



SANYO Semiconductors

DATA SHEET

# LA7019 — Monolithic Linear IC Electronic Switch for Use in VTR Applications

**Features**

- Wide input dynamic range
- Low distortion
- Good frequency characteristic

**Maximum Ratings at Ta = 25°C**

| Parameter                   | Symbol              | Conditions | Value       | unit |
|-----------------------------|---------------------|------------|-------------|------|
| Maximum Supply Voltage      | V <sub>CC</sub> max |            | 15          | V    |
| Allowable Power Dissipation | P <sub>d</sub> max  | Ta ≤ 65°C  | 300         | mW   |
| Operating Temperature       | Topg                |            | -20 to +65  | °C   |
| Storage Temperature         | Tstg                |            | -40 to +125 | °C   |

**Operating Characteristics at Ta = 25°C, V<sub>CC</sub> = 12V**

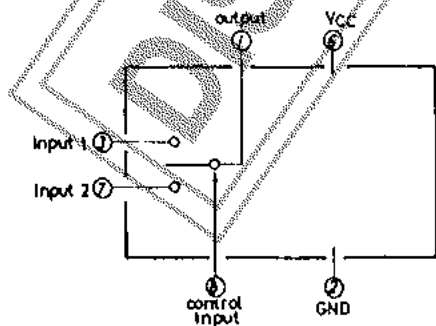
| Parameter                  | Symbol            | Conditions   | min  | typ   | max  | unit |
|----------------------------|-------------------|--|------|-------|------|------|
| Circuit Current            | I <sub>D</sub>    |  |      | 9.3   | 12.5 | mA   |
| Total Harmonic Distortion  | THD               | *R <sub>g</sub> = 600Ω, 4.5V <sub>p-p</sub> , f = 1kHz, R <sub>L</sub> = ∞                       |      | 0.007 | 0.1  | %    |
| Noise                      | e <sub>n</sub>    | *R <sub>g</sub> = 600Ω, f = 20Hz to 20kHz, R <sub>i</sub> = ∞                                    |      | -93   | -80  | dBs  |
| Crosstalk                  | I <sub>sl</sub>   | *Input A : R <sub>g</sub> = 50Ω, f = 3.58MHz<br>2V <sub>p-p</sub> Input B : R <sub>g</sub> = 1kΩ | 46   | 60    |      | dB   |
| Pedestal                   | ΔV <sub>ped</sub> | V <sub>g</sub> = 2.2 to 3.0V   | -100 | 0     | +100 | mV   |
| Second Harmonic            |                   | R <sub>g</sub> = 50Ω, f = 1MHz, 4.0V <sub>p-p</sub> , R <sub>L</sub> = ∞                         | 46   | 55    |      | dB   |
| Third Harmonic             |                   | R <sub>g</sub> = 50Ω, f = 1MHz, 4.0V <sub>p-p</sub> , R <sub>L</sub> = ∞                         | 46   | 52    |      | dB   |
| Control, Threshold Voltage | V <sub>8S</sub>   |  | 2.2  | 2.6   | 3.0  | V    |
| Pin Voltage (pin 1)        | V <sub>1</sub>    |  |      | 6.9   |      | V    |
| Pin Voltage (pin 3)        | V <sub>3</sub>    | V <sub>8</sub> = 2.0V  |      | 7.6   |      | V    |
| Pin Voltage (pin 3)        | V <sub>3</sub>    | V <sub>8</sub> = 3.0V  |      | 7.6   |      | V    |
| Pin Voltage (pin 7)        | V <sub>7</sub>    | V <sub>8</sub> = 3.0V  |      | 7.6   |      | V    |
| Pin Voltage (pin 7)        | V <sub>7</sub>    | V <sub>8</sub> = 2.2V  |      | 7.6   |      | V    |

Note) \* : Test for input 1 and input 2.

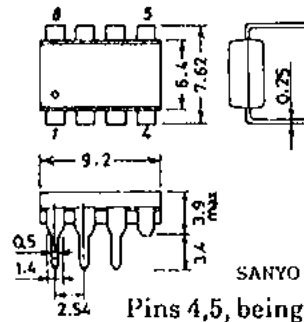
For input 1 test, V<sub>cont</sub> (pin 8 voltage) is 2.0V.

For input 2 test, V<sub>cont</sub> is 3.0V.

**Equivalent Circuit Block Diagram**



**Case Outline 3030A-D8C21C (unit : mm)**



SANYO : Pins 4,5, being not used, are cut.

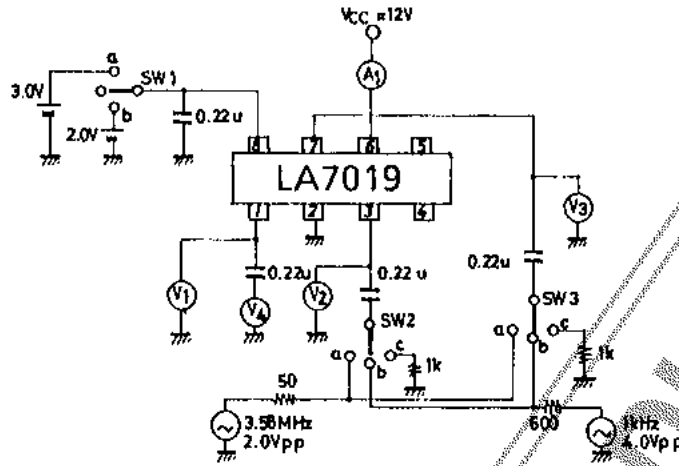
Specifications and information herein are subject to change without notice.

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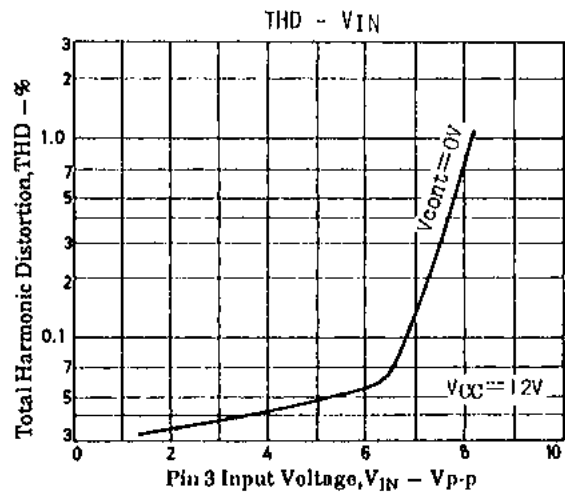
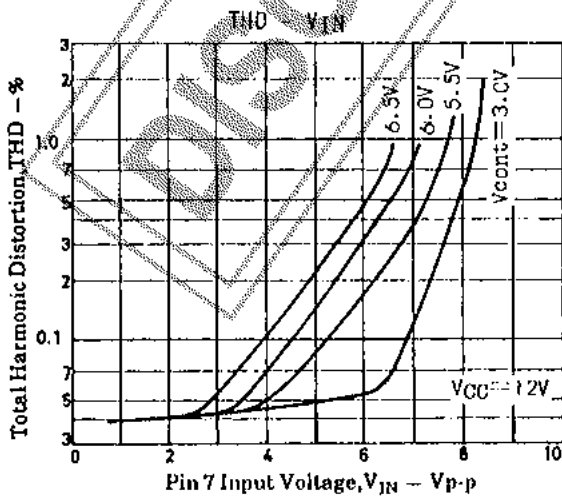
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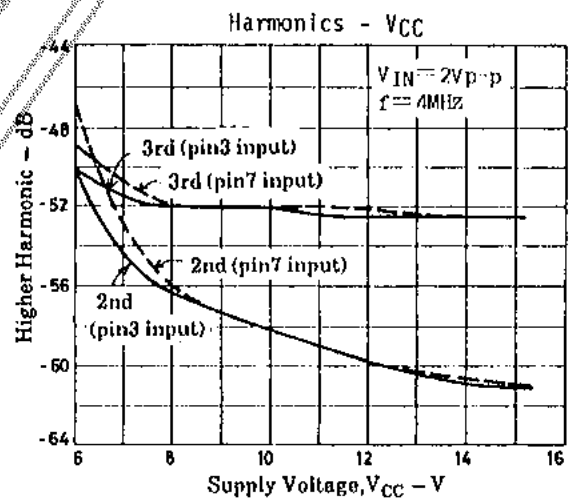
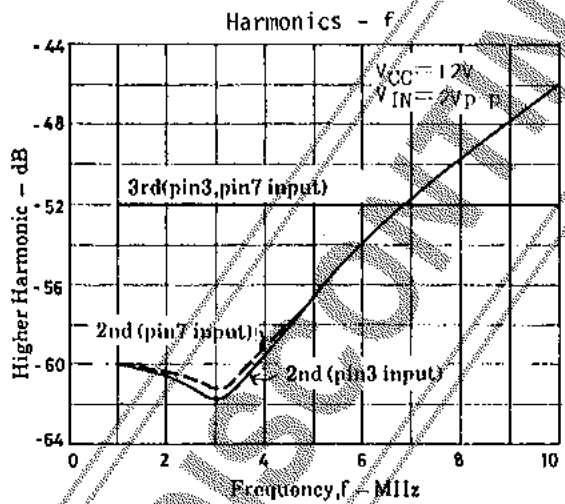
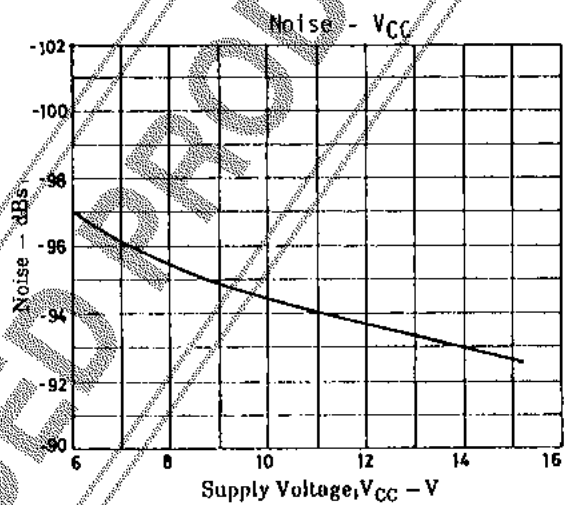
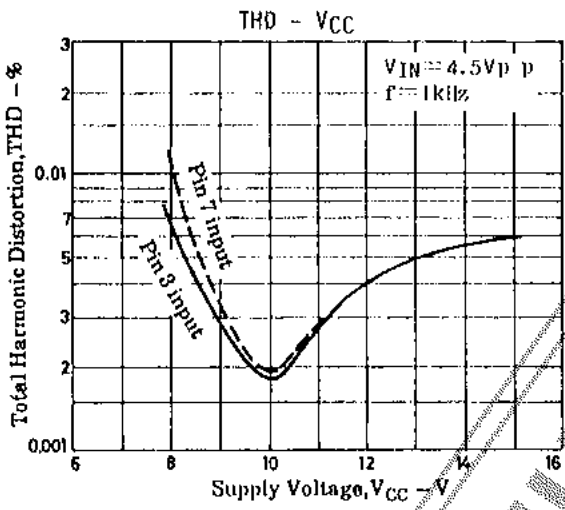
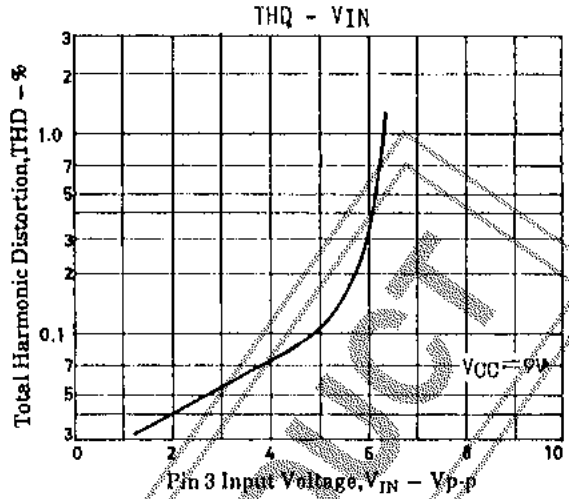
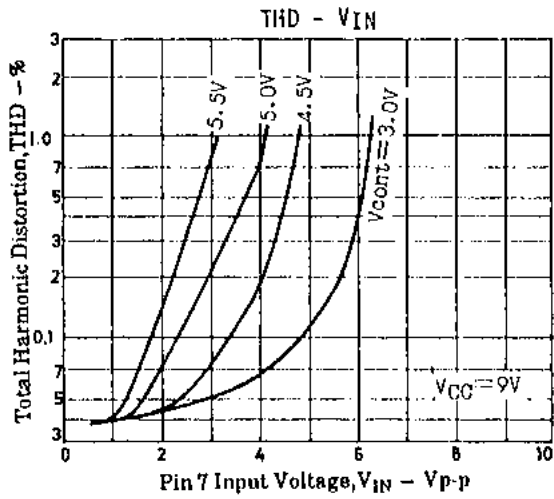
## Test Circuit



## Test Conditions

| Item                | Symbol           | SW mode |     |     | Test Point |
|---------------------|------------------|---------|-----|-----|------------|
|                     |                  | SW1     | SW2 | SW3 |            |
| Circuit Current     | $I_D$            | c       | c   | c   | $A_1$      |
| Distortion (1)      | THD              | b       | b   | c   | $V_4$      |
| Distortion (2)      | THD              | a       | c   | b   | $V_4$      |
| Noise (1)           | $e_n$            | b       | c   | c   | $V_4$      |
| Noise (2)           | $e_n$            | a       | c   | c   | $V_4$      |
| Crosstalk (1)       | $I_{S1}$         | b       | c   | a   | $V_4$      |
| Crosstalk (2)       | $I_{S2}$         | a       | a   | c   | $V_4$      |
| Pedestal            | $\Delta V_{PED}$ | a-b     | c   | c   | $V_1$      |
| Pin voltage (pin 1) |                  | b       | c   | c   | $V_1$      |
| Pin voltage (pin 3) |                  | b       | c   | c   | $V_2$      |
| Pin voltage (pin 3) |                  | a       | c   | c   | $V_2$      |
| Pin voltage (pin 7) |                  | a       | c   | c   | $V_3$      |
| Pin voltage (pin 7) |                  | b       | c   | c   | $V_3$      |





The application circuit diagrams and circuit constants herein are included as an example and provide no guarantee for designing equipment to be mass-produced.  
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