

# Signetics

## Integrated Circuits – Phase Locked Loop

### NE560 Series – Phase Locked Loop

#### GENERAL DESCRIPTION

The NE560 Phase Locked Loop (PLL) is a monolithic signal conditioner and demodulator system comprising a VCO, Phase Comparator, Amplifier and Low Pass Filter, interconnected as shown in the accompanying block diagram. The center frequency of the PLL is determined by the free running frequency ( $f_0$ ) of the VCO. This VCO frequency is set by an external capacitor and can be fine tuned by an optional potentiometer. The low pass filter, which determines the capture characteristics of the loop, is formed by the two capacitors and two resistors at the Phase Comparator output.

The PLL system has a set of self biased inputs which can be utilized in either a differential or single ended mode. The VCO output, in differential form, is available for signal conditioning, frequency synchronization, multiplication and division applications. Terminals are provided for optional extended control of the tracking range, VCO frequency, and output dc level.

The monolithic signal conditioner-demodulator system is useful over a wide range of frequencies from less than 1Hz to more than 15MHz with an adjustable tracking range of  $\pm 1\%$  to  $\pm 15\%$ .

#### FEATURES

- FM demodulation without tuned circuits
- Narrow bandpass:  $\pm 14\%$  adjustable
- Exact frequency duplication in high noise environment
- Wide tracking range:  $\pm 15\%$
- High linearity: 1% distortion max
- Frequency multiplication and division

#### APPLICATIONS

- Tone decoders
- FM IF strips
- Telemetry decoders
- Data synchronizers
- Signal reconstitution
- Signal generators
- Modems
- Tracking filters
- SCA receivers
- FSK receivers
- Wide band high linearity detectors

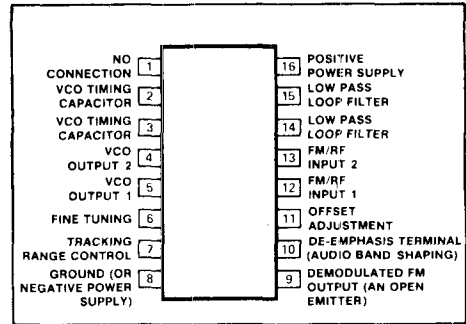
#### MAXIMUM RATINGS

PARAMETER	RATING	UNIT
Maximum operating voltage	26	V
Input voltage	1	V <sub>rms</sub>
Storage temperature	-65 to +150	°C
Operating temperature	0 to +70	°C
Power dissipation	300	mW

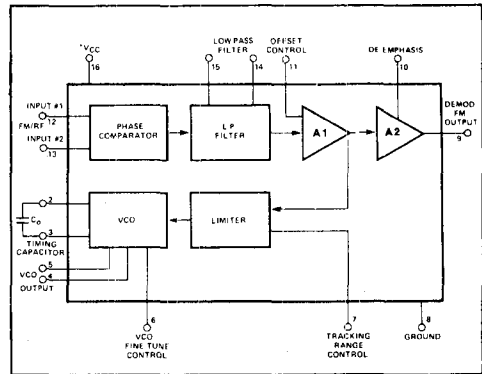
#### NOTE

Limiting values above which serviceability may be impaired.

#### CONNECTION DIAGRAM



#### BLOCK DIAGRAM

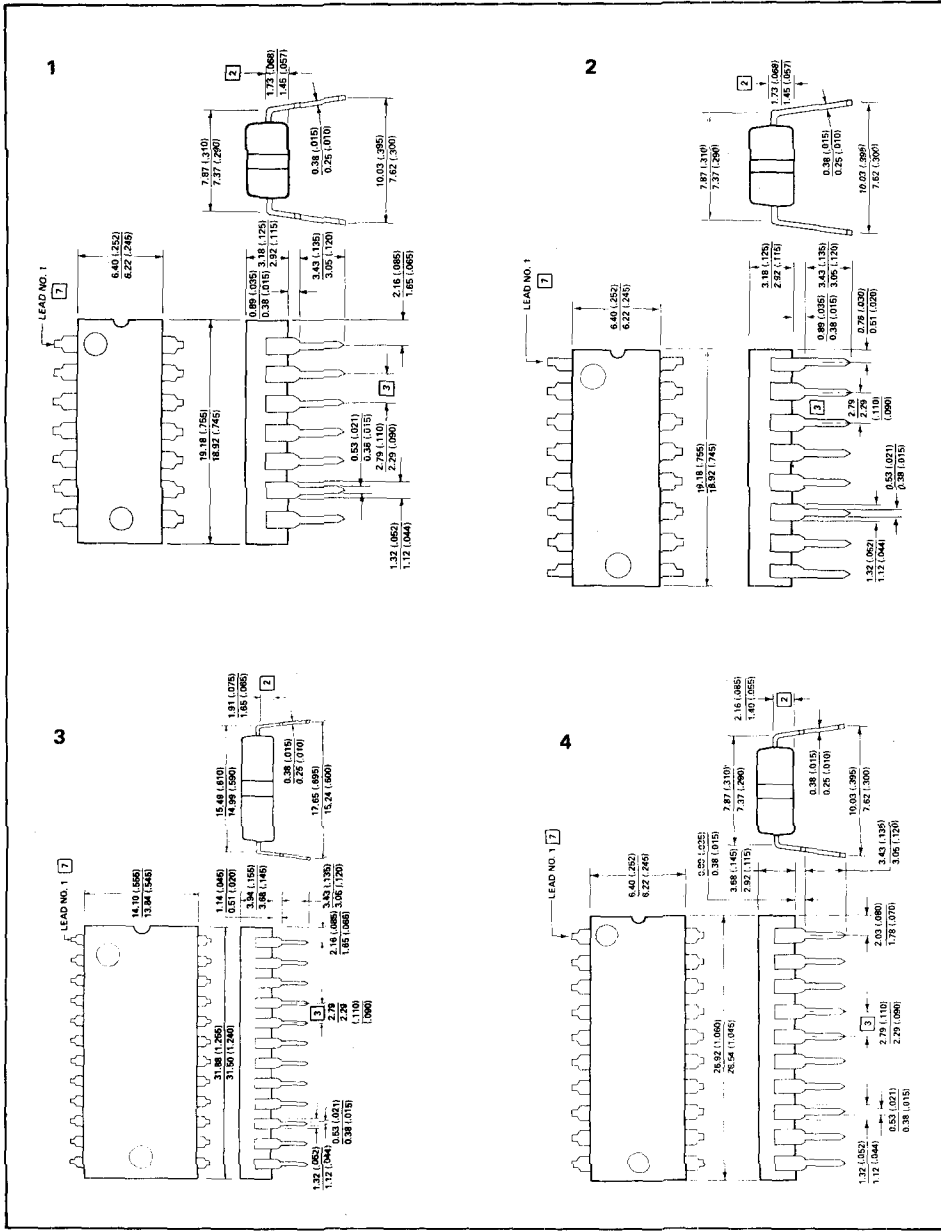


#### REFERENCE TABLE

TYPE NO.	STOCK NO.	OUTLINE DRWG. NO.
NE560N	56043H	2



FOR CURRENT PRICES PHONE HARLOW (0279) 29644



PLEASE QUOTE STOCK NO.  
AND MANUFACTURERS PART NO. WHEN ORDERING



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## Outline Drawings



**TTT GEMINI**

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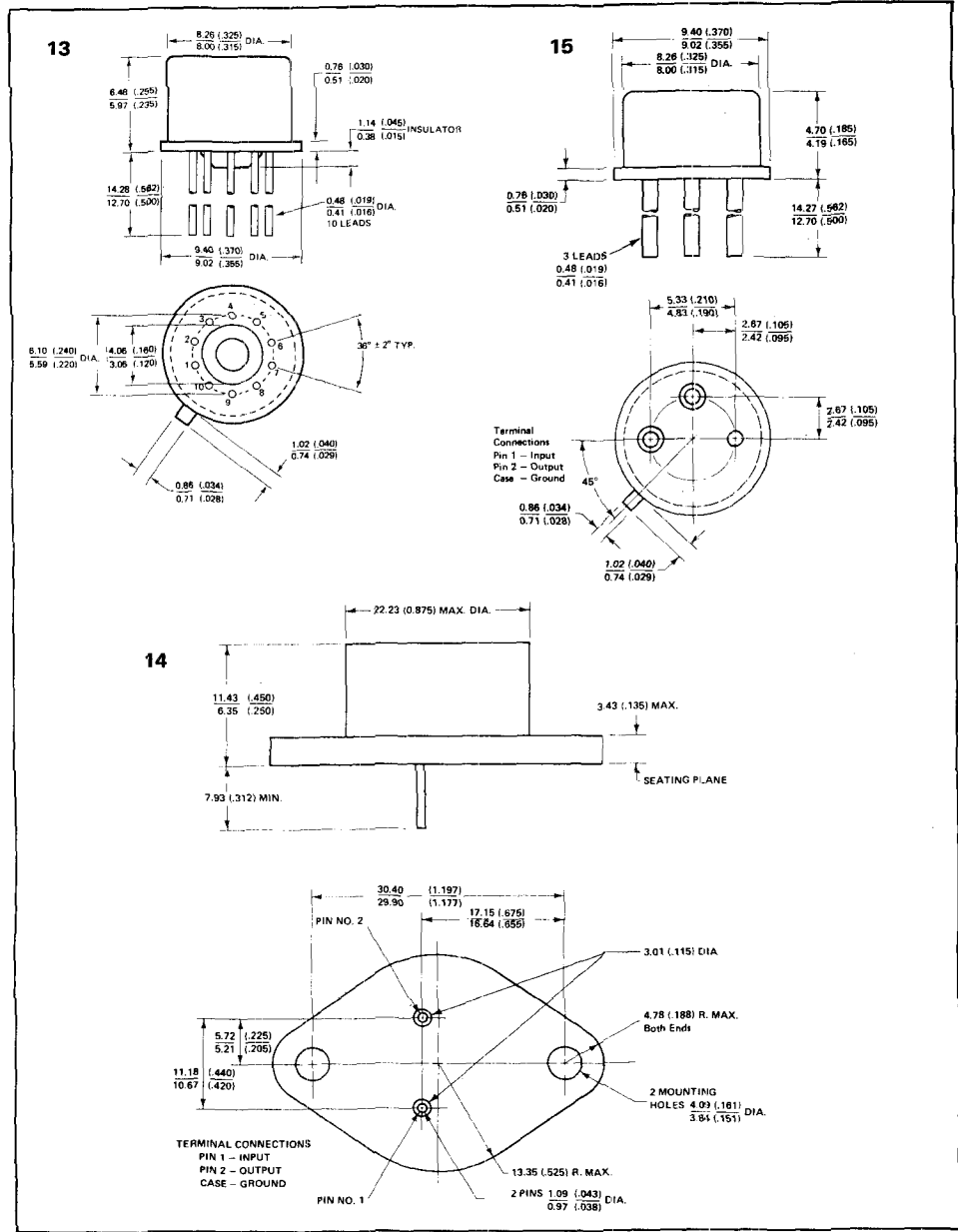


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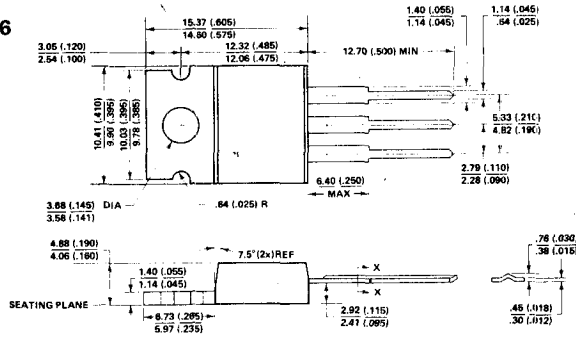
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## Outline Drawings



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