Fact Sheet

Military Semiconductor Products

THS4051M / 5962-9959901QxA

SGYV092, May 2000

70-MHZ HIGH-SPEED AMPLIFIER

HIGHLIGHTS

The THS4051 is a general-purpose, single, high-speed, voltage feedback amplifier ideal for a wide range of applications including video, communication and imaging. The device offers very good AC performance with 70-MHz bandwidth, 300-V/µs slew rate, and 60-ns settling time (0.1%). The THS4051 is stable at all gains for both inverting and non-inverting configurations. This amplifier has a high output drive capability of 100 mA and draws only 8.5-mA supply current. Excellent professional video results can be obtained with the low differential gain/phase errors of 0.01%/0.01° and wide 0.1 db flatness to 30 MHz. For applications requiring low distortion, the THS4051 is ideally suited with total harmonic distortion of -82 dBc at 1 MHz.

KEY FEATURES/BENEFITS

- High Speed
  - 70-MHz Bandwidth (G = 1, -3 dB)
  - 300-V/µs Slew Rate
  - 60-ns Settling Time (0.1%)
- High Output Drive, IO = 100 mA (typ)
- Excellent Video Performance
  - 0.1-dB Bandwidth of 30 MHz (G = 1)
  - 0.01% Differential Gain
  - 0.01° Differential Phase
- Very Low Distortion
  - THD = -82 dBc (f = 1 MHz, RL = 150)
  - THD = -89 dBc (f = 1 MHz, RL = 1 k)
- Wide Range of Power Supplies
  - VCC = ±5 V to ±15 V

DIE SIZE

The current die has a size of: 40 mils x 39 mils.

TECHNOLOGY

- BICOM-1
- ESD level: 1 kV

PACKAGING

Package Option: 8-pin Ceramic Dual in Line Package (JG)
20-pin Leadless Ceramic Chip Carrier (FK)

POWER DISSIPATION

The table below shows modeled data. This data can be used for approximating system thermal characteristics:

Package Thermal Data

Package	$R_{\theta}JA$	$R_{\theta}JC$
8-pin DIP	180ºC/W	14.52ºC/W
20-pin LCC	65ºC/W*	22ºC/W*

*modeled data

Note: much better thermal impedances can be achieved by using air flow or by increasing metal backplane thickness or trace area in the Printed Circuit Board (PCB) that is used.

PROCESS/PERFORMANCE OPTIONS

The THS4051MxxB are processed to MIL-PRF-38535. The DSCC Standard Microcircuit Drawings (SMD) for this device is given below.

DSCC SMD

TI Parent	DSCC SMD
THS4051MFKB	5962-9959901Q2A
THS4051MJGB	5962-9959901QPA
THS4051MJG	N/A

SUPPORT

You can access data sheets via TI's home page on the internet (http://www.ti.com) or reference the literature number SLOS238C when contacting the Product Information Center (PIC).

For additional information on this and other Mixed Signal/Analog Products, contact the PIC or visit our Mixed Signal home page at:

http://www.ti.com/sc/docs/military/product/mix_sig/mixsig_1.htm

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Product Information Center

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