



PRODUCT NAME : TLE2071 Low Noise JF
ET Operational Amplifier

PRICE : Rs 29.00

SKU : RM2065



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DESCRIPTION

Features

- More than Double the Bandwidth and Triple the Slew Rate of the TL07x and TL08x Op-Amps
- Input Offset Voltage: 0.34 mV
- Input Offset Current: 5 pA
- Input Bias Current: 15 pA
- Common Mode Rejection: 108 dB
- Supply Current: 1.6 mA / Amplifier
- Supply Voltage: $\pm 3V$ to $\pm 15V$

TLE207x, TLE207xA, TLE207xY
EXCALIBUR LOW-NOISE HIGH-SPEED
JFET-INPUT OPERATIONAL AMPLIFIERS

SLOS181A – FEBRUARY 1997 – REVISED MARCH 2000

- **Direct Upgrades to TL05x, TL07x, and TL08x BiFET Operational Amplifiers**
- **Greater Than 2× Bandwidth (10 MHz) and 3× Slew Rate (45 V/μs) Than TL07x**
- **Ensured Maximum Noise Floor**
17 nV/√Hz
- **On-Chip Offset Voltage Trimming for Improved DC Performance**
- **Wider Supply Rails Increase Dynamic Signal Range to ±19 V**

description

The TLE207x series of JFET-input operational amplifiers more than double the bandwidth and triple the slew rate of the TL07x and TL08x families of BiFET operational amplifiers. Texas Instruments Excalibur process yields a typical noise floor of 11.6 nV/√Hz, 17-nV/√Hz ensured maximum, offering immediate improvement in noise-sensitive circuits designed using the TL07x. The TLE207x also has wider supply voltage rails, increasing the dynamic signal range for BiFET circuits to ±19 V. On-chip zener trimming of offset voltage yields precision grades for greater accuracy in dc-coupled applications. The TLE207x are pin-compatible with lower performance BiFET operational amplifiers for ease in improving performance in existing designs.

BiFET operational amplifiers offer the inherently higher input impedance of the JFET-input transistors, without sacrificing the output drive associated with bipolar amplifiers. This makes them better suited for interfacing with high-impedance sensors or very low-level ac signals. They also feature inherently better ac response than bipolar or CMOS devices having comparable power consumption.

The TLE207x family of BiFET amplifiers are Texas Instruments highest performance BiFETs, with tighter input offset voltage and ensured maximum noise specifications. Designers requiring less stringent specifications but seeking the improved ac characteristics of the TLE207x should consider the TLE208x operational amplifier family.

Because BiFET operational amplifiers are designed for use with dual power supplies, care must be taken to observe common-mode input voltage limits and output swing when operating from a single supply. DC biasing of the input signal is required and loads should be terminated to a virtual ground node at mid-supply. Texas Instruments TLE2426 integrated virtual ground generator is useful when operating BiFET amplifiers from single supplies.

The TLE207x are fully specified at ±15 V and ±5 V. For operation in low-voltage and/or single-supply systems, Texas Instruments LinCMOS families of operational amplifiers (TLC- and TLV-prefix) are recommended. When moving from BiFET to CMOS amplifiers, particular attention should be paid to slew rate and bandwidth requirements and output loading.



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EXCALIBUR LOW-NOISE HIGH-SPEED
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TLE2071 AVAILABLE OPTIONS

T _A	V _{IO} max AT 25°C	PACKAGED DEVICES				CHIP FORM‡ (Y)
		SMALL OUTLINE† (D)	CHIP CARRIER (FK)	CERAMIC DIP (JG)	PLASTIC DIP (P)	
0°C to 70°C	2 mV 4 mV	TLE2071ACD TLE2071CD	—	—	TLE2071ACP TLE2071CP	— TLE2071Y
–40°C to 85°C	2 mV 4 mV	TLE2071AID TLE2071ID	—	—	TLE2071AIP TLE2071IP	—
–55°C to 125°C	2 mV 4 mV	—	TLE2071AMFK TLE2071MFK	TLE2071AMJG TLE2071MJG	— —	—

† The D packages are available taped and reeled. Add R suffix to device type (e.g., TLE2071ACDR).

‡ Chip-form versions are tested at T_A = 25°C.

TLE2072 AVAILABLE OPTIONS

T _A	V _{IO} max AT 25°C	PACKAGED DEVICES				CHIP FORM‡ (Y)
		SMALL OUTLINE† (D)	CHIP CARRIER (FK)	CERAMIC DIP (JG)	PLASTIC DIP (P)	
0°C to 70°C	3.5 mV 6 mV	TLE2072ACD TLE2072CD	—	—	TLE2072ACP TLE2072CP	— TLE2072Y
–40°C to 85°C	3.5 mV 6 mV	TLE2072AID TLE2072ID	—	—	TLE2072AIP TLE2072IP	—
–55°C to 125°C	3.5 mV 6 mV	—	TLE2072AMFK TLE2072MFK	TLE2072AMJG TLE2072MJG	—	—

† The D packages are available taped and reeled. Add R suffix to device type (e.g., TLE2072ACDR).

‡ Chip-form versions are tested at T_A = 25°C.

TLE2074 AVAILABLE OPTIONS

T _A	V _{IO} max AT 25°C	PACKAGED DEVICES				CHIP FORM‡ (Y)
		SMALL OUTLINE† (DW)	CHIP CARRIER (FK)	CERAMIC DIP (J)	PLASTIC DIP (N)	
0°C to 70°C	3 mV 5 mV	TLE2074ACDW TLE2074CDW	—	—	TLE2074ACN TLE2074CN	— TLE2074Y
–40°C to 85°C	3 mV 5 mV	TLE2074AIDW TLE2074IDW	—	—	TLE2074AIN TLE2074IN	—
–55°C to 125°C	3 mV 5 mV	—	TLE2074AMFK TLE2074MFK	TLE2074AMJ TLE2074MJ	—	—

† The DW packages are available taped and reeled. Add R suffix to device type (e.g., TLE2074ACDWR).

‡ Chip-form versions are tested at T_A = 25°C.

