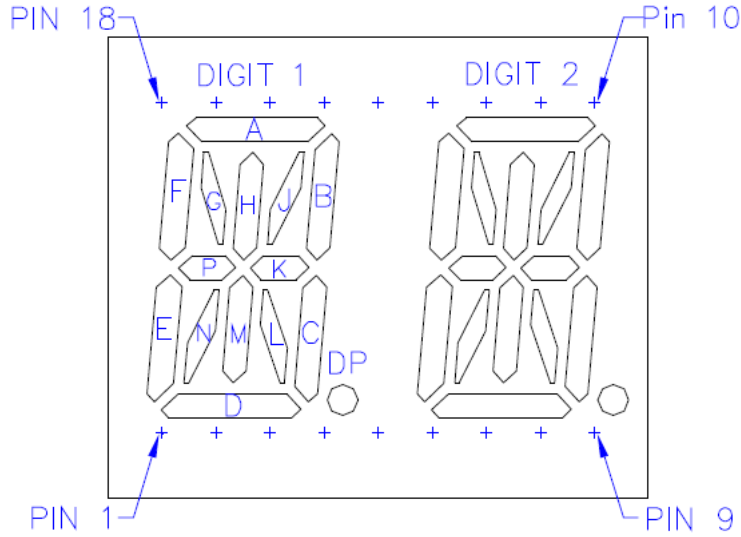
● Red (R11)

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

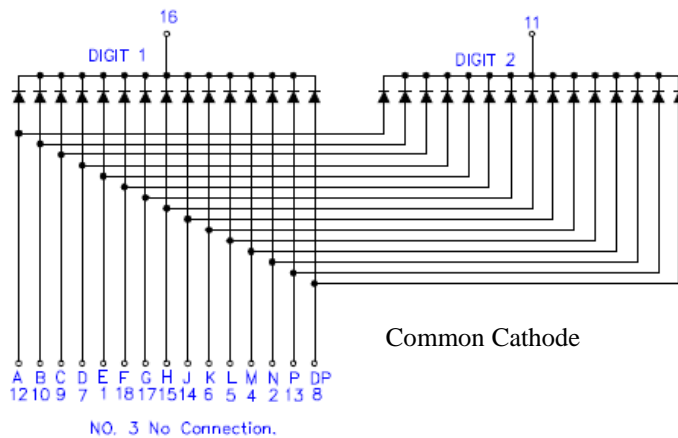
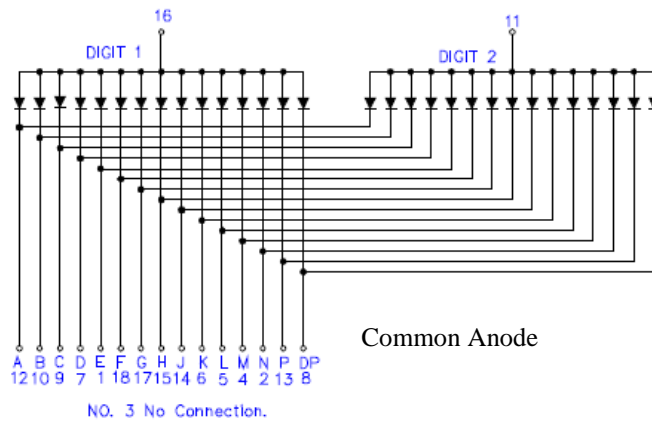
● Deep Red (R21)

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)

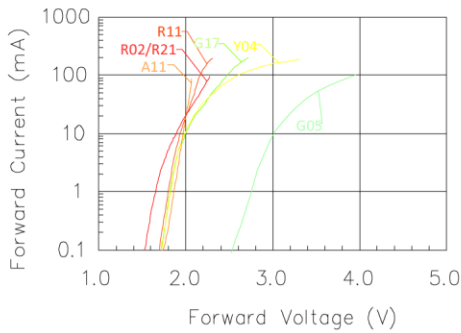


Fig 1. Forward Current vs. Forward Voltage

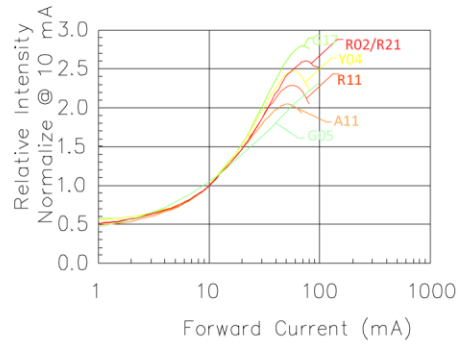


Fig 2. Relative Intensity vs. Forward Current

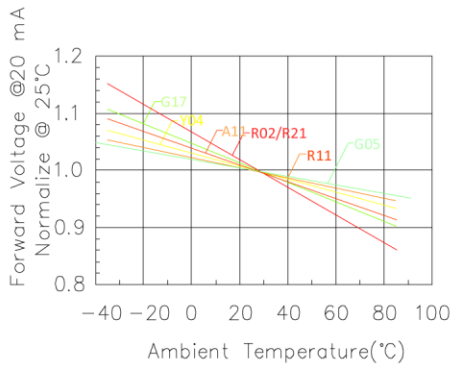


Fig 3. Forward Voltage vs. Temperature

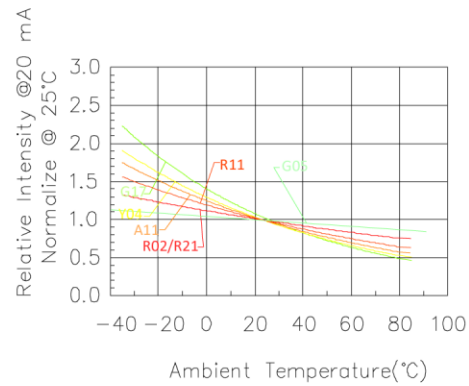


Fig 4. Relative Intensity vs. Temperature

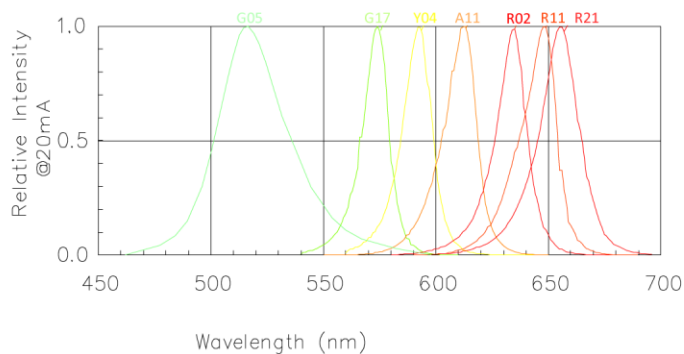


Fig 5. Relative Intensity vs. Wavelength

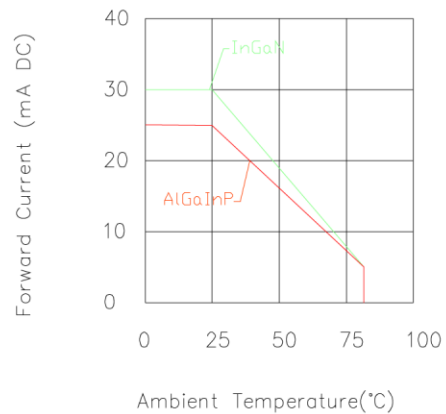


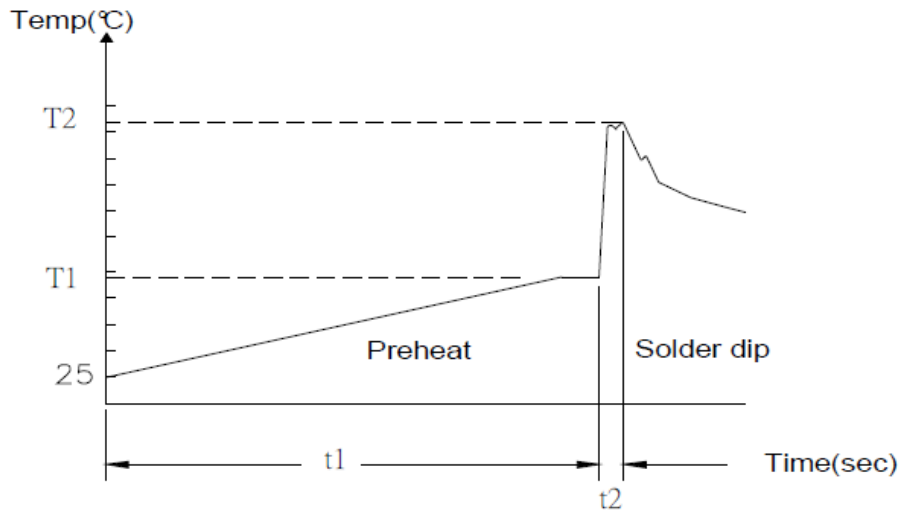
Fig 3. Forward Current vs. Ambient Temperature

Precautions for Use

1. Recommended soldering conditions

- a. Wave soldering
 - i. Distance: 1.6mm min (From seating plane)

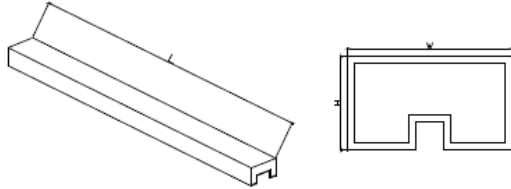
Item	Condition		Note
Preheat	Temperature T1	80 – 120°C	PWB temperature (Soldering side surface)
	Time t1	60 – 180sec	
Solder Dip	Temperature T2	230 – 260°C	Bath temperature
	Time t2	2 – 4sec	Solder tank passage time



2. Hand Soldering (Iron Condition)

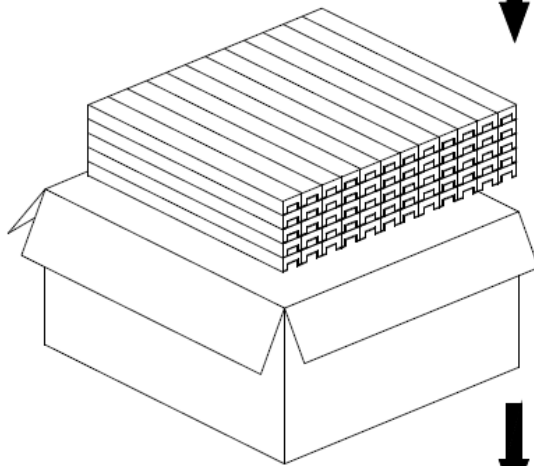
- a. Soldering Iron: 30W Max
- b. Temperature 350°C Max
- c. Soldering Time: 3 Seconds Max (One Time)
- d. Distance: 1.6mm min (From seating plane)

Packing Dimensions



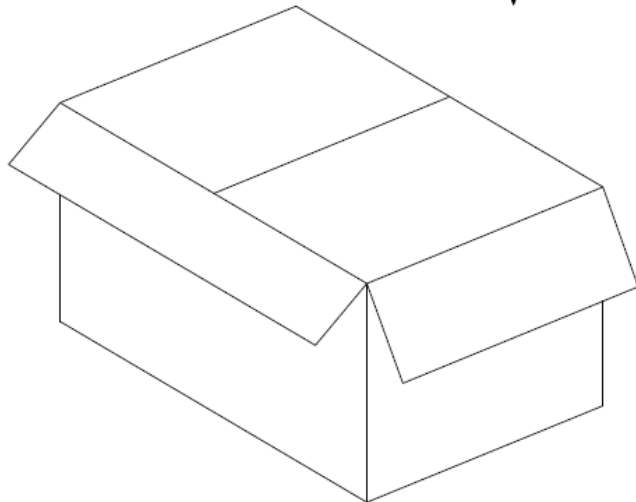
1 Tube From Box = 20PCS

Tube SIZE:
L520XW23XH21mm



60 Tubes Per Inner Box
Q'TY 1200 PCS

Box SIZE:
L530 X W265 X H155mm



2 Boxes Per Carton
TOTAL Q'TY 2400 PCS

Carton SIZE:
L540 X W345 X H290mm



PAC542-CxMxx Customer Approval Signatures	Approved By	Checked By	Prepared By

Record Of Revisions			
Rev.	Comments	Page	Date
0	Released Spec	--	02/29/16