

NE561 Series – Phase Locked Loop

GENERAL DESCRIPTION

The NE561 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 centre 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 is available for signal conditioning, frequency synchronization, multiplication and division applications. Terminals are provided for optional external control of the tracking range, VCO frequency, and output dc level. An analog multiplier block is incorporated into the PLL system to provide frequency selective synchronous AM detection capability.

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

FEATURES

- FM demodulation without tuned circuits
- Synchronous AM detection
- Narrow band pass to $\pm 1\%$
- Exact frequency duplication in high noise environment
- Adjustable tracking range
- Wide tracking range to $\pm 15\%$
- High linearity: 1% distortion max
- Frequency multiplication and division through harmonic locking

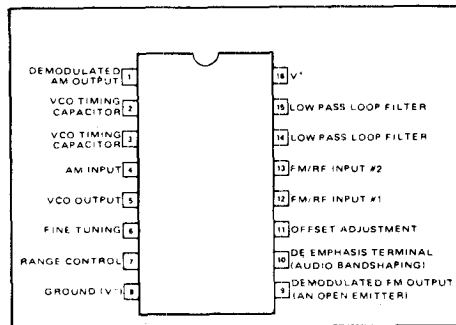
APPLICATIONS

- Tone decoders AM-FM-IF strips
- Telemetry decoders data synchronizers
- Signal reconstitution
- Signal generators
- Modems
- Tracking filters
- SCA receivers
- FSK receivers
- Wide bank high linearity detectors
- Synchronous detectors
- AM receiver

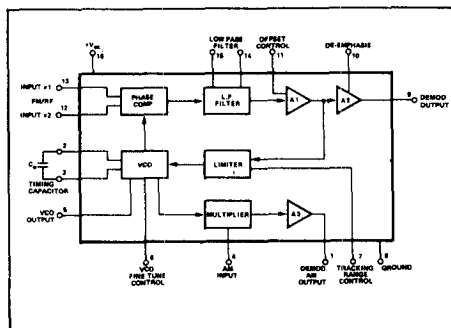
REFERENCE TABLE

TYPE NO.	STOCK NO.	OUTLINE DRAWG NO.
NE561N	56044F	2

CONNECTION DIAGRAM



BLOCK DIAGRAM

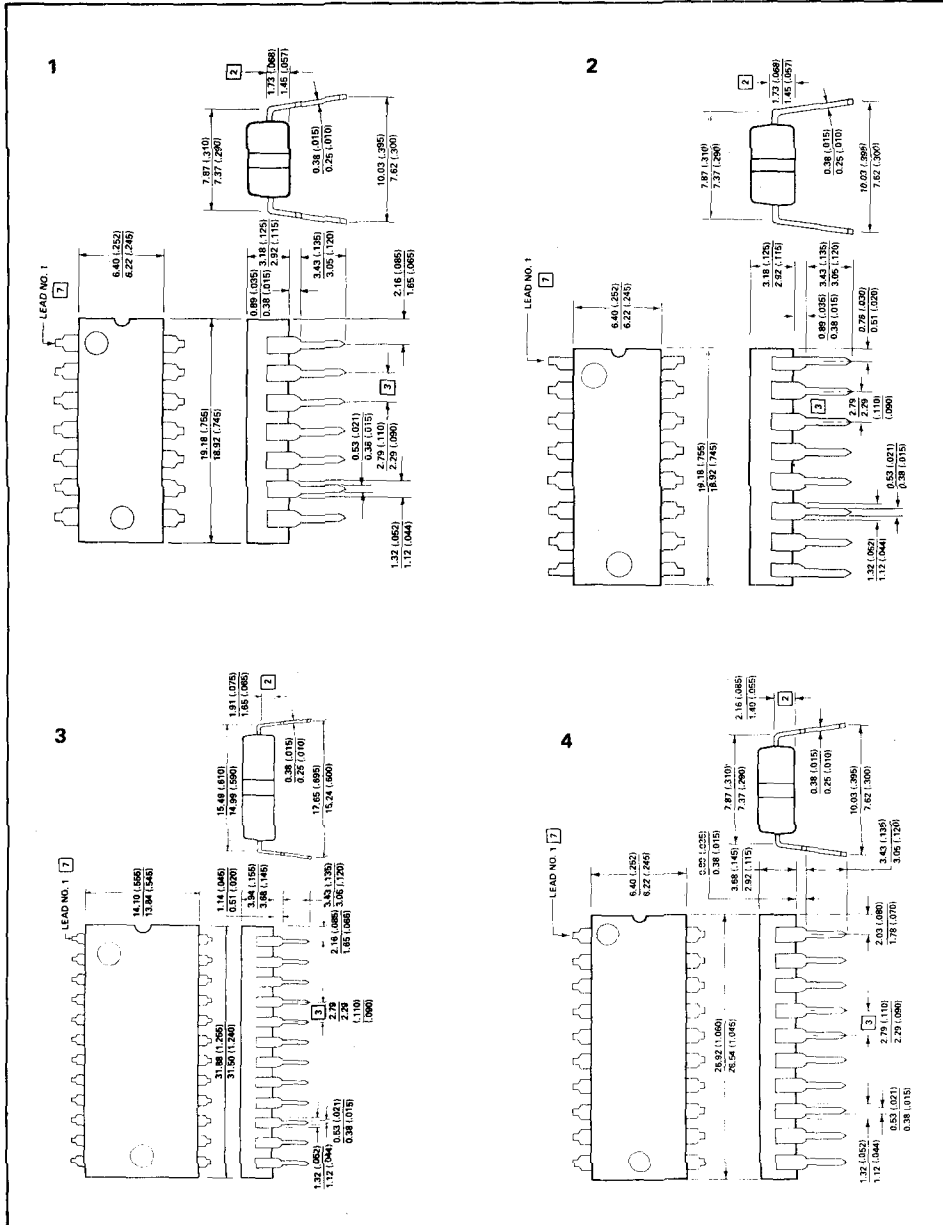


MAXIMUM RATINGS

PARAMETER	RATING	UNIT
Maximum operating voltage	26	V
Input voltage	1	V _{rms}
Storage temperature	-65 to +150	°C
Operating temperature	0 to +70	°C
Power dissipation	300	mW

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

III GEMINI

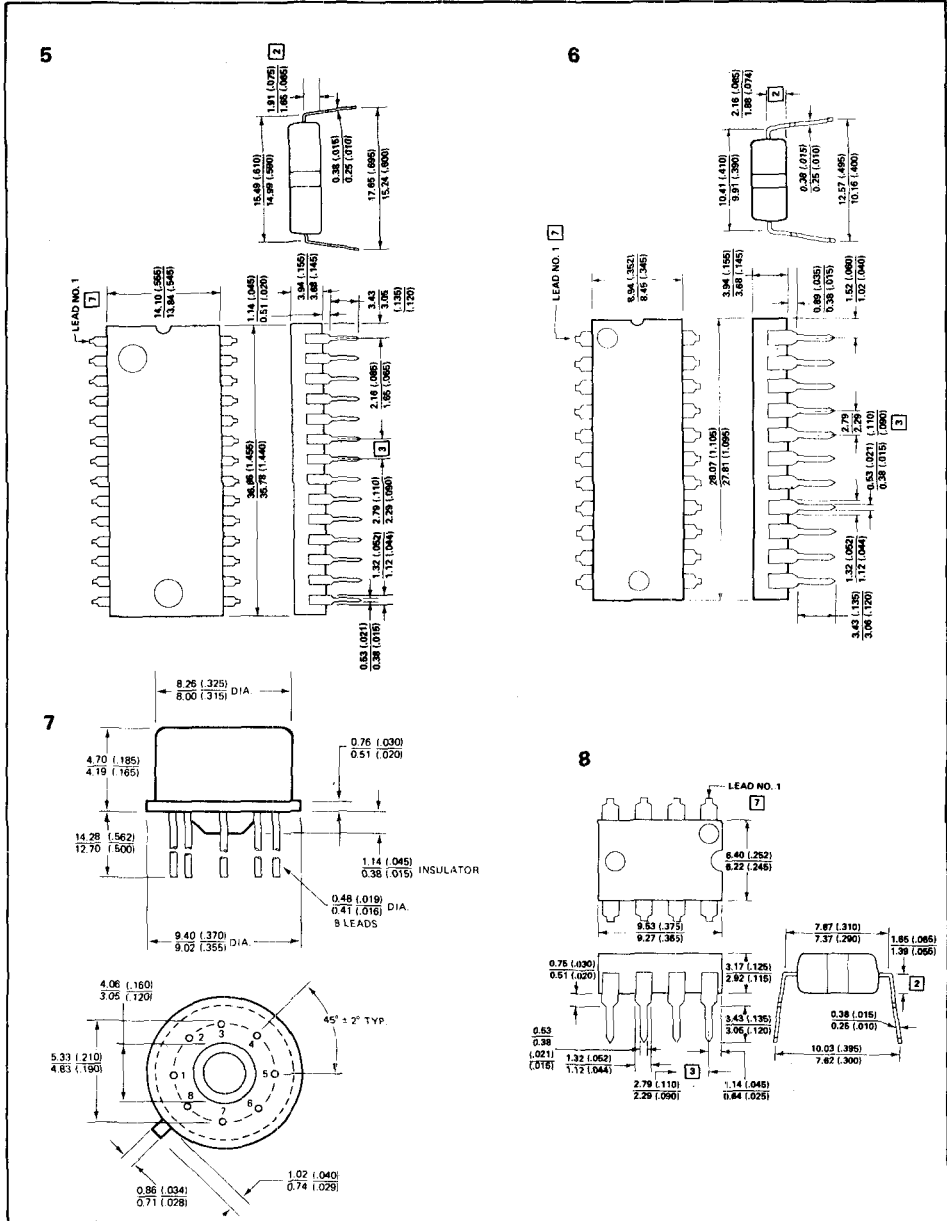


PLEASE QUOTE STOCK NO.
AND MANUFACTURERS PART NO. WHEN ORDERING



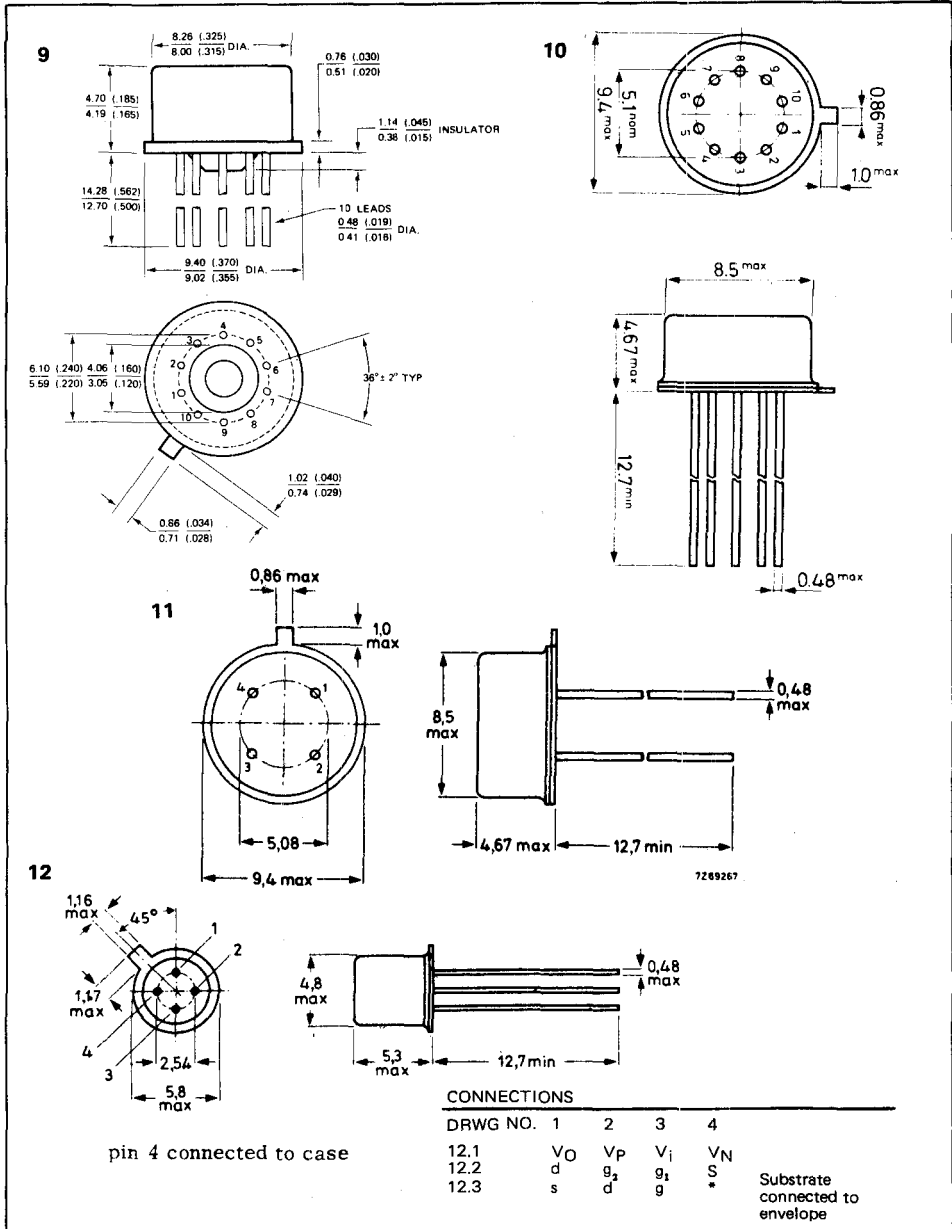
Signetics

Outline Drawings



GEMINI

FOR CURRENT PRICES PHONE
HARLOW (0279) 29644

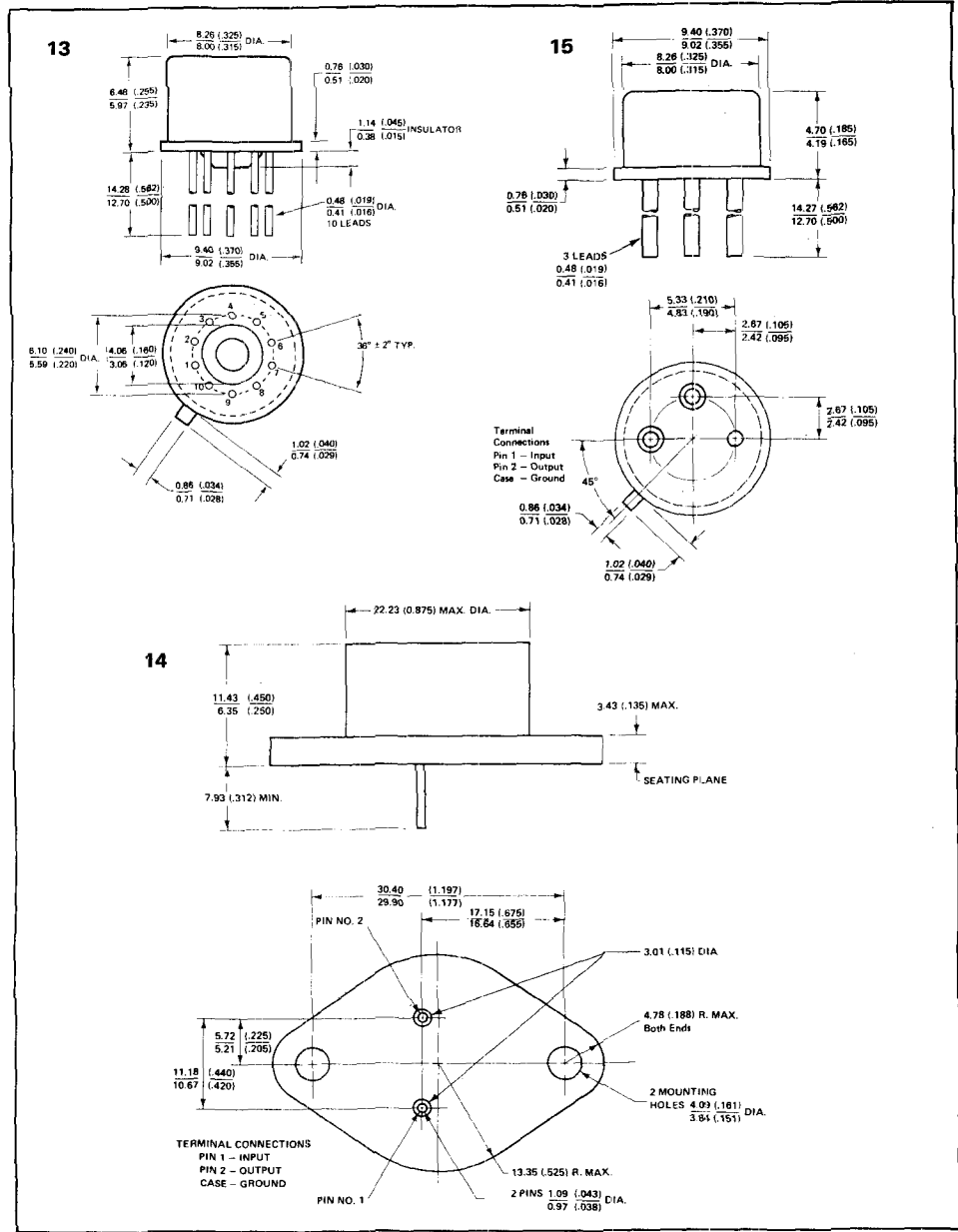


PLEASE QUOTE STOCK NO.
AND MANUFACTURERS PART NO. WHEN ORDERING

III GEMINI

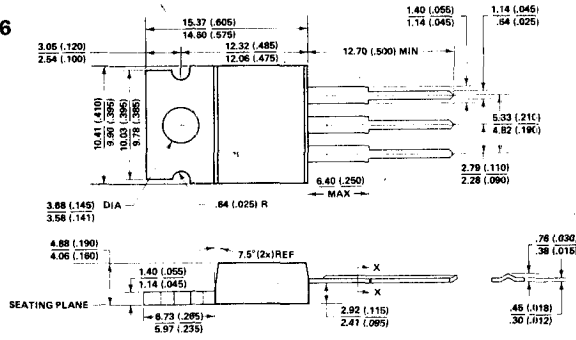
Signetics

Outline Drawings

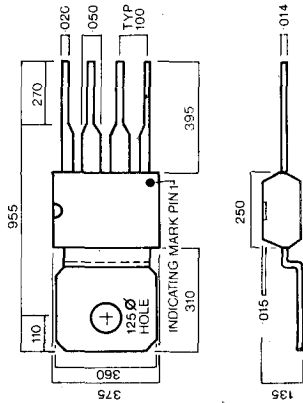


FOR CURRENT PRICES PHONE HARLOW (0279) 29644

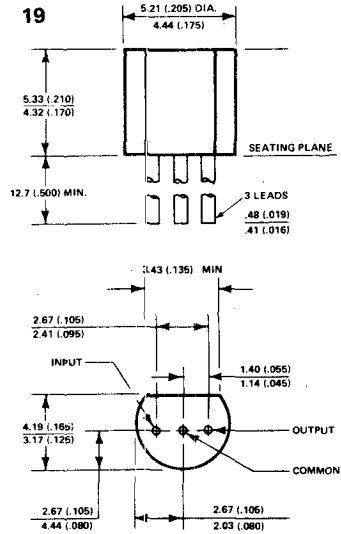
16



17



19



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

TTT GEMINI

