

LT1013, LT1013A, LT1013D DUAL PRECISION OPERATIONAL AMPLIFIERS

SLOS018H – MAY 1988 – REVISED NOVEMBER 2004

- **Single-Supply Operation**
 - Input Voltage Range Extends to Ground
 - Output Swings to Ground While Sinking Current
- **Input Offset Voltage**
 - 150 μV Max at 25°C for LT1013A
- **Offset-Voltage Temperature Coefficient**
 - 2.5 $\mu\text{V}/^\circ\text{C}$ Max for LT1013A
- **Input Offset Current**
 - 0.8 nA Max at 25°C for LT1013A
- **High Gain . . . 1.5 V/ μV Min ($R_L = 2 \text{ k}\Omega$), 0.8 V/ μV Min ($R_L = 600 \text{ k}\Omega$) for LT1013A**
- **Low Supply Current . . . 0.5 mA Max at $T_A = 25^\circ\text{C}$ for LT1013A**
- **Low Peak-to-Peak Noise Voltage . . . 0.55 μV Typ**
- **Low Current Noise . . . 0.07 $\text{pA}/\sqrt{\text{Hz}}$ Typ**

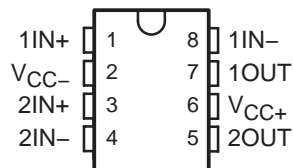
description/ordering information

The LT1013 devices are dual precision operational amplifiers, featuring high gain, low supply current, low noise, and low-offset-voltage temperature coefficient.

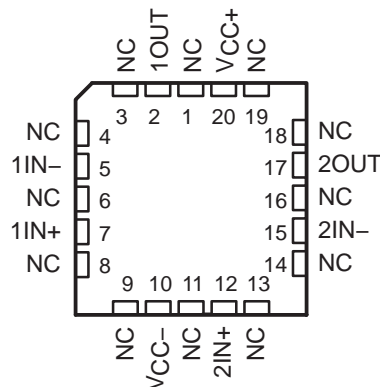
The LT1013 devices can be operated from a single 5-V power supply; the common-mode input voltage range includes ground, and the output can also swing to within a few millivolts of ground. Crossover distortion is eliminated. The LT1013 can be operated with both dual $\pm 15\text{-V}$ and single 5-V supplies.

The LT1013C, LT1013AC, and LT1013D are characterized for operation from 0°C to 70°C. The LT1013I, LT1013AI, and LT1013DI are characterized for operation from –40°C to 105°C. The LT1013M, LT1013AM, and LT1013DM are characterized for operation over the full military temperature range of –55°C to 125°C.

LT1013, LT1013D . . . D PACKAGE
(TOP VIEW)

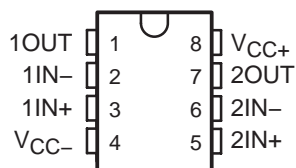


LT1013, LT1013A . . . FK PACKAGE
(TOP VIEW)



NC – No internal connection

LT1013, LT1013D . . . JG OR P PACKAGE
(TOP VIEW)



Please be aware that an important notice concerning availability, standard warranty, and use in critical applications of Texas Instruments semiconductor products and disclaimers thereto appears at the end of this data sheet.

PRODUCTION DATA information is current as of publication date. Products conform to specifications per the terms of Texas Instruments standard warranty. Production processing does not necessarily include testing of all parameters.

 **TEXAS
INSTRUMENTS**

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On products compliant to MIL-PRF-38535, all parameters are tested unless otherwise noted. On all other products, production processing does not necessarily include testing of all parameters.

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ORDERING INFORMATION

TA	V _{IOMAX} AT 25°C (μV)	PACKAGE†		ORDERABLE PART NUMBER	TOP-SIDE MARKING
0°C to 70°C	300	P-DIP (P)	Tube of 50	LT1013CP	LT1013P
		SOIC (D)	Tube of 75	LT1013CD	1013C
			Reel of 2500	LT1013CDR	
	800	P-DIP (P)	Tube of 50	LT1013DP	LT1013DP
		SOIC (D)	Tube of 75	LT1013DD	
			Reel of 2500	LT1013DDR	
-40°C to 105°C	800	P-DIP (P)	Tube of 50	LT1013DIP	LT1013DIP
		SOIC (D)	Tube of 75	LT1013DID	1013DI
			Reel of 2500	LT1013DIDR	
-55°C to 125°C	150	C-DIP (JG)	Tube of 50	LT1013AMJG	LT1013AMJG
		C-DIP (JGB)	Tube of 50	LT1013AMJGB	LT1013AMJGB
		LCCC (FK)	Tube of 55	LT1013AMFK	LT1013AMFK
		LCCC (FKB)	Tube of 55	LT1013AMFKB	LT1013AMFKB
	300	C-DIP (JG)	Tube of 50	LT1013MJG	LT1013MJG
		C-DIP (JGB)	Tube of 50	LT1013MJGB	LT1013MJGB
		LCCC (FKB)	Tube of 55	LT1013MFKB	LT1013MFKB
	800	SOIC (D)	Tube of 75	LT1013DMD	1013DM

† Package drawings, standard packing quantities, thermal data, symbolization, and PCB design guidelines are available at www.ti.com/sc/package.



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