

# ADVANCE INFORMATION

All information in this data sheet is preliminary and subject to change.

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# MAXIM

## Precision, Quad, SPST Analog Switches

### General Description

The MAX361/MAX362 are precision, quad, single-pole single-throw (SPST) analog switches. The MAX361 has four normally closed (NC), and the MAX362 has four normally open (NO) switches. Both parts offer low channel on resistance (less than  $85\Omega$ ), guaranteed to match within  $3\Omega$  between channels and to remain flat over the full analog signal range ( $\Delta 4\Omega$  max). Both parts also offer low leakage (less than  $500\text{pA}$  at  $+25^\circ\text{C}$  and less than  $6\text{nA}$  at  $+85^\circ\text{C}$ ) and fast switching (turn-on time less than  $250\text{ns}$  and turn-off time less than  $170\text{ns}$ ).

The MAX361/MAX362 are fabricated with Maxim's new improved  $44\text{V}$  silicon-gate process. Design improvements guarantee extremely low charge injection ( $5\text{pC}$ ), low power consumption ( $35\mu\text{W}$ ), and electrostatic discharge (ESD) greater than  $2000\text{V}$ . The  $44\text{V}$  maximum breakdown voltage allows rail-to-rail analog signal handling capability.

These monolithic switches operate with a single positive supply ( $+10\text{V}$  to  $+30\text{V}$ ) or with split supplies ( $\pm 4.5\text{V}$  to  $\pm 20\text{V}$ ) while retaining CMOS-logic input compatibility and fast switching. CMOS inputs provide reduced input loading. Plus, these parts are plug-in upgrades for the industry-standard DG201, DG202, DG441, and DG442.

### Applications

Sample-and-Hold Circuits  
Guidance and Control Systems  
Heads-Up Displays  
Test Equipment  
Communications Systems  
Battery-Operated Systems  
PBX, PABX

### Features

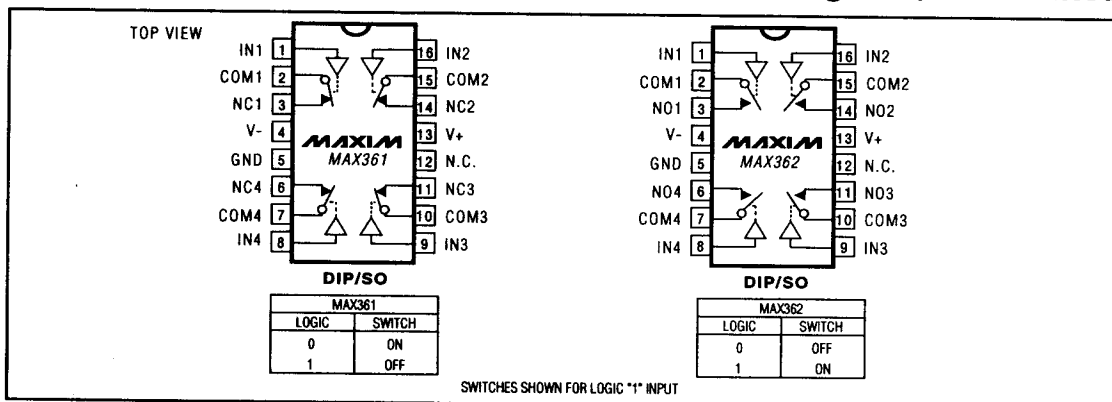
- ◆ Plug-In Upgrades for the DG201/DG202/DG441/DG442
- ◆ Low On Resistance  $< 45\Omega$  Typical ( $85\Omega$  Max)
- ◆ Guaranteed Matched On Resistance Between Channels  $< 3\Omega$
- ◆ Guaranteed Flat On Resistance over Full Analog Signal Range  $\Delta 4\Omega$  Max
- ◆ Guaranteed Charge Injection  $< 5\text{pC}$
- ◆ Guaranteed Off-Channel Leakage  $< 6\text{nA}$  at  $+85^\circ\text{C}$
- ◆ ESD Guaranteed  $> 2000\text{V}$  per Method 3015.7
- ◆ Single-Supply Operation ( $+10\text{V}$  to  $+30\text{V}$ )  
Bipolar-Supply Operation ( $\pm 4.5\text{V}$  to  $\pm 20\text{V}$ )
- ◆ TTL-/CMOS-Logic Compatible
- ◆ Rail-to-Rail Analog Signal Handling Capability

### Ordering Information

PART	TEMP. RANGE	PIN-PACKAGE
MAX361CPE	$0^\circ\text{C}$ to $+70^\circ\text{C}$	16 Plastic DIP
MAX361CSE	$0^\circ\text{C}$ to $+70^\circ\text{C}$	16 Narrow SO
MAX361C/D	$0^\circ\text{C}$ to $+70^\circ\text{C}$	Dice*
MAX361EPE	$-40^\circ\text{C}$ to $+85^\circ\text{C}$	16 Plastic DIP
MAX361ESE	$-40^\circ\text{C}$ to $+85^\circ\text{C}$	16 Narrow SO
MAX361EJE	$-40^\circ\text{C}$ to $+85^\circ\text{C}$	16 Cerdip
MAX361MJE	$-55^\circ\text{C}$ to $+125^\circ\text{C}$	16 Cerdip
MAX362CPE	$0^\circ\text{C}$ to $+70^\circ\text{C}$	16 Plastic DIP
MAX362CSE	$0^\circ\text{C}$ to $+70^\circ\text{C}$	16 Narrow SO
MAX362C/D	$0^\circ\text{C}$ to $+70^\circ\text{C}$	Dice*
MAX362EPE	$-40^\circ\text{C}$ to $+85^\circ\text{C}$	16 Plastic DIP
MAX362ESE	$-40^\circ\text{C}$ to $+85^\circ\text{C}$	16 Narrow SO
MAX362EJE	$-40^\circ\text{C}$ to $+85^\circ\text{C}$	16 Cerdip
MAX362MJE	$-55^\circ\text{C}$ to $+125^\circ\text{C}$	16 Cerdip

\* Contact factory for dice specifications.

### Pin Configurations/Functional Diagrams/Truth Tables



MAXIM

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Call toll free 1-800-998-8800 for free samples or literature.

MAX361/MAX362

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