PRODUCT SPECIFICATION

Part Number

PA47-CxDG13

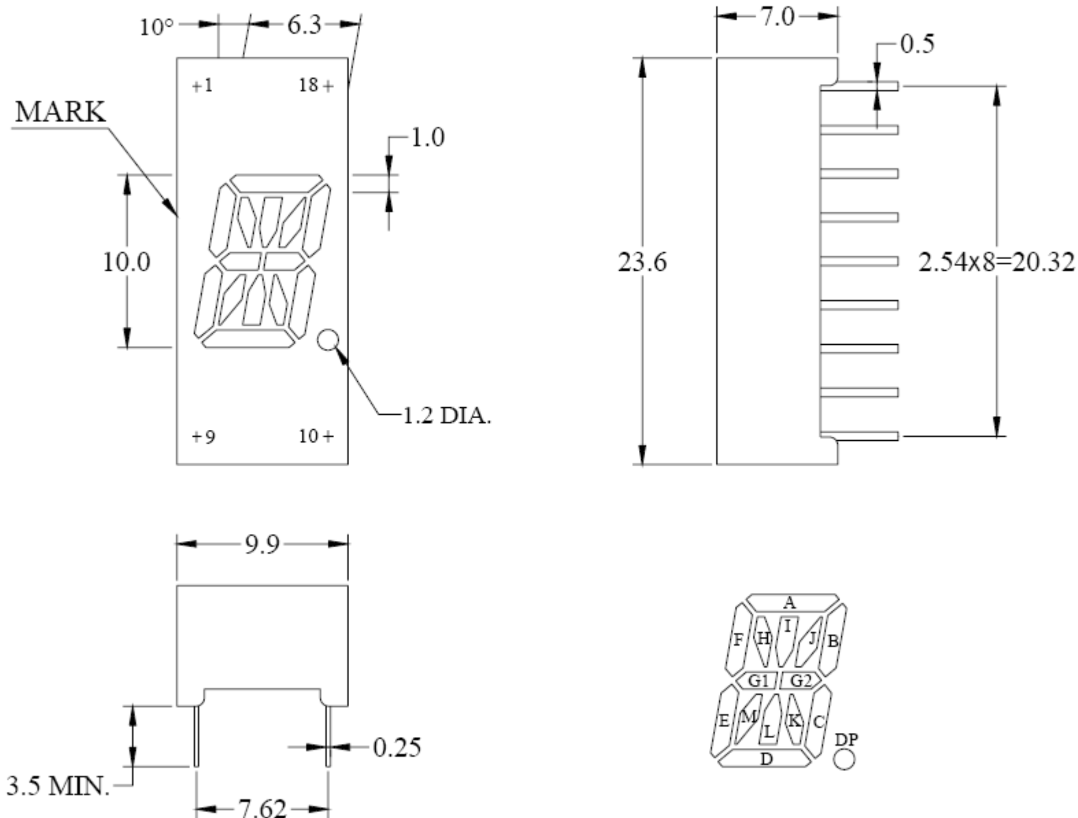
Details

- 0.39” (10.00mm) Display
- 1 Digit, Alphanumeric
- Common Anode or Cathode
- GaP 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 Ø 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	Add "-BW" to end of part number for Black Face, White Segment version
PA47-CADG13	PA47-CCDG13	GaP	Yellow Green	

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rating	Unit
Power Dissipation Per Segment	PAD	78	mW
Pulse Current (1/10Duty Cycle, 0.1ms Pulse Width.) Per Chip	IFP	100	mA
Continuous Forward Current Per Chip	IAF	30	mA
Reverse Voltage Per Chip	VR	5	V
Reverse (Leakage) Current Per Chip	Ir	100	uA
Operating Temperature	Topr	-25~+85	°C
Storage Temperature	Tstg	-40~+100	°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	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity Per Segment	IV	If=10mA/seg.	1.15	2.4		mcd
Forward Voltage	Vf	If=20mA/seg.		2.1	2.6	V
Peak Wavelength	λP	If=20mA/seg.		567		nm
Dominant Wavelength	λD	If=20mA/seg.		572		nm
Reverse Current Per Chip (Leakage Current Per Chip)	Ir	VR=5V			100	μA
Spectrum Line Halfwidth	Δλ	If=20mA/seg.		30		nm
Response Time	T	---		250		ns

P-TEC

Typical Electrical/Optical Characteristic Curves

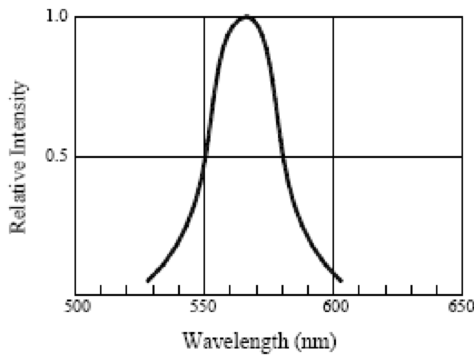


Fig.1 RELATIVE INTENSITY VS. WAVELENGTH

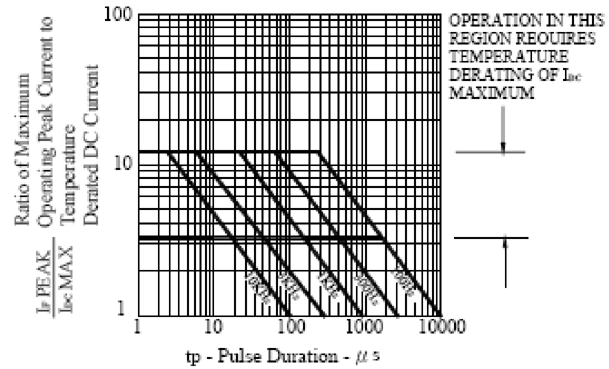


Fig.2 MAXIMUM TOLERABLE PEAK CURRENT VS. PULSE DURATION

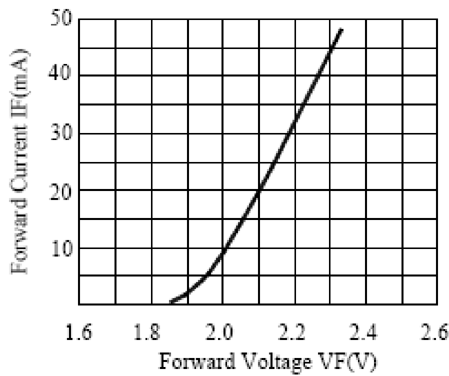


Fig .3 FORWARD CURRENT VS. FORWARD VOLTAGE PER CHIP

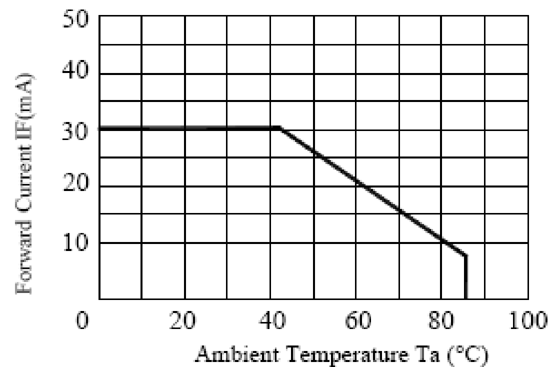


Fig.4 FORWARD CURRENT VS. DERATING CURVE

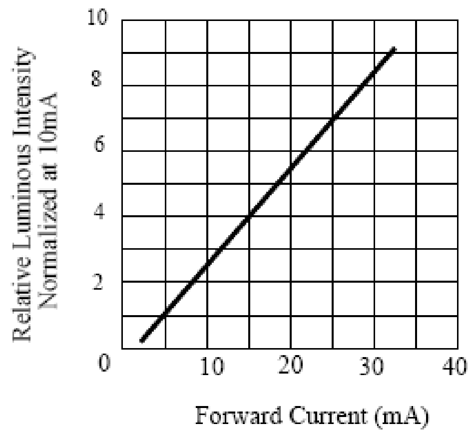


Fig.5 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

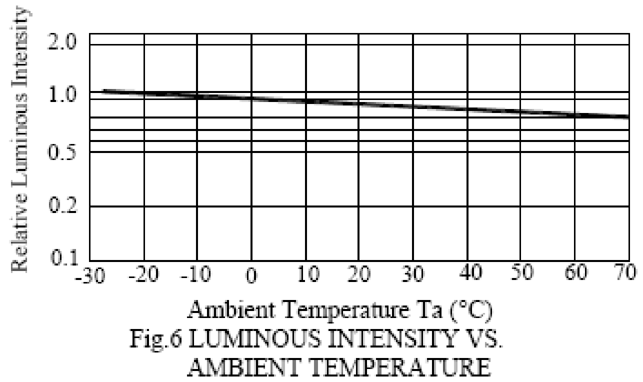


Fig.6 LUMINOUS INTENSITY VS. AMBIENT TEMPERATURE

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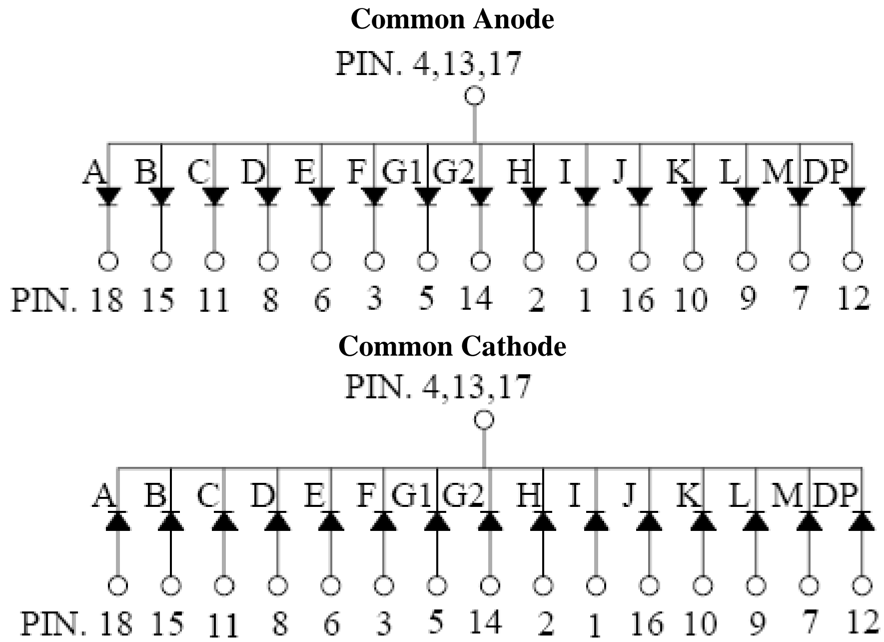
Internal Circuit Diagram



Precautions for Use

PLEASE PAY SPECIAL ATTNTION TO THE NEXT POINT TO INCORPORATE OPTO DEVICE TO HIGH RELIABILITY

1. Do not bend the lead. Bending leads could cause breakage of leads or the degradation of the chip.
   When bending is unavoidable, strictly follow the cautionary instruction below.

   (1)Bend the leads before soldering.

   (2)Bending a lead must be done by fixing a lead tightly and applying no stress on the resin part.

   (3) The lead bending point must be more than 1.6mm away from the edge or the resin part.

   (4)When a pin is tested for its endurance, bending degree should be 45° and repeated no more than two times.

2. Setting a product by using tool such as a holder should be avoided.
   When necessary, no stress should be applied to the resin part and lead to consider dimension tolerance, thermal expansion, thermal contraction of holder, product and circuit board etc.

3. The hole pitch of a circuit board must fit into the lead pitch of products.

4. When soldering, extra care for the following:

   (1)Do not heat a product under any stress (i.e.: twist) to leads.

   (2)Do not heat (for example, by soldering) a product while outside force is applied the resin part.

   (3) The lead bending point must be more than 1.6mm away from the edge or the resin part.

   (4)Soldering with PC Board should be conducted with following conditions.

   (a) For dip soldering
   Pre-heating: 90°C Max. For within 60 Sec.
   Soldering Max. : 260±5°C (Solder Temp.) for within 5 Sec.
   (b) Soldering iron: 350°C (Soldering iron tip) for within 3 Sec.

5. Flux could corrode the leads. Use flux that contains as little chlorine as possible (RA, RMA, less than 0.2 wt%) and need not be washed way. When, however, washing is necessary, partially wash around the leads, instead of the entire LED, by the following conditions.
   Cleaning agent: Methyl Alcohol
   Cleaning temp: 45°C Max.
   Cleaning time: 30Sec. Max.

6. Minimum amount of soldering flux should be used. Soldering flux should be applied only to the pin portion.

7. The following may damage products or LED chips: Attachment or contact of residual flux solvent onto the product surface or to LED chips, or invasion of the same into the product.

Customer Approval Signatures	Approved By	Checked By	Notes/Remarks

Record Of Revisions			
Rev.	**Comments**	**Page**	**Date**
0	Released Spec	--	6/6/13