Fact Sheet

Military Semiconductor Products

TLV2442M / 5962-9751101QXA and TLV2442AM / 5962-9751102QXA

SGYV030, March 1997

LinCMOS™ Rail-to-Rail Output Wide-Input-Voltage Dual Operational Amplifier

HIGHLIGHTS

The TLV2442 and TLV2442A are dual rail-to-rail output operational amplifiers manufactured using Texas Instruments Advanced LinCMOS™ process. These devices offer comparable ac performance while having better noise, input offset voltage, and power dissipation than existing CMOS operational amplifiers. In addition, the common-mode input voltage range has been extended over typical standard CMOS amplifiers making this device available for a wider range of applications.

KEY FEATURES/BENEFITS

- Output Swing Includes Both Supply Rails
- Extended Common-Mode Input Voltage Range ...0 V to 4.25 V (Min)at 5-V Single Supply
- Low Noise ...16 $nV/\sqrt{Hz}$ Typ at f = 1 kHz
- Low Input Offset Voltage 950 µV Max at T_A = 25°C (TLV2442A)
- Low Input Bias Current ...1 pA Typ
- 600Ω Output Drive
- High-Gain Bandwidth ...1.8 MHz Typ
- Low Supply Current ...750 µA Per Channel Typ

SUPPORT

For additional information on this and other Mixed Signal/Analog Products visit our Mixed Signal home page at:

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

Additional information regarding this product is available by calling the Texas Instruments Product Information Center (PIC) at (972) 644-5580 during normal business hours (CST/CDT). For European PIC information visit http://www.ti.com/sc/docs/pic/home.htm

DIE SIZE

The current die has a size of: 69 mils x 57 mils.

TECHNOLOGY

- 2 µm LinBiCMOS™ Process
- ESD level: 2 kV

TEXAS INSTRUMENTS

PACKAGING

Package Option: 8-pin Ceramic Dual in Line Package (JG)
10-pin Ceramic Flat Package (U)
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	180º C/W	28º C/W
10 Pin Flat Pack	180º C/W	22º C/W
20 Pin LCC	65º C/W	20º C/W

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

PROCESS/PERFORMANCE OPTIONS

The TLV2442M/AM are processed to the military temperature range at the SN-level, or at the SNJ-level for programs requiring devices processed to MIL-PRF-38535. The DSCC Standard Microcircuit Drawings (SMD) for these device are given below.

DSCC SMD

TI Parent	DSCC SMD
TLV2442MFKB / UB / JGB	5962-9751101Q2A / HA / PA
TLV2442AMFKB / UB / JGB	5962-9751102Q2A / HA / PA

SUPPORT LITERATURE

You can access data sheets via TI's home page on the internet (http://www.ti.com) or reference the literature number SLOS169 when contacting the PIC.

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