

# Fact Sheet

## Military Semiconductor Products

TLV2422M / 5962-9751401QxA and TLV2422AM / 5962-9751402QxA

SGYV052 – April 1998

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

#### HIGHLIGHTS

The TLV2422 and TLV2422A 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 ...18 nV/ $\sqrt{\text{Hz}}$  Typ at  $f = 1 \text{ kHz}$
- Low Input Offset Voltage 950  $\mu\text{V}$  Max at  $T_A = 25^\circ\text{C}$  (TLV2422A)
- Low Input Bias Current ...1 pA Typ
- 600 $\Omega$  Output Drive
- Micropower Operation ...50  $\mu\text{A}$  Per Channel Typ

#### DIE SIZE

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

#### TECHNOLOGY

- 2  $\mu\text{m}$  LinBiCMOS™ Process
- ESD level: 4 kV

#### PACKAGING

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

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## POWER DISSIPATION

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

**Package Thermal Data**

Package	R <sub>qJA</sub>	R <sub>qJC</sub>
8 Pin DIP	180° C/W	28° C/W
10 Pin Flat Pack	180° C/W	22° C/W
20 Pin LCC	65° C/W	20° 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
TLV2422MFKB / UB / JGB	5962-9751401Q2A / HA / PA
TLV2422AMFKB / UB / JGB	5962-9751402Q2A / HA / PA

## 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](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>.

## 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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