# National Semiconductor

# **Semiconductors**

Linear I.C.'s - Consumer Circuits

# LM270 Series AGC/Squelch Amplifier

#### REFERENCE TABLE

| Code   | Stock No.      |
|--------|----------------|
| LM270H | 19659B         |
| LM370H | 19667B         |
| LM370N | 19753 <b>F</b> |

## GENERAL DESCRIPTION

The LM270/370 is a direct coupled monolithic amplifier whose voltage gain is controlled by an external DC voltage.

#### **FEATURES**

Large gain control range.

Self-contained AGC/Squelch system, with fast-attack, slow-release.

Low distortion.

Minimum DC output shifts as gain is varied.

Differential inputs, with large common-mode input range.

Outputs of several amplifiers may be directly summed in multichannel systems.

Dissipates only 18mW from +4.5V supply, usable with supply up to +24V.

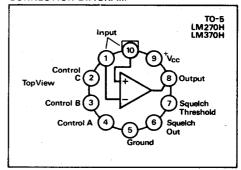
Sensitive squelch threshold set by single external resistor.

In addition to communication system squelch and AGC applications, the LM270/370 is useful as constant-amplitude audio oscillator, linear low frequency modulator, single-sideband automatic load control, and as a variable DC gain element in analog computation.

## **ABSOLUTE MAXIMUM RATINGS**

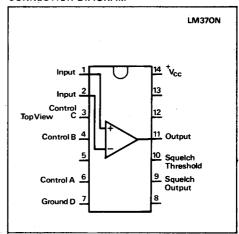
| Supply voltage                          | 24V                            |
|---|--------------------------------|
| Storage temperature                     | -65°C to +150°C                |
| Operating temperature<br>LM270<br>LM370 | −25°C to +75°C<br>0°C to +70°C |
| Differential input voltage              | ±19.5V                         |

#### CONNECTION DIAGRAM



See outline drawing No. 98 for dimensions.

### CONNECTION DIAGRAM



See outline drawing No. 109 for dimensions.

| Common-mode input voltage                    | (V <sub>CC</sub> +0.4)V |
|--|-------------------------|
| Output short circuit duration                | Indefinite              |
| Voltage applied to Pin 3 or 4                | +6.0V                   |
| Voltage applied to Pin 2                     | +12.0V                  |
| Surge power into Pin 6<br>(1 second maximum) | 1000mW                  |
| Continuous power into Pin 6                  | 100mW                   |