

# QDSP-6064 4-DIGITS MICRO NUMERIC INDICATOR (7 Segment Monolithic)

#### **Features**

ULTRA LOW POWER

Excellent Readability at Only 500µA Average per Segment

 CONSTRUCTED FOR STROBED OPERATION

Minimizes Lead Connections

STANDARD DIP PACKAGE

End Stackable Integral Red Contrast Filter Rugged Construction

 CATEGORIZED FOR LUMINCUS INTENSITY

Assures Uniformity of Light Output from Unit to Unit within a Single Category

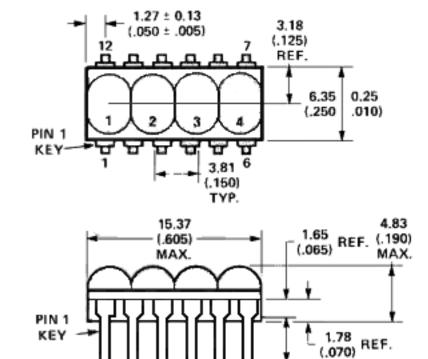
IC COMPATIBLE

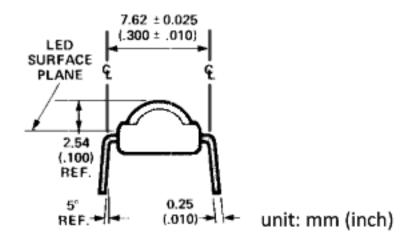
#### Package Description

0.51

TYP.

(.020) -





(.100)

TYP.

4.43 ± 0.51

(.175 ± .020)

## Description

The HP QDSP-6064 are 2.79mm (.1 1"), micro seven segment GaAsP numeric indicators packaged in 4 digits end-stackable clusters. An integral magnification technique increases the luminous intensity, thereby making ultra-low power consumption possible. Options include either the standard lower right hand decimal point or a centered decimal point for increased legibility in multi-cluster applications.

Applications include hand-held calculators, portable instruments, digital thermometers, or any other product requiring low power, minimum space, and long lifetime indicators.

### Mechanical

The QDSP-6064 package is a standard 12 Pin DIP consisting of a plastic encapsulated lead frame with integral molded lenses. It is designed for plugging into DIP sockets or soldering into PC boards. The lead frame construction allows use of standard DIP insertion tools and techniques. Alignment problems are simplified due to the clustering of digits in a single package. The shoulders of the lead frame pins are intentionally raised above the bottom of the package to allow tilt mounting of up to 20° from the PC board.

# **Absolute Maximum Ratings**

Parameter	Symbol	Min.	Max.	Units
Peak Forward Current per Segment (Duration < 1 msec)	I PEAK		110	mA
Average Current per Segment	I AVG		5	mA
Power Dissipation per Digit [1]	PD		80	mW
Operating Temperature, Ambient	TA	-40	75	°C
Storage Temperature	Ts	-40	100	°C
Reverse Voltage	V <sub>R</sub>		5	٧

NOTES: 1. At 25°C; derate 1mW/°C above 25°C ambient. 2. See Mechanical Section for recommended flux removal solvents

## Electrical /Optical Characteristics at TA=25°C

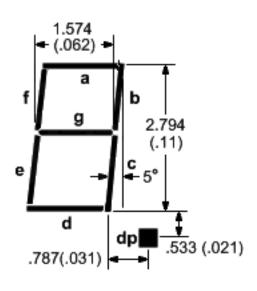
Parameter	Symbol	Test Condition	Min.	Тур.	Max.	Units
Luminous Intensity/Segment or dp (Time Averaged) [3]	I <sub>V</sub>	I <sub>AVG</sub> =1mA (I <sub>PK</sub> =10mA Duty cycle=10%)	5	20		μcd
Peak Wavelength	λpeak			655		nm
Forward Voltage/Segment or dp	V <sub>R</sub>	I <sub>R</sub> =10mA		1.6	2.0	>
Reverse Current/Segment or dp	I <sub>R</sub>	V <sub>R</sub> =5V			100	μΑ
Rise and Fall Time [4]	t <sub>r</sub> ,t <sub>f</sub>			10		ns

NOTES: 3. The digits are categorized for luminous intensity. Intensity categories are designated by a letter located on the hack side of the package. 4. Time for a 10%-90% change of light intensity for step change in current.

## **Device Pin Description**

PIN NO.	FUNCTION
1	CATHODE 1
2	ANODE e
3	ANODE c
4	CATHODE 3
5	ANODE dp
6	CATHODE 4
7	ANODE g
8	ANODE d
9	ANODE f
10	CATHODE 2
11	ANODE b
12	ANODE a

## **Font Description**



unit: mm (inch)