

ADG526A/ADG527A

FEATURES

44V Supply Maximum Rating
 V_{SS} to V_{DD} Analog Signal Range
Single/Dual Supply Specifications
Wide Supply Ranges (10.8V to 16.5V)
Microprocessor Compatible (100ns \overline{WR} Pulse)
Extended Plastic Temperature Range
 (-40°C to +85°C)
Low Leakage (20pA typ)
Low Power Dissipation (28mW max)
Available in DIP, SOIC, PLCC and LCCC Packages
Superior Alternative to:
 DG526
 DG527

GENERAL DESCRIPTION

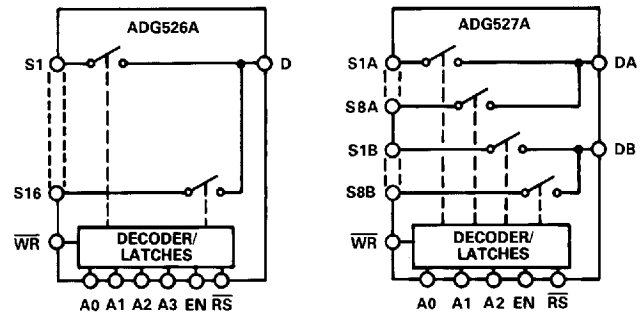
The ADG526A and ADG527A are CMOS monolithic analog multiplexers with 16 channels and dual 8 channels respectively. On-chip latches facilitate microprocessor interfacing. The ADG526A switches one of 16 inputs to a common output depending on the state of four binary addresses and an enable input. The ADG527A switches one of 8 differential inputs to a common differential output depending on the state of three binary addresses and an enable input. Both devices have TTL and 5V CMOS logic compatible digital inputs.

The ADG526A and ADG527A are designed on an enhanced LC²MOS process which gives an increased signal capability of V_{SS} to V_{DD} and enables operation over a wide range of supply voltages. The devices can comfortably operate anywhere in the 10.8V to 16.5V single or dual supply range. These multiplexers also feature high switching speeds and low R_{ON} .

REV. A

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FUNCTIONAL BLOCK DIAGRAMS



PRODUCT HIGHLIGHTS

- Single/Dual Supply Specifications with a Wide Tolerance:**
 The devices are specified in the 10.8V to 16.5V range for both single and dual supplies.
- Easily Interfaced:**
 The ADG526A and ADG527A can be easily interfaced with microprocessors. The \overline{WR} signal latches the state of the Address control lines and the Enable line. The \overline{RS} signal clears both the address and enable data in the latches resulting in no output (all switches off). \overline{RS} can be tied to the microprocessor reset pin.
- Extended Signal Range:**
 The enhanced LC²MOS processing results in a high breakdown and an increased analog signal range of V_{SS} to V_{DD} .
- Break-Before-Make Switching:**
 Switches are guaranteed break-before-make so that input signals are protected against momentary shorting.
- Low Leakage:**
 Leakage currents in the range of 20pA make these multiplexers suitable for high precision circuits.

ADG526A/ADG527A—SPECIFICATIONS

Dual Supply ($V_{DD} = +10.8V$ to $+16.5V$, $V_{SS} = -10.8V$ to $-16.5V$ unless otherwise noted.)

| Parameter | ADG526A ADG527A K Version | | ADG526A ADG527A B Version | | ADG526A ADG527A T Version | | Units | Comments |
|---|---------------------------------|----------------------|---------------------------------|----------------------|---------------------------------|----------------------|--|---|
| | +25°C | -40°C to +85°C | +25°C | -40°C to +85°C | +25°C | -55°C to +125°C | | |
| ANALOG SWITCH | | | | | | | | |
| Analog Signal Range | V_{SS} V_{DD} | V_{SS} V_{DD} | V_{SS} V_{DD} | V_{SS} V_{DD} | V_{SS} V_{DD} | V_{SS} V_{DD} | V min V max | |
| R_{ON} | 280 450 300 | 600 400 | 280 450 300 | 600 400 | 280 450 300 | 400 | Ω typ Ω max Ω max | -10V \leq V_S \leq +10V, $I_{DS} = 1mA$; Test Circuit 1 $V_{DD} = 15V(\pm 10\%)$, $V_{SS} = -15V(\pm 10\%)$ $V_{DD} = 15V(\pm 5\%)$, $V_{SS} = -15V(\pm 5\%)$ -10V \leq V_S \leq +10V, $I_{DS} = 1mA$ |
| R_{ON} Drift | 0.6 | | 0.6 | | 0.6 | | %/°C typ | -10V \leq V_S \leq +10V, $I_{DS} = 1mA$ |
| R_{ON} Match | 5 | | 5 | | 5 | | % typ | -10V \leq V_S \leq +10V, $I_{DS} = 1mA$ |
| I_S (OFF), Off Input Leakage | 0.02 1 | 50 | 0.02 1 | 50 | 0.02 1 | 50 | nA typ nA max | $V_1 = \pm 10V$, $V_2 = \mp 10V$; Test Circuit 2 |
| I_D (OFF), Off Output Leakage | 0.04 1 | 200 | 0.04 1 | 200 | 0.04 1 | 200 | nA typ nA max nA max | $V_1 = \pm 10V$, $V_2 = \mp 10V$; Test Circuit 3 |
| ADG526A | 1 | 100 | 1 | 100 | 1 | 100 | | |
| ADG527A | 1 | 100 | 1 | 100 | 1 | 100 | | |
| I_D (ON), On Channel Leakage | 0.04 1 | 200 | 0.04 1 | 200 | 0.04 1 | 200 | nA typ nA max nA max | $V_1 = \pm 10V$, $V_2 = \mp 10V$; Test Circuit 4 |
| ADG526A | 1 | 100 | 1 | 100 | 1 | 100 | | |
| ADG527A | 1 | 100 | 1 | 100 | 1 | 100 | | |
| I_{DIFF} , Differential Off Output Leakage (ADG527A only) | | 25 | | 25 | | 25 | nA max | $V_1 = \pm 10V$, $V_2 = \mp 10V$; Test Circuit 5 |
| DIGITAL CONTROL | | | | | | | | |
| V_{INH} , Input High Voltage | | 2.4 | | 2.4 | | 2.4 | V min | |
| V_{INL} , Input Low Voltage | | 0.8 | | 0.8 | | 0.8 | V max | |
| I_{INL} or I_{INH} | | 1 | | 1 | | 1 | μA max | $V_{IN} = 0$ to V_{DD} |
| C_{IN} Digital Input Capacitance | 8 | | 8 | | 8 | | pF max | |
| DYNAMIC CHARACTERISTICS¹ | | | | | | | | |
| $t_{TRANSITION}$ | 200 300 | 400 | 200 300 | 400 | 200 300 | 400 | ns typ ns max | $V_1 = \pm 10V$, $V_2 = \mp 10V$; Test Circuit 6 |
| t_{OPEN} | 50 25 | 10 | 50 25 | 10 | 50 25 | 10 | ns typ ns min | Test Circuit 7 |
| $t_{ON}(EN, \overline{WR})$ | 200 300 | 400 | 200 300 | 400 | 200 300 | 400 | ns typ ns max | Test Circuits 8 and 9 |
| $t_{OFF}(EN, \overline{RS})$ | 200 300 | 400 | 200 300 | 400 | 200 300 | 400 | ns typ ns max | Test Circuits 8 and 10 |
| t_W Write Pulse Width | 100 | 120 | 100 | 120 | 100 | 130 | ns min | See Figure 1 |
| t_S Address, Enable Setup Time | | 100 | | 100 | | 100 | ns min | See Figure 1 |
| t_H Address, Enable Hold Time | | 10 | | 10 | | 10 | ns min | See Figure 1 |
| t_{RS} Reset Pulse Width | | 100 | | 100 | | 100 | ns min | See Figure 2 |
| OFF Isolation | 68 50 | | 68 50 | | 68 50 | | dB typ dB min | $V_{EN} = 0.8V$, $R_L = 1k\Omega$, $C_L = 15pF$, $V_S = 7V$ rms, $f = 100kHz$ |
| C_S (OFF) | 5 | | 5 | | 5 | | pF typ | $V_{EN} = 0.8V$ |
| C_D (OFF) | | | | | | | | |
| ADG526A | 44 | | 44 | | 44 | | pF typ | $V_{EN} = 0.8V$ |
| ADG527A | 22 | | 22 | | 22 | | pF typ | |
| Q_{INJ} , Charge Injection | 4 | | 4 | | 4 | | pC typ | $R_S = 0\Omega$, $V_S = 0V$; Test Circuit 11 |
| POWER SUPPLY | | | | | | | | |
| I_{DD} | 0.6 | 1.5 | 0.6 | 1.5 | 0.6 | 1.5 | mA typ mA max | $V_{IN} = V_{INL}$ or V_{INH} |
| I_{SS} | 20 | 0.2 | 20 | 0.2 | 20 | 0.2 | μA typ mA max | $V_{IN} = V_{INL}$ or V_{INH} |
| Power Dissipation | 10 | 28 | 10 | 28 | 10 | 28 | mW typ mW max | |

NOTE

¹Sample tested at +25°C to ensure compliance.

Specifications subject to change without notice.

Single Supply ($V_{DD} = +10.8V$ to $+16.5V$, $V_{SS} = GND = 0V$ unless otherwise noted.)

| Parameter | ADG526A ADG527A K Version | | ADG526A ADG527A B Version | | ADG526A ADG527A T Version | | Units | Comments |
|---|---------------------------------|----------------------|---------------------------------|----------------------|---------------------------------|----------------------|------------------------------|---|
| | +25°C | -40°C to +85°C | +25°C | -40°C to +85°C | +25°C | -55°C to +125°C | | |
| ANALOG SWITCH | | | | | | | | |
| Analogue Signal Range | V_{SS} V_{DD} | V_{SS} V_{DD} | V_{SS} V_{DD} | V_{SS} V_{DD} | V_{SS} V_{DD} | V_{SS} V_{DD} | V min V max | |
| R_{ON} | 500 | 1000 | 500 | 1000 | 500 | 1000 | Ω typ Ω max | $0V \leq V_S \leq +10V$, $I_{DS} = 0.5mA$; Test Circuit 1 |
| R_{ON} Drift | 0.6 | | 0.6 | | 0.6 | | %/°C typ | $0V \leq V_S \leq +10V$, $I_{DS} = 0.5mA$ |
| R_{ON} Match | 5 | | 5 | | 5 | | % typ | $0V \leq V_S \leq +10V$, $I_{DS} = 0.5mA$ |
| I_S (OFF), Off Input Leakage | 0.02 1 | 50 | 0.02 1 | 50 | 0.02 1 | 50 | nA typ nA max | $V_1 = +10V/0V$, $V_2 = 0V/+10V$; Test Circuit 2 |
| I_D (OFF), Off Output Leakage | 0.04 1 | 200 | 0.04 1 | 200 | 0.04 1 | 200 | nA typ nA max | $V_1 = +10V/0V$, $V_2 = 0V/+10V$; Test Circuit 3 |
| ADG526A | 1 | 100 | 1 | 100 | 1 | 100 | nA max | |
| ADG527A | 1 | 100 | 1 | 100 | 1 | 100 | nA max | |
| I_D (ON), On Channel Leakage | 0.04 1 | 200 | 0.04 1 | 200 | 0.04 1 | 200 | nA typ nA max | $V_1 = +10V/0V$, $V_2 = 0V/+10V$; Test Circuit 4 |
| ADG526A | 1 | 200 | 1 | 200 | 1 | 200 | nA max | |
| ADG527A | 1 | 100 | 1 | 100 | 1 | 100 | nA max | |
| I_{DIFF} , Differential Off Output Leakage (ADG527A only) | | 25 | | 25 | | 25 | nA max | $V_1 = +10V/0V$, $V_2 = 0V/+10V$; Test Circuit 5 |
| DIGITAL CONTROL | | | | | | | | |
| V_{INH} , Input High Voltage | | 2.4 | | 2.4 | | 2.4 | V min | |
| V_{INL} , Input Low Voltage | | 0.8 | | 0.8 | | 0.8 | V max | |
| I_{INL} or I_{INH} | | 1 | | 1 | | 1 | μA max | $V_{IN} = 0$ to V_{DD} |
| C_{IN} Digital Input Capacitance | 8 | | 8 | | 8 | | pF max | |
| DYNAMIC CHARACTERISTICS¹ | | | | | | | | |
| $t_{TRANSITION}$ | 300 450 | 600 | 300 450 | 600 | 300 450 | 600 | ns typ ns max | $V_1 = +10V/0V$, $V_2 = 0V/+10V$; Test Circuit 6 |
| t_{OPEN} | 50 | | 50 | | 50 | | ns typ | Test Circuit 7 |
| | 25 | 10 | 25 | 10 | 25 | 10 | ns min | |
| t_{ON} (EN, \overline{WR}) | 250 450 | 600 | 250 450 | 600 | 250 450 | 600 | ns typ ns max | Test Circuits 8 and 9 |
| t_{OFF} (EN, \overline{RS}) | 250 450 | 600 | 250 450 | 600 | 250 450 | 600 | ns typ ns max | Test Circuits 8 and 10 |
| t_W Write Pulse Width | 100 | 120 | 100 | 120 | 100 | 130 | ns min | See Figure 1 |
| t_S Address, Enable Setup Time | | 100 | | 100 | | 100 | ns min | See Figure 1 |
| t_H Address, Enable Hold Time | | 10 | | 10 | | 10 | ns min | See Figure 1 |
| t_{RS} Reset Pulse Width | | 100 | | 100 | | 100 | ns min | See Figure 2 |
| OFF Isolation | 68 50 | | 68 50 | | 68 50 | | dB typ dB min | $V_{EN} = 0.8V$, $R_L = 1k\Omega$, $C_L = 15pF$, $V_S = 3.5V$ rms, $f = 100kHz$ |
| C_S (OFF) | 5 | | 5 | | 5 | | pF typ | $V_{EN} = 0.8V$ |
| C_D (OFF) | 44 | | 44 | | 44 | | pF typ | $V_{EN} = 0.8V$ |
| ADG526A | 22 | | 22 | | 22 | | pF typ | |
| ADG527A | 4 | | 4 | | 4 | | pC typ | $R_S = 0\Omega$, $V_S = 0V$; Test Circuit 11 |
| Q_{INJ} , Charge Injection | 4 | | 4 | | 4 | | pC typ | |
| POWER SUPPLY | | | | | | | | |
| I_{DD} | 0.6 | 1.5 | 0.6 | 1.5 | 0.6 | 1.5 | mA typ mA max | $V_{IN} = V_{INL}$ or V_{INH} |
| Power Dissipation | 11 | 25 | 11 | 25 | 11 | 25 | mW typ mW max | |

NOTE

¹Sample tested at +25°C to ensure compliance.
Specifications subject to change without notice.

TIMING DIAGRAMS

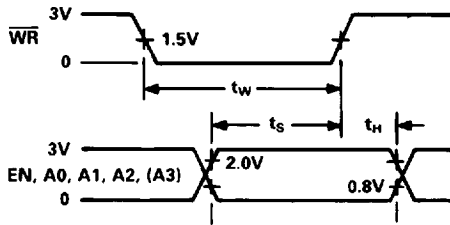


Figure 1.

Figure 1 shows the timing sequence for latching the switch address and enable inputs. The latches are level sensitive; therefore, while \overline{WR} is held low, the latches are transparent and the switches respond to the address and enable inputs. This input data is latched on the rising edge of \overline{WR} .

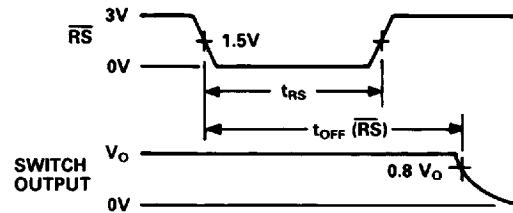


Figure 2.

Figure 2 shows the Reset Pulse Width, t_{RS} , and Reset Turn-off Time, $t_{OFF}(\overline{RS})$.

Note: All digital input signals rise and fall times measured from 10% to 90% of 3V. $t_R = t_F = 20\text{ns}$.

ABSOLUTE MAXIMUM RATINGS*

($T_A = +25^\circ\text{C}$ unless otherwise noted)

| | |
|---|--|
| V_{DD} to V_{SS} | 44V |
| V_{DD} to GND | 25V |
| V_{SS} to GND | -25V |
| Analog Inputs ¹ | |
| Voltage at S, D | $V_{SS} - 2\text{V}$ to $V_{DD} + 2\text{V}$ or 20mA, Whichever Occurs First |
| Continuous Current, S or D | 20mA |
| Pulsed Current S or D | |
| 1ms Duration, 10% Duty Cycle | 40mA |
| Digital Inputs ¹ | |
| Voltage at A, EN, \overline{WR} , \overline{RS} | $V_{SS} - 4\text{V}$ to $V_{DD} + 4\text{V}$ or 20mA, Whichever Occurs First |
| Power Dissipation (Any Package) | |
| Up to $+75^\circ\text{C}$ | 470mW |
| Derates above $+75^\circ\text{C}$ by | 6mW/ $^\circ\text{C}$ |

Operating Temperature

| | |
|---|---|
| Commerical (K Version) | -40°C to $+85^\circ\text{C}$ |
| Industrial (B Version) | -40°C to $+85^\circ\text{C}$ |
| Extended (T Version) | -55°C to $+125^\circ\text{C}$ |
| Storage Temperature Range | -65°C to $+150^\circ\text{C}$ |
| Lead Temperature (Soldering, 10sec) | $+300^\circ\text{C}$ |

NOTE

¹Overvoltage at A, EN, \overline{WR} , \overline{RS} , S or D will be clamped by diodes. Current should be limited to the maximum rating above.

*COMMENT: Stresses above those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

CAUTION:

ESD (electrostatic discharge) sensitive device. The digital control inputs are diode protected; however, permanent damage may occur on unconnected devices subject to high energy electrostatic fields. Unused devices must be stored in conductive foam or shunts. The protective foam should be discharged to the destination socket before devices are inserted.



ORDERING GUIDE

| Model ¹ | Temperature Range | Package Option ² |
|------------------------|---|-----------------------------|
| ADG526AKN | -40°C to $+85^\circ\text{C}$ | N-28 |
| ADG526AKR | -40°C to $+85^\circ\text{C}$ | R-28 |
| ADG526AKP | -40°C to $+85^\circ\text{C}$ | P-28A |
| ADG526ABQ | -40°C to $+85^\circ\text{C}$ | Q-28 |
| ADG526ATQ ³ | -55°C to $+125^\circ\text{C}$ | Q-28 |
| ADG526ATE ³ | -55°C to $+125^\circ\text{C}$ | E-28A |
| ADG527AKN | -40°C to $+85^\circ\text{C}$ | N-28 |
| ADG527AKR | -40°C to $+85^\circ\text{C}$ | R-28 |
| ADG527AKP | -40°C to $+85^\circ\text{C}$ | P-28A |
| ADG527ABQ | -40°C to $+85^\circ\text{C}$ | Q-28 |
| ADG527ATQ ³ | -55°C to $+125^\circ\text{C}$ | Q-28 |
| ADG527ATE ³ | -55°C to $+125^\circ\text{C}$ | E-28A |

NOTES

¹To order MIL-STD-883, Class B processed parts, add /883B to part number. See Analog Devices Military Products Databook (1990) for military data.

²E = Leadless Ceramic Chip Carrier; N = Narrow Plastic DIP; P = Plastic Leaded Chip Carrier; Q = Cerdip; R = 0.3" Small Outline IC (SOIC).

³Standard Military Drawing (SMD) assigned by DESC. SMD numbers are

- 5962-89710013X (ADG526ATE/883B)
- 5962-8971001XX (ADG526ATQ/883B)
- 5962-89710023X (ADG527ATE/883B)
- 5962-8971002XX (ADG527ATQ/883B)

TRUTH TABLES

| A3 | A2 | A1 | A0 | EN | WR | RS | ON SWITCH |
|----|----|----|----|----|----|----|---|
| X | X | X | X | X | 1 | 1 | Retains Previous Switch Condition |
| X | X | X | X | X | X | 0 | NONE (Address and Enable Latches Cleared) |
| X | X | X | X | 0 | 0 | 1 | NONE |
| 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 0 | 0 | 0 | 1 | 1 | 0 | 1 | 2 |
| 0 | 0 | 1 | 0 | 1 | 0 | 1 | 3 |
| 0 | 0 | 1 | 1 | 1 | 0 | 1 | 4 |
| 0 | 1 | 0 | 0 | 1 | 0 | 1 | 5 |
| 0 | 1 | 0 | 1 | 1 | 0 | 1 | 6 |
| 0 | 1 | 1 | 0 | 1 | 0 | 1 | 7 |
| 0 | 1 | 1 | 1 | 1 | 0 | 1 | 8 |
| 1 | 0 | 0 | 0 | 1 | 0 | 1 | 9 |
| 1 | 0 | 0 | 1 | 1 | 0 | 1 | 10 |
| 1 | 0 | 1 | 0 | 1 | 0 | 1 | 11 |
| 1 | 0 | 1 | 1 | 1 | 0 | 1 | 12 |
| 1 | 1 | 0 | 0 | 1 | 0 | 1 | 13 |
| 1 | 1 | 0 | 1 | 1 | 0 | 1 | 14 |
| 1 | 1 | 1 | 0 | 1 | 0 | 1 | 15 |
| 1 | 1 | 1 | 1 | 1 | 0 | 1 | 16 |

X = Don't Care

ADG526A

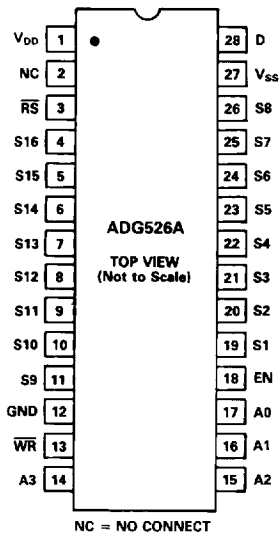
| A2 | A1 | A0 | EN | WR | RS | ON SWITCH PAIR |
|----|----|----|----|----|----|---|
| X | X | X | X | 1 | 1 | Retains Previous Switch Condition |
| X | X | X | X | X | 0 | NONE (Address and Enable Latches Cleared) |
| X | X | X | 0 | 0 | 1 | NONE |
| 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 0 | 0 | 1 | 1 | 0 | 1 | 2 |
| 0 | 1 | 0 | 1 | 0 | 1 | 3 |
| 0 | 1 | 1 | 1 | 0 | 1 | 4 |
| 1 | 0 | 0 | 1 | 0 | 1 | 5 |
| 1 | 0 | 1 | 1 | 0 | 1 | 6 |
| 1 | 1 | 0 | 1 | 0 | 1 | 7 |
| 1 | 1 | 1 | 1 | 0 | 1 | 8 |

X = Don't Care

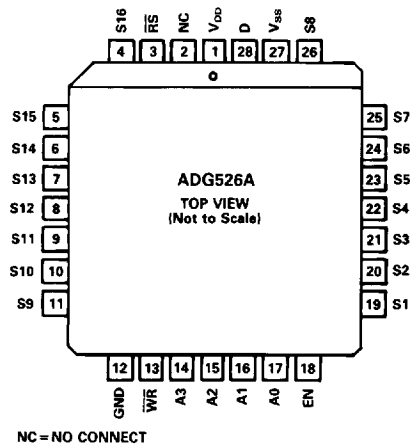
ADG527A

PIN CONFIGURATIONS

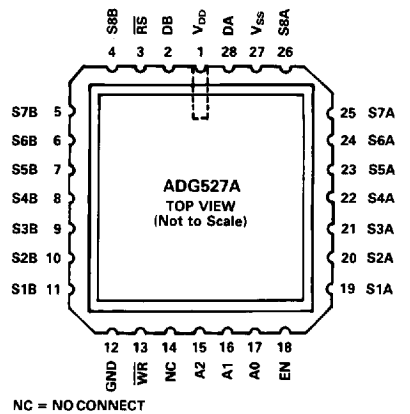
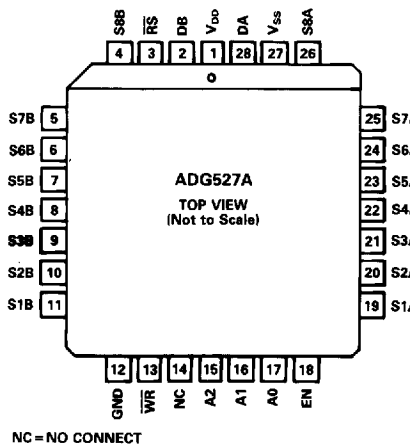
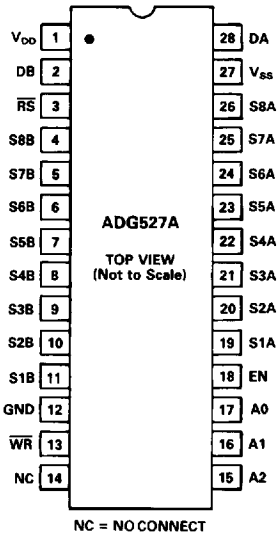
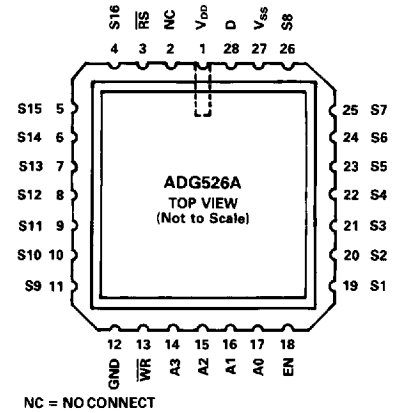
DIP, SOIC



LCCC



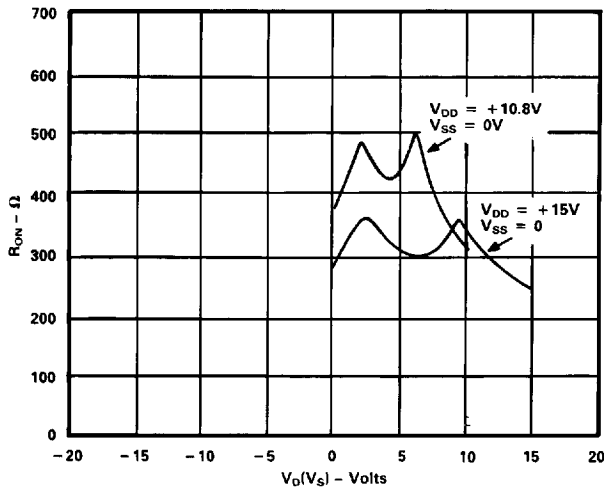
PLCC



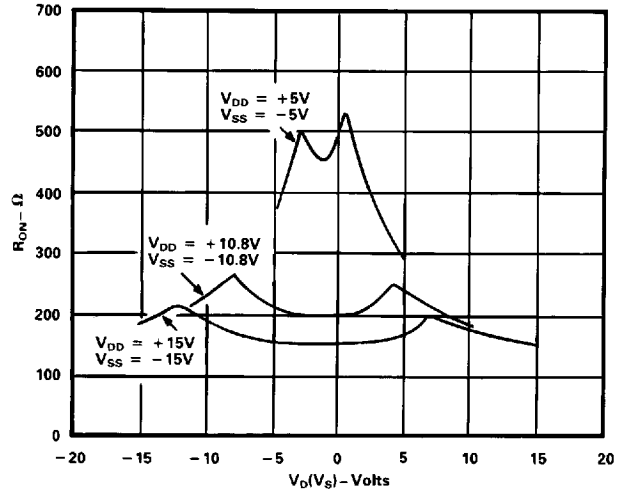
ADG526A/ADG527A

Typical Performance Characteristics

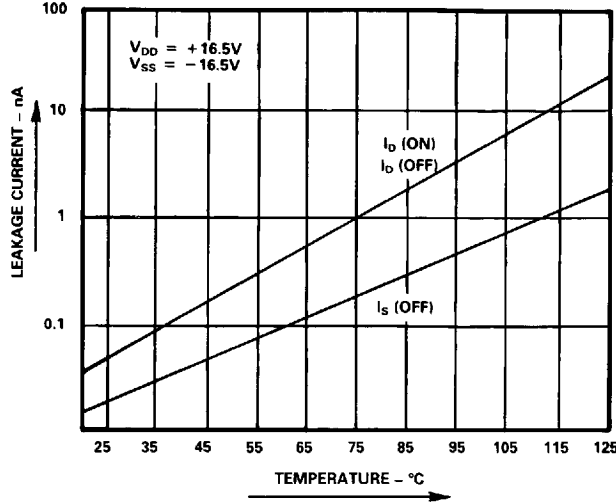
The multiplexers are guaranteed functional with reduced single or dual supplies down to 4.5V.



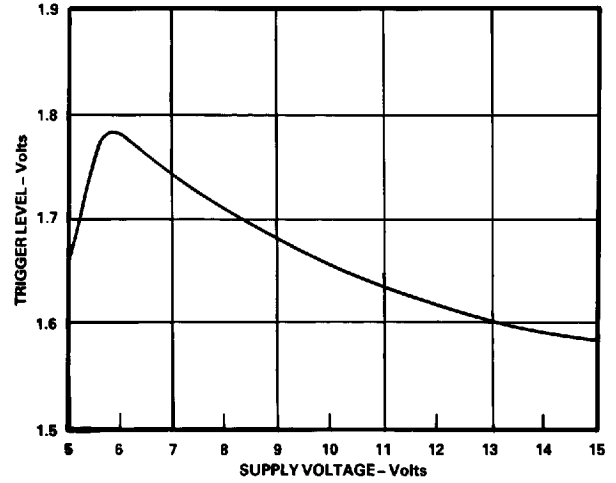
R_{ON} as a Function of $V_D(V_S)$: Dual Supply Voltage, $T_A = +25^\circ C$



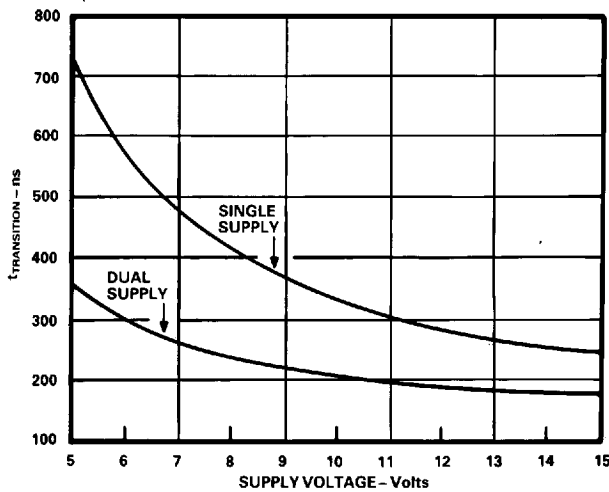
R_{ON} as a Function of $V_D(V_S)$: Single Supply Voltage, $T_A = +25^\circ C$



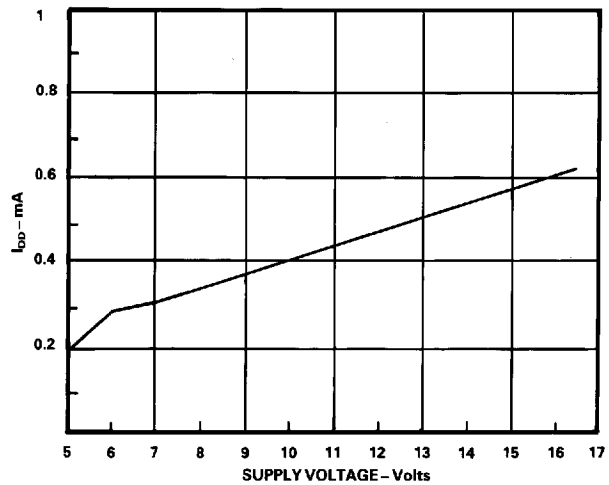
Leakage Current as a Function of Temperature
(Note: Leakage Currents Reduce as the Supply Voltages Reduce)



Trigger Levels vs. Power Supply Voltage, Dual or Single Supply, $T_A = +25^\circ C$



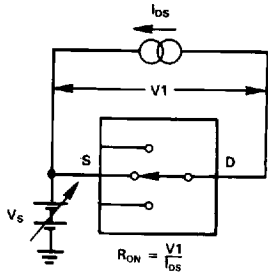
$t_{TRANSITION}$ vs. Supply Voltage: Dual and Single Supplies, $T_A = +25^\circ C$
(Note: For V_{DD} and $|V_{SS}| < 10V$; $V1 = V_{DD}/V_{SS}$, $V2 = V_{SS}/V_{DD}$. See Test Circuit 6)



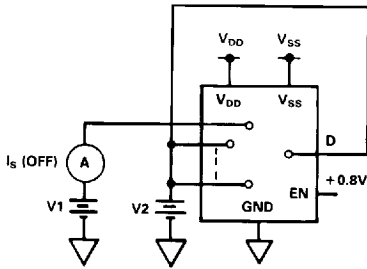
I_{bD} vs. Supply Voltage: Dual or Single Supply, $T_A = +25^\circ C$

Test Circuits—ADG526A/ADG527A

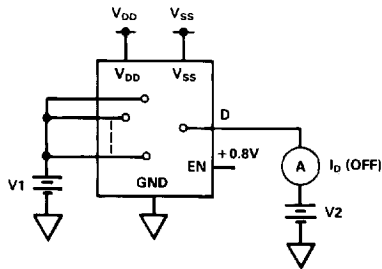
TEST CIRCUIT 1 R_{ON}



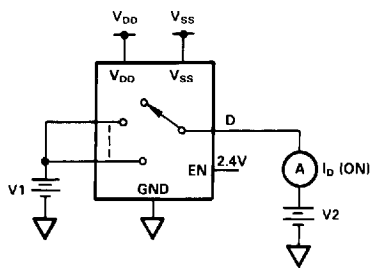
TEST CIRCUIT 2 I_S (OFF)



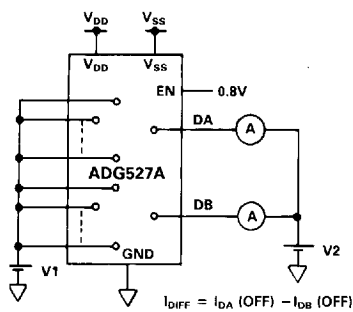
TEST CIRCUIT 3 I_D (OFF)



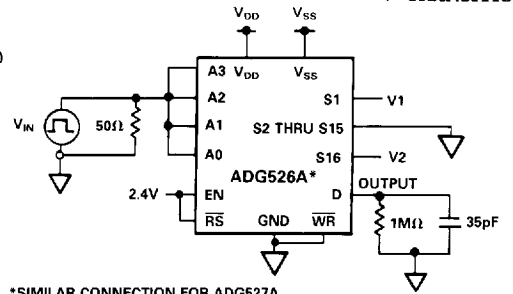
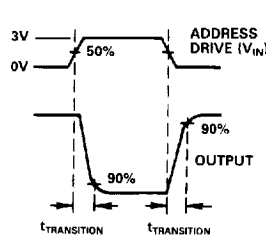
TEST CIRCUIT 4 I_D (ON)



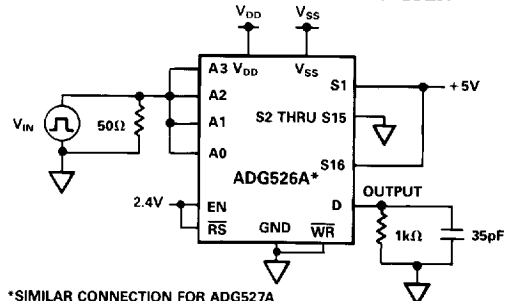
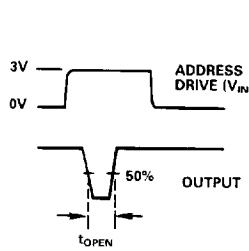
TEST CIRCUIT 5 I_{DIFF}



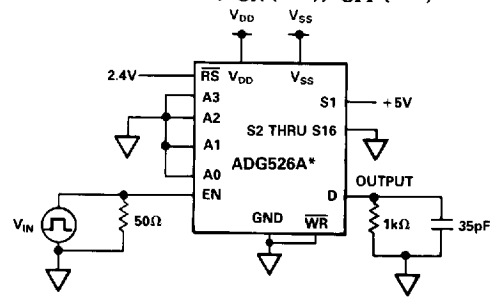
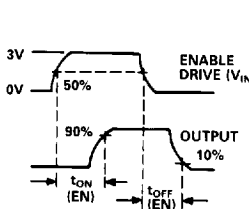
TEST CIRCUIT 6 SWITCHING TIME OF MULTIPLEXER, $t_{TRANSITION}$



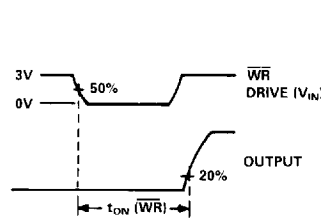
TEST CIRCUIT 7 BREAK-BEFORE-MAKE DELAY, t_{OPEN}



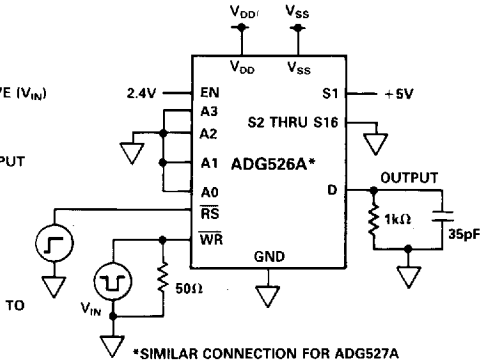
TEST CIRCUIT 8 ENABLE DELAY, t_{ON} (EN), t_{OFF} (EN)



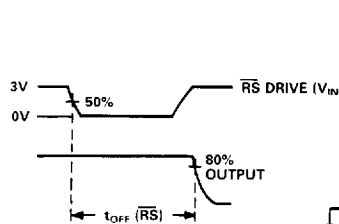
TEST CIRCUIT 9 WRITE TURN-ON TIME, t_{ON} (\overline{WR})



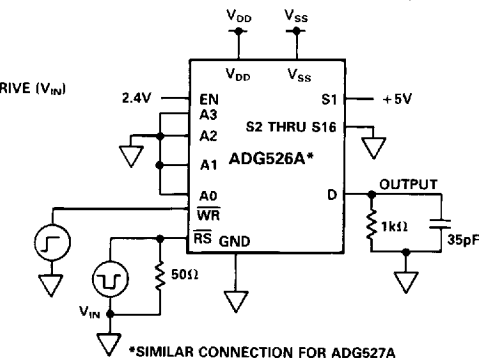
NOTE: DEVICE MUST BE RESET PRIOR TO APPLYING \overline{WR} PULSE



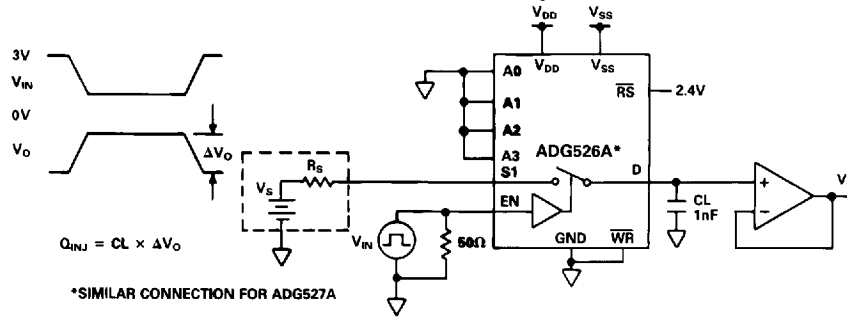
TEST CIRCUIT 10 RESET TURN-OFF TIME, t_{OFF} (\overline{RS})



NOTE: \overline{WR} MUST BE PULSED LOW PRIOR TO APPLYING \overline{RS} PULSE.



TEST CIRCUIT 11 CHARGE INJECTION



TERMINOLOGY

- R_{ON}** Ohmic resistance between terminals D and S
- R_{ON} Match** Difference between the R_{ON} of any two channels
- R_{ON} Drift** Change in R_{ON} versus temperature
- I_S (OFF)** Source terminal leakage current when the switch is off
- I_D (OFF)** Drain terminal leakage current when the switch is off
- I_D (ON)** Leakage current that flows from the closed switch into the body
- V_S (V_D)** Analog voltage on terminal S or D
- C_S (OFF)** Channel input capacitance for "OFF" condition
- C_D (OFF)** Channel output capacitance for "OFF" condition
- C_{IN}** Digital input capacitance
- t_{ON} (EN)** Delay time between the 50% and 90% points of the digital input and switch "ON" condition

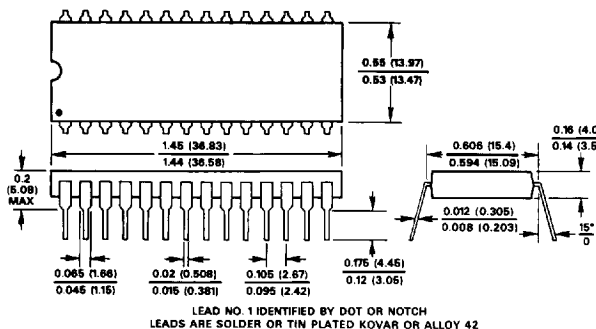
- t_{OFF} (EN)** Delay time between the 50% and 10% points of the digital input and switch "OFF" condition
- t_{TRANSITION}** Delay time between the 50% and 90% points of the digital inputs and switch "ON" condition when switching from one address state to another
- t_{OPEN}** "OFF" time measured between 50% points of both switches when switching from one address state to another
- V_{INL}** Maximum input voltage for Logic "0"
- V_{INH}** Minimum input voltage for Logic "1"
- I_{INL} (I_{INH})** Input current of the digital input
- V_{DD}** Most positive voltage supply
- V_{SS}** Most negative voltage supply
- I_{DD}** Positive supply current
- I_{SS}** Negative supply current

MECHANICAL INFORMATION

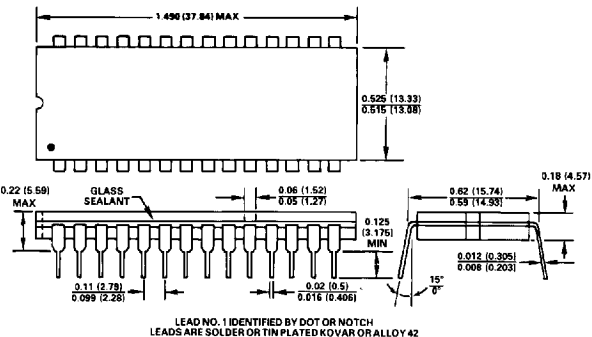
OUTLINE DIMENSIONS

Dimension shown in inches and (mm).

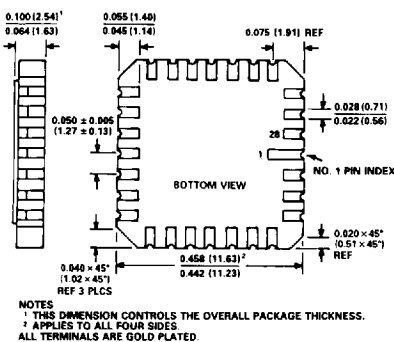
28-Pin Plastic DIP (Suffix N)



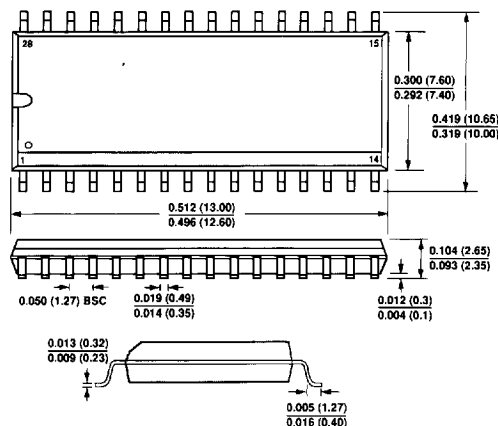
28-Pin Cerdip (Suffix Q)



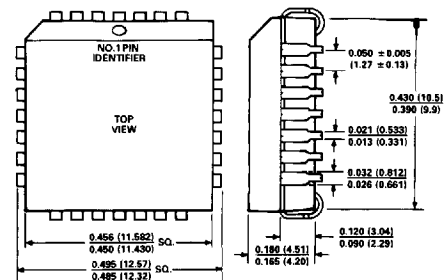
28-Terminal Leadless Ceramic Chip Carrier (Suffix E)



28-Pin SOIC (R) Package



28-Terminal Plastic Leaded Chip Carrier (Suffix P)



Package/Price Information

Latchable 16-Channel Multiplexer (Latched ADG506A)

| Model | Status | Package Description | Pin Count | Temperature Range | Price* (100-499) |
|----------------|-------------|----------------------------|-----------|-------------------|------------------|
| 5962-89710013X | PRODUCTION | CER. LEADLESS CHIP CARRIER | 28 | MILITARY | \$54.75 |
| 5962-8971001XX | PRODUCTION | CERDIP GLASS SEAL | 28 | MILITARY | \$30.01 |
| ADG526ABCHIPS | PRODUCTION | CHIPS/DIE SALES | 28 | COMMERCIAL | \$9.67 |
| ADG526ABQ | PRODUCTION | CERDIP GLASS SEAL | 28 | COMMERCIAL | - |
| ADG526AKN | PRODUCTION | PLASTIC/EPOXY DIP | 28 | COMMERCIAL | \$6.32 |
| ADG526AKP | PRODUCTION | PLASTIC LEAD CHIP CARRIER | 28 | COMMERCIAL | \$6.64 |
| ADG526AKP-REEL | PRODUCTION | PLASTIC LEAD CHIP CARRIER | 28 | COMMERCIAL | - |
| ADG526AKR | PRODUCTION | STD S.O. PKG (SOIC) | 28 | COMMERCIAL | \$6.32 |
| ADG526AKR-REEL | PRODUCTION | STD S.O. PKG (SOIC) | 28 | COMMERCIAL | - |
| ADG526ATCHIPS | PRODUCTION | CHIPS/DIE SALES | 28 | COMMERCIAL | \$12.58 |
| ADG526ATE | PRE-RELEASE | CER. LEADLESS CHIP CARRIER | 28 | MILITARY | - |
| ADG526ATQ | PRODUCTION | CERDIP GLASS SEAL | 28 | MILITARY | \$19.74 |

* This price is provided for budgetary purposes as recommended list price in U.S. Dollars per unit in the stated volume. Pricing displayed for Evaluation Boards and Kits is based on 1-piece pricing. View [Pricing and Availability](#) for further information.

Package/Price Information

Latchable Differential 8 Channel Multiplexer (Latched ADG507A)

| Model | Status | Package Description | Pin Count | Temperature Range | Price* (100-499) |
|----------------|-------------|----------------------------|-----------|-------------------|------------------|
| 5962-89710023X | PRODUCTION | CER. LEADLESS CHIP CARRIER | 28 | MILITARY | \$52.64 |
| 5962-8971002XX | PRODUCTION | CERDIP GLASS SEAL | 28 | MILITARY | \$28.86 |
| ADG527ABCHIPS | PRODUCTION | CHIPS/DIE SALES | 28 | COMMERCIAL | \$9.30 |
| ADG527ABQ | PRE-RELEASE | CERDIP GLASS SEAL | 28 | COMMERCIAL | \$17.07 |
| ADG527AKN | PRODUCTION | PLASTIC/EPOXY DIP | 28 | COMMERCIAL | - |
| ADG527AKP | PRODUCTION | PLASTIC LEAD CHIP CARRIER | 28 | COMMERCIAL | - |
| ADG527AKR | PRODUCTION | STD S.O. PKG (SOIC) | 28 | COMMERCIAL | \$6.08 |
| ADG527ATCHIPS | PRODUCTION | CHIPS/DIE SALES | 28 | COMMERCIAL | \$12.10 |

* This price is provided for budgetary purposes as recommended list price in U.S. Dollars per unit in the stated volume. Pricing displayed for Evaluation Boards and Kits is based on 1-piece pricing. View [Pricing and Availability](#) for further information.