

## FEATURES

**6.5  $\Omega$  (maximum) on resistance**  
**0.8  $\Omega$  (maximum) on-resistance flatness**  
**2.7 V to 5.5 V single supply**  
 **$\pm 2.7$  V to  $\pm 5.5$  V dual supply**  
**Rail-to-rail operation**  
**8-lead SOT-23, 8-lead MSOP**  
**Typical power consumption ( $< 0.1$   $\mu$ W)**  
**TTL-/CMOS-compatible inputs**

## APPLICATIONS

**Automatic test equipment**  
**Power routing**  
**Communication systems**  
**Data acquisition systems**  
**Sample-and-hold systems**  
**Avionics**  
**Relay replacement**  
**Battery-powered systems**

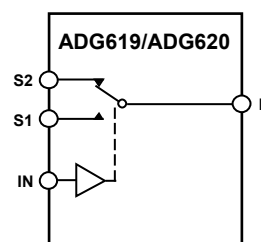
## GENERAL DESCRIPTION

The ADG619/ADG620 are monolithic, CMOS single-pole double-throw (SPDT) switches. Each switch conducts equally well in both directions when the device is on.

The ADG619/ADG620 offer a low on resistance of 4  $\Omega$ , which is matched to within 0.7  $\Omega$  between channels. These switches also provide low power dissipation, yet result in high switching speeds. The ADG619 exhibits break-before-make switching action, thus preventing momentary shorting when switching channels. The ADG620 exhibits make-before-break action.

The ADG619/ADG620 are available in an 8-lead SOT-23 and an 8-lead MSOP.

## FUNCTIONAL BLOCK DIAGRAM



**NOTES**  
 1. SWITCHES SHOWN FOR  
 A LOGIC 1 INPUT.

02817-001

Figure 1.

## PRODUCT HIGHLIGHTS

1. Low on resistance ( $R_{ON}$ ): 4  $\Omega$  typical.
2. Dual  $\pm 2.7$  V to  $\pm 5.5$  V or single 2.7 V to 5.5 V supplies.
3. Low power dissipation.
4. Fast  $t_{ON}/t_{OFF}$ .
5. Tiny, 8-lead SOT-23 and 8-lead MSOP.

**Table 1. Truth Table for the ADG619/ADG620**

| IN | Switch S1 | Switch S2 |
|----|-----------|-----------|
| 0  | On        | Off       |
| 1  | Off       | On        |

### Rev. C

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REVISION HISTORY

|                                                    |    |
|----------------------------------------------------|----|
| <b>3/07—Rev. B to Rev. C</b>                       |    |
| Changes to Specifications .....                    | 3  |
| <b>1/06—Rev. A to Rev. B</b>                       |    |
| Changes to R <sub>ON</sub> Values in Table 2 ..... | 2  |
| Updated Outline Dimensions .....                   | 13 |
| Changes to Ordering Guide .....                    | 13 |
| <b>6/03—Rev. 0 to Rev. A.</b>                      |    |
| Edits to Specifications .....                      | 2  |
| Changes to Ordering Guide .....                    | 4  |
| Updated Outline Dimensions .....                   | 8  |

# SPECIFICATIONS

## DUAL SUPPLY

$V_{DD} = +5\text{ V} \pm 10\%$ ,  $V_{SS} = -5\text{ V} \pm 10\%$ ,  $GND = 0\text{ V}$ . All specifications  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ , unless otherwise noted.

Table 2.

| Parameter                                                  | B Version <sup>1</sup> |                                    | Unit    | Test Conditions/Comments                                                         |
|------------------------------------------------------------|------------------------|------------------------------------|---------|----------------------------------------------------------------------------------|
|                                                            | +25°C                  | −40°C to +85°C                     |         |                                                                                  |
| ANALOG SWITCH                                              |                        |                                    |         |                                                                                  |
| Analog Signal Range                                        |                        | V <sub>SS</sub> to V <sub>DD</sub> | V       | V <sub>DD</sub> = +4.5 V, V <sub>SS</sub> = −4.5 V                               |
| On Resistance (R <sub>ON</sub> )                           | 4                      |                                    | Ω typ   | V <sub>S</sub> = ±4.5 V, I <sub>DS</sub> = −10 mA; see Figure 15                 |
|                                                            | 6.5                    | 8.5                                | Ω max   |                                                                                  |
| R <sub>ON</sub> Match Between Channels (ΔR <sub>ON</sub> ) | 0.7                    |                                    | Ω typ   | V <sub>S</sub> = ±4.5 V, I <sub>DS</sub> = −10 mA                                |
|                                                            | 1.1                    | 1.35                               | Ω max   |                                                                                  |
| On-Resistance Flatness (R <sub>FLAT (ON)</sub> )           | 0.7                    | 0.8                                | Ω typ   | V <sub>S</sub> = ±3.3 V, I <sub>DS</sub> = −10 mA                                |
|                                                            | 1.35                   | 1.4                                | Ω max   |                                                                                  |
| LEAKAGE CURRENTS                                           |                        |                                    |         |                                                                                  |
| Source Off Leakage, I <sub>S</sub> (Off)                   | ±0.01                  |                                    | nA typ  | V <sub>DD</sub> = +5.5 V, V <sub>SS</sub> = −5.5 V                               |
|                                                            | ±0.25                  | ±1                                 | nA max  | V <sub>S</sub> = ±4.5 V, V <sub>D</sub> = ∓ 4.5 V; see Figure 16                 |
| Channel On Leakage, I <sub>D</sub> , I <sub>S</sub> (On)   | ±0.01                  |                                    | nA typ  | V <sub>S</sub> = V <sub>D</sub> = ±4.5 V; see Figure 17                          |
|                                                            | ±0.25                  | ±1                                 | nA max  |                                                                                  |
| DIGITAL INPUTS                                             |                        |                                    |         |                                                                                  |
| Input High Voltage, V <sub>INH</sub>                       |                        | 2.4                                | V min   | V <sub>IN</sub> = V <sub>INL</sub> or V <sub>INH</sub>                           |
| Input Low Voltage, V <sub>INL</sub>                        |                        | 0.8                                | V max   |                                                                                  |
| Input Current, I <sub>INL</sub> or I <sub>INH</sub>        | 0.005                  |                                    | μA typ  |                                                                                  |
|                                                            |                        | ±0.1                               | μA max  |                                                                                  |
| Digital Input Capacitance, C <sub>IN</sub>                 | 2                      |                                    | pF typ  |                                                                                  |
| DYNAMIC CHARACTERISTICS <sup>2</sup>                       |                        |                                    |         |                                                                                  |
| ADG619                                                     |                        |                                    |         |                                                                                  |
| t <sub>ON</sub>                                            | 80                     |                                    | ns typ  | R <sub>L</sub> = 300 Ω, C <sub>L</sub> = 35 pF                                   |
|                                                            | 120                    | 155                                | ns max  | V <sub>S</sub> = 3.3 V; see Figure 18                                            |
| t <sub>OFF</sub>                                           | 45                     |                                    | ns typ  | R <sub>L</sub> = 300 Ω, C <sub>L</sub> = 35 pF                                   |
|                                                            | 75                     | 90                                 | ns max  | V <sub>S</sub> = 3.3 V; see Figure 18                                            |
| Break-Before-Make Time Delay, t <sub>BBM</sub>             | 40                     |                                    | ns typ  | R <sub>L</sub> = 300 Ω, C <sub>L</sub> = 35 pF                                   |
|                                                            |                        | 10                                 | ns min  | V <sub>S1</sub> = V <sub>S2</sub> = 3.3 V; see Figure 19                         |
| ADG620                                                     |                        |                                    |         |                                                                                  |
| t <sub>ON</sub>                                            | 40                     |                                    | ns typ  | R <sub>L</sub> = 300 Ω, C <sub>L</sub> = 35 pF                                   |
|                                                            | 65                     | 85                                 | ns max  | V <sub>S</sub> = 3.3 V; see Figure 18                                            |
| t <sub>OFF</sub>                                           | 200                    |                                    | ns typ  | R <sub>L</sub> = 300 Ω, C <sub>L</sub> = 35 pF                                   |
|                                                            | 330                    | 400                                | ns max  | V <sub>S</sub> = 3.3 V; see Figure 18                                            |
| Make-Before-Break Time Delay, t <sub>MBB</sub>             | 160                    |                                    | ns typ  | R <sub>L</sub> = 300 Ω, C <sub>L</sub> = 35 pF                                   |
|                                                            |                        | 10                                 | ns min  | V <sub>S</sub> = 0 V; see Figure 20                                              |
| Charge Injection                                           | 110                    |                                    | pC typ  | V <sub>S</sub> = 0 V, R <sub>S</sub> = 0 Ω, C <sub>L</sub> = 1 nF; see Figure 21 |
| Off Isolation                                              | −67                    |                                    | dB typ  | R <sub>L</sub> = 50 Ω, C <sub>L</sub> = 5 pF, f = 1 MHz; see Figure 22           |
| Channel-to-Channel Crosstalk                               | −67                    |                                    | dB typ  | R <sub>L</sub> = 50 Ω, C <sub>L</sub> = 5 pF, f = 1 MHz; see Figure 23           |
| Bandwidth −3 dB                                            | 190                    |                                    | MHz typ | R <sub>L</sub> = 50 Ω, C <sub>L</sub> = 5 pF; see Figure 24                      |
| C <sub>S</sub> (Off)                                       | 25                     |                                    | pF typ  | f = 1 MHz                                                                        |
| C <sub>D</sub> , C <sub>S</sub> (On)                       | 95                     |                                    | pF typ  | f = 1 MHz                                                                        |

# ADG619/ADG620

| Parameter          | B Version <sup>1</sup> |                | Unit                                   | Test Conditions/Comments                                                             |
|--------------------|------------------------|----------------|----------------------------------------|--------------------------------------------------------------------------------------|
|                    | +25°C                  | −40°C to +85°C |                                        |                                                                                      |
| POWER REQUIREMENTS |                        |                |                                        | $V_{DD} = +5.5\text{ V}$ , $V_{SS} = -5.5\text{ V}$<br>Digital inputs = 0 V or 5.5 V |
| $I_{DD}$           | 0.001                  | 1.0            | $\mu\text{A typ}$<br>$\mu\text{A max}$ |                                                                                      |
| $I_{SS}$           | 0.001                  | 1.0            | $\mu\text{A typ}$<br>$\mu\text{A max}$ | Digital inputs = 0 V or 5.5 V                                                        |

<sup>1</sup> Temperature range for B version is −40°C to +85°C.

<sup>2</sup> Guaranteed by design, not subject to production test.

**SINGLE SUPPLY**

$V_{DD} = 5\text{ V} \pm 10\%$ ,  $V_{SS} = 0\text{ V}$ ,  $GND = 0\text{ V}$ . All specifications  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ , unless otherwise noted.

**Table 3.**

| Parameter                                           | B Version <sup>1</sup> |                 | Unit              | Test Conditions/Comments                                                          |
|-----------------------------------------------------|------------------------|-----------------|-------------------|-----------------------------------------------------------------------------------|
|                                                     | +25°C                  | −40°C to +85°C  |                   |                                                                                   |
| <b>ANALOG SWITCH</b>                                |                        |                 |                   |                                                                                   |
| Analog Signal Range                                 |                        | 0 V to $V_{DD}$ | V                 | $V_{DD} = 4.5\text{ V}$ , $V_{SS} = 0\text{ V}$                                   |
| On Resistance ( $R_{ON}$ )                          | 7                      |                 | $\Omega$ typ      | $V_S = 0\text{ V}$ to $4.5\text{ V}$ , $I_{DS} = -10\text{ mA}$ ; see Figure 15   |
|                                                     | 10                     | 12.5            | $\Omega$ max      |                                                                                   |
| $R_{ON}$ Match Between Channels ( $\Delta R_{ON}$ ) | 0.8                    |                 | $\Omega$ typ      | $V_S = 0\text{ V}$ to $4.5\text{ V}$ , $I_{DS} = -10\text{ mA}$                   |
|                                                     | 1.1                    | 1.3             | $\Omega$ max      |                                                                                   |
| On-Resistance Flatness ( $R_{FLAT(ON)}$ )           | 0.5                    | 0.5             | $\Omega$ typ      | $V_S = 1.5\text{ V}$ to $3.3\text{ V}$ , $I_{DS} = -10\text{ mA}$                 |
|                                                     |                        | 1.2             | $\Omega$ max      |                                                                                   |
| <b>LEAKAGE CURRENTS</b>                             |                        |                 |                   | $V_{DD} = 5.5\text{ V}$                                                           |
| Source Off Leakage, $I_S$ (Off)                     | $\pm 0.01$             |                 | nA typ            | $V_S = 1\text{ V}/4.5\text{ V}$ , $V_D = 4.5\text{ V}/1\text{ V}$ ; see Figure 16 |
|                                                     | $\pm 0.25$             | $\pm 1$         | nA max            |                                                                                   |
| Channel On Leakage, $I_D$ , $I_S$ (On)              | $\pm 0.01$             |                 | nA typ            | $V_S = V_D = 1\text{ V}/4.5\text{ V}$ ; see Figure 17                             |
|                                                     | $\pm 0.25$             | $\pm 1$         | nA max            |                                                                                   |
| <b>DIGITAL INPUTS</b>                               |                        |                 |                   |                                                                                   |
| Input High Voltage, $V_{INH}$                       |                        | 2.4             | V min             | $V_{IN} = V_{INL}$ or $V_{INH}$                                                   |
| Input Low Voltage, $V_{INL}$                        |                        | 0.8             | V max             |                                                                                   |
| Input Current, $I_{INL}$ or $I_{INH}$               | 0.005                  |                 | $\mu\text{A}$ typ |                                                                                   |
|                                                     |                        | $\pm 0.1$       | $\mu\text{A}$ max |                                                                                   |
| Digital Input Capacitance, $C_{IN}$                 | 2                      |                 | pF typ            |                                                                                   |
| <b>DYNAMIC CHARACTERISTICS<sup>2</sup></b>          |                        |                 |                   |                                                                                   |
| <b>ADG619</b>                                       |                        |                 |                   |                                                                                   |
| $t_{ON}$                                            | 120                    |                 | ns typ            | $R_L = 300\ \Omega$ , $C_L = 35\text{ pF}$                                        |
|                                                     | 220                    | 280             | ns max            | $V_S = 3.3\text{ V}$ ; see Figure 18                                              |
| $t_{OFF}$                                           | 50                     |                 | ns typ            | $R_L = 300\ \Omega$ , $C_L = 35\text{ pF}$                                        |
|                                                     | 75                     | 110             | ns max            | $V_S = 3.3\text{ V}$ ; see Figure 18                                              |
| Break-Before-Make Time Delay, $t_{BBM}$             | 70                     |                 | ns typ            | $R_L = 300\ \Omega$ , $C_L = 35\text{ pF}$                                        |
|                                                     |                        | 10              | ns min            | $V_{S1} = V_{S2} = 3.3\text{ V}$ ; see Figure 19                                  |
| <b>ADG620</b>                                       |                        |                 |                   |                                                                                   |
| $t_{ON}$                                            | 50                     |                 | ns typ            | $R_L = 300\ \Omega$ , $C_L = 35\text{ pF}$                                        |
|                                                     | 85                     | 110             | ns max            | $V_S = 3.3\text{ V}$ ; see Figure 18                                              |
| $t_{OFF}$                                           | 210                    |                 | ns typ            | $R_L = 300\ \Omega$ , $C_L = 35\text{ pF}$                                        |
|                                                     | 340                    | 420             | ns max            | $V_S = 3.3\text{ V}$ ; see Figure 18                                              |
| Make-Before-Break Time Delay, $t_{MBB}$             | 170                    |                 | ns typ            | $R_L = 300\ \Omega$ , $C_L = 35\text{ pF}$                                        |
|                                                     |                        | 10              | ns min            | $V_S = 3.3\text{ V}$ ; see Figure 20                                              |
| Charge Injection                                    | 6                      |                 | pC typ            | $V_S = 0\text{ V}$ , $R_S = 0\ \Omega$ , $C_L = 1\text{ nF}$ ; see Figure 21      |
| Off Isolation                                       | −67                    |                 | dB typ            | $R_L = 50\ \Omega$ , $C_L = 5\text{ pF}$ , $f = 1\text{ MHz}$ ; see Figure 22     |
| Channel-to-Channel Crosstalk                        | −67                    |                 | dB typ            | $R_L = 50\ \Omega$ , $C_L = 5\text{ pF}$ , $f = 1\text{ MHz}$ ; see Figure 23     |
| Bandwidth −3 dB                                     | 190                    |                 | MHz typ           | $R_L = 50\ \Omega$ , $C_L = 5\text{ pF}$ ; see Figure 24                          |
| $C_S$ (OFF)                                         | 25                     |                 | pF typ            | $f = 1\text{ MHz}$                                                                |
| $C_D$ , $C_S$ (ON)                                  | 95                     |                 | pF typ            | $f = 1\text{ MHz}$                                                                |
| <b>POWER REQUIREMENTS</b>                           |                        |                 |                   | $V_{DD} = 5.5\text{ V}$                                                           |
| $I_{DD}$                                            | 0.001                  |                 | $\mu\text{A}$ typ | Digital inputs = 0 V or 5.5 V                                                     |
|                                                     |                        | 1.0             | $\mu\text{A}$ max |                                                                                   |

<sup>1</sup> Temperature range for B version is  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ .

<sup>2</sup> Guaranteed by design, not subject to production test.

## ABSOLUTE MAXIMUM RATINGS

$T_A = 25^\circ\text{C}$ , unless otherwise noted.

Table 4.

| Parameter                                             | Rating                                                                  |
|-------------------------------------------------------|-------------------------------------------------------------------------|
| $V_{DD}$ to $V_{SS}$                                  | 13 V                                                                    |
| $V_{DD}$ to GND                                       | −0.3 V to +6.5 V                                                        |
| $V_{SS}$ to GND                                       | +0.3 V to −6.5 V                                                        |
| Analog Inputs <sup>1</sup>                            | $V_{SS} - 0.3 \text{ V}$ to $V_{DD} + 0.3 \text{ V}$                    |
| Digital Inputs <sup>1</sup>                           | −0.3 V to $V_{DD} + 0.3 \text{ V}$ or 30 mA<br>(whichever occurs first) |
| Peak Current, S or D                                  | 100 mA (pulsed at 1 ms,<br>10% duty cycle maximum)                      |
| Continuous Current, S or D                            | 50 mA                                                                   |
| Operating Temperature Range<br>Industrial (B Version) | −40°C to +85°C                                                          |
| Storage Temperature Range                             | −65°C to +150°C                                                         |
| Junction Temperature                                  | 150°C                                                                   |
| MSOP                                                  |                                                                         |
| $\theta_{JA}$ Thermal Impedance                       | 206°C/W                                                                 |
| $\theta_{JC}$ Thermal Impedance                       | 44°C/W                                                                  |
| SOT-23                                                |                                                                         |
| $\theta_{JA}$ Thermal Impedance                       | 229.6°C/W                                                               |
| $\theta_{JC}$ Thermal Impedance                       | 91.99°C/W                                                               |
| Lead Temperature, Soldering<br>(10 sec)               | 300°C                                                                   |
| IR Reflow, Peak Temperature                           | 220°C                                                                   |

<sup>1</sup> Overvoltages at IN, S, or D are clamped by internal diodes. Current should be limited to the maximum ratings given.

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

Only one absolute maximum rating may be applied at a time.

### ESD CAUTION



**ESD (electrostatic discharge) sensitive device.** Charged devices and circuit boards can discharge without detection. Although this product features patented or proprietary protection circuitry, damage may occur on devices subjected to high energy ESD. Therefore, proper ESD precautions should be taken to avoid performance degradation or loss of functionality.

## PIN CONFIGURATIONS AND FUNCTION DESCRIPTIONS

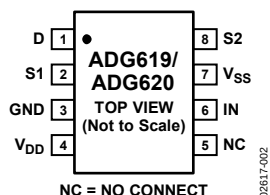


Figure 2. 8-Lead SOT-23  
(RJ-8)

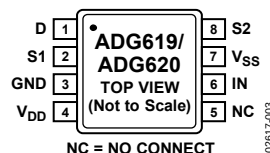


Figure 3. 8-Lead MSOP  
(RM-8)

Table 5. Pin Function Descriptions

| Pin No. | Mnemonic        | Description                                                                                                                               |
|---------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | D               | Drain Terminal. Can be an input or output.                                                                                                |
| 2       | S1              | Source Terminal. Can be an input or output.                                                                                               |
| 3       | GND             | Ground (0 V) Reference.                                                                                                                   |
| 4       | V <sub>DD</sub> | Most Positive Power Supply.                                                                                                               |
| 5       | NC              | No Connect. Not internally connected.                                                                                                     |
| 6       | IN              | Logic Control Input.                                                                                                                      |
| 7       | V <sub>SS</sub> | Most Negative Power Supply. This pin is only used in dual-supply applications and should be tied to ground in single-supply applications. |
| 8       | S2              | Source Terminal. Can be an input or output.                                                                                               |

## TYPICAL PERFORMANCE CHARACTERISTICS

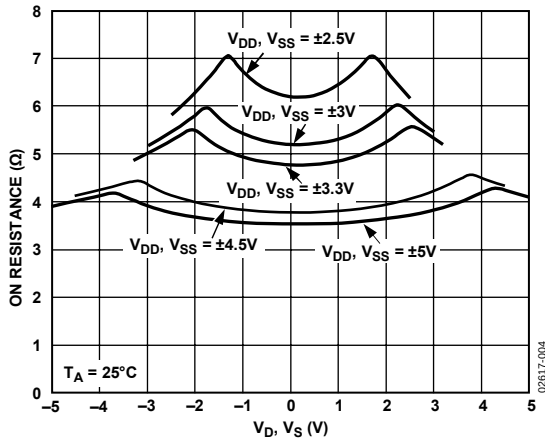


Figure 4. On Resistance vs.  $V_D$ ,  $V_S$  (Dual Supply)

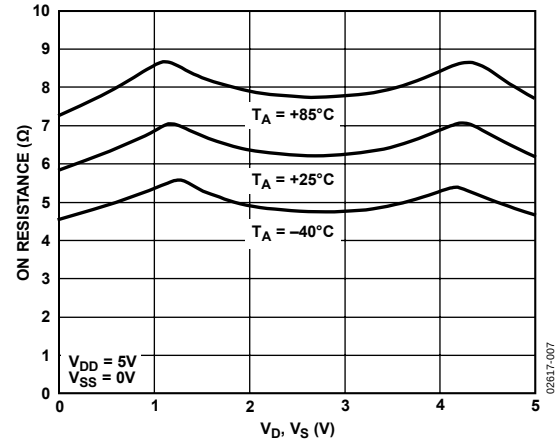


Figure 7. On Resistance vs.  $V_D$ ,  $V_S$  for Different Temperatures (Single Supply)

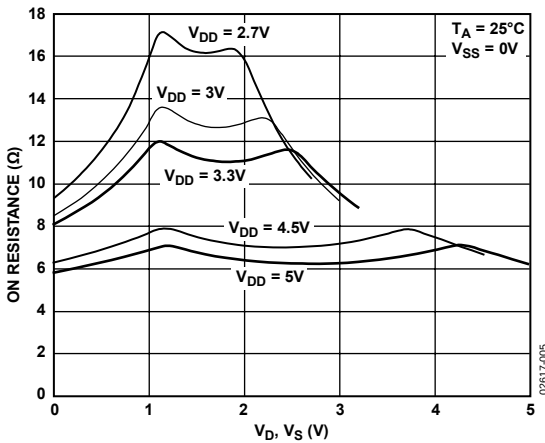


Figure 5. On Resistance vs.  $V_D$ ,  $V_S$  (Single Supply)

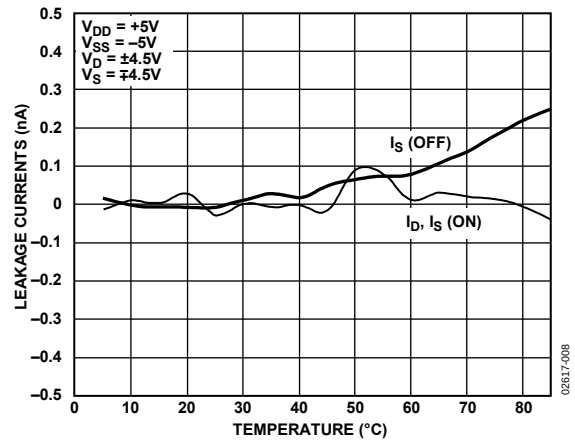


Figure 8. Leakage Currents vs. Temperature (Dual Supply)

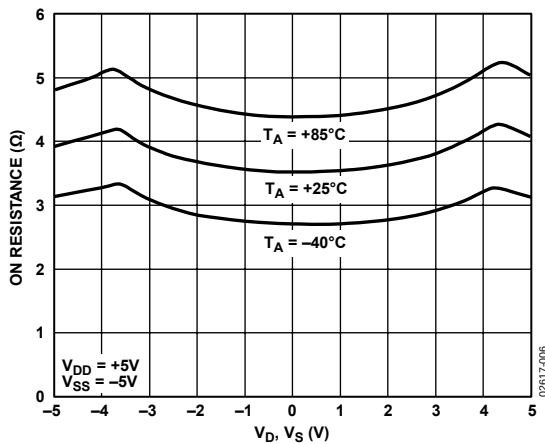


Figure 6. On Resistance vs.  $V_D$ ,  $V_S$  for Different Temperatures (Dual Supply)

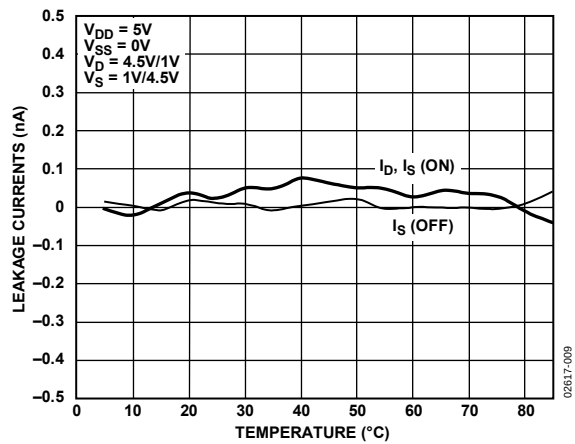


Figure 9. Leakage Currents vs. Temperature (Single Supply)



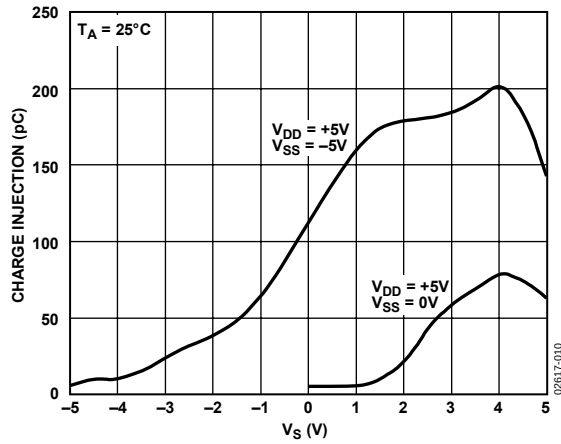


Figure 10. Charge Injection vs. Source Voltage

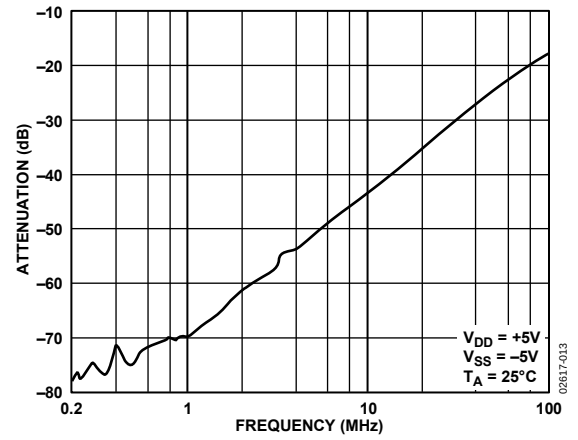


Figure 13. Crosstalk vs. Frequency

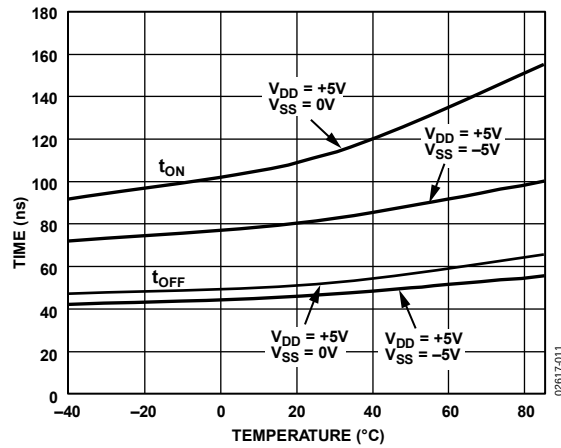


Figure 11.  $t_{ON}/t_{OFF}$  Times vs. Temperatures

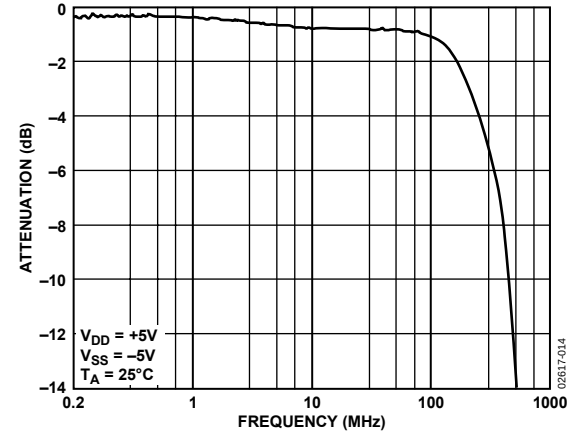


Figure 14. On Response vs. Frequency

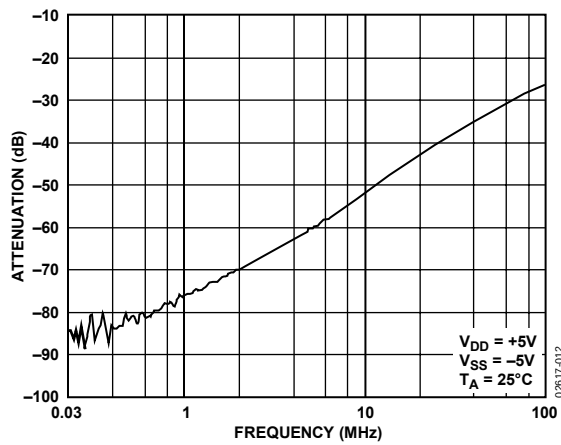


Figure 12. Off Isolation vs. Frequency

## TERMINOLOGY

### **I<sub>DD</sub>**

Positive supply current.

### **I<sub>SS</sub>**

Negative supply current.

### **R<sub>ON</sub>**

Ohmic resistance between D and S terminals.

### **ΔR<sub>ON</sub>**

On resistance match between any two channels.

### **R<sub>FLAT</sub> (ON)**

Flatness is defined as the difference between the maximum and minimum value of on resistance as measured over the specified analog signal range.

### **I<sub>S</sub> (Off)**

Source leakage current with the switch off.

### **I<sub>D</sub>, I<sub>S</sub> (On)**

Channel leakage current with the switch on.

### **V<sub>D</sub>, V<sub>S</sub>**

Analog voltage on Terminal D and Terminal S.

### **V<sub>INL</sub>**

Maximum input voltage for Logic 0.

### **V<sub>INH</sub>**

Minimum input voltage for Logic 1.

### **I<sub>INL</sub>, I<sub>INH</sub>**

Input current of the digital input.

### **C<sub>S</sub> (Off)**

Off switch source capacitance.

### **C<sub>D</sub>, C<sub>S</sub> (On)**

On switch capacitance.

### **t<sub>ON</sub>**

Delay between applying the digital control input and the output switching on.

### **t<sub>OFF</sub>**

Delay between applying the digital control input and the output switching off.

### **t<sub>MBB</sub>**

On time is measured between the 80% points of both switches, when switching from one address state to another.

### **t<sub>BBM</sub>**

Off time or on time is measured between the 90% points of both switches, when switching from one address state to another.

### **Charge Injection**

A measure of the glitch impulse transferred from the digital input to the analog output during switching.

### **Crosstalk**

A measure of unwanted signal coupled through from one channel to another as a result of parasitic capacitance.

### **Off Isolation**

A measure of unwanted signal coupling through an off switch.

### **Bandwidth**

The frequency response of the on switch.

### **Insertion Loss**

The loss due to the on resistance of the switch.

# TEST CIRCUITS

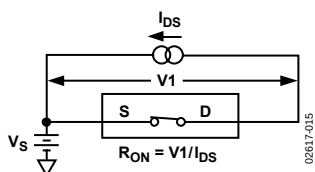


Figure 15. On Resistance

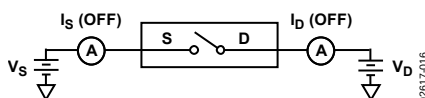


Figure 16. Off Leakage

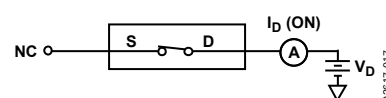


Figure 17. On Leakage

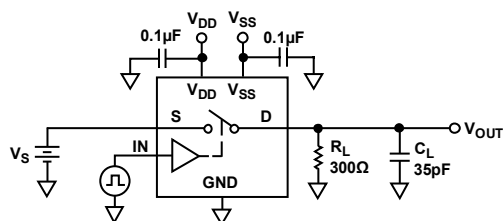


Figure 18. Switching Times

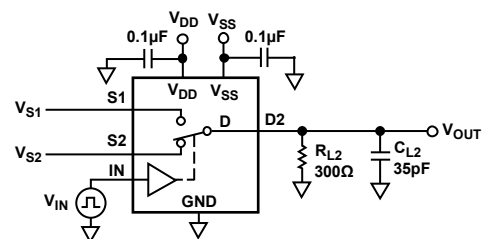
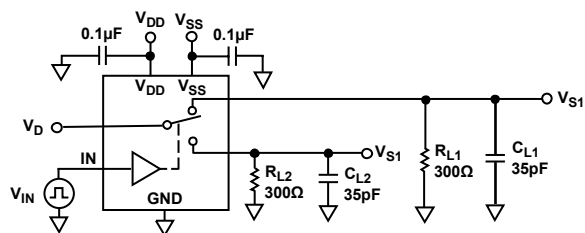
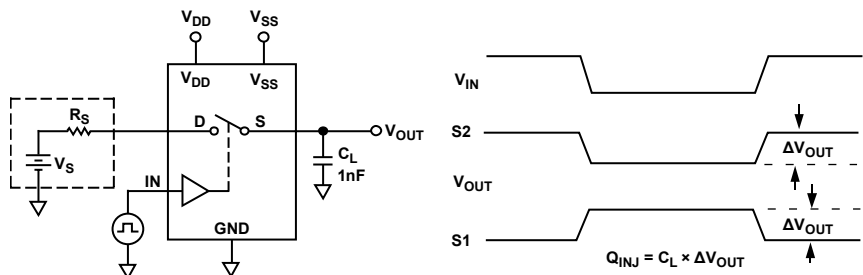

Figure 19. Break-Before-Make Time Delay,  $t_{BBM}$  (ADG619 Only)

Figure 20. Make-Before-Break Time Delay,  $t_{MBB}$  (ADG620 Only)


Figure 21. Charge Injection

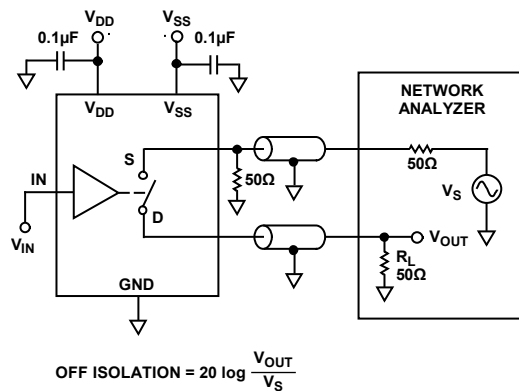


Figure 22. Off Isolation

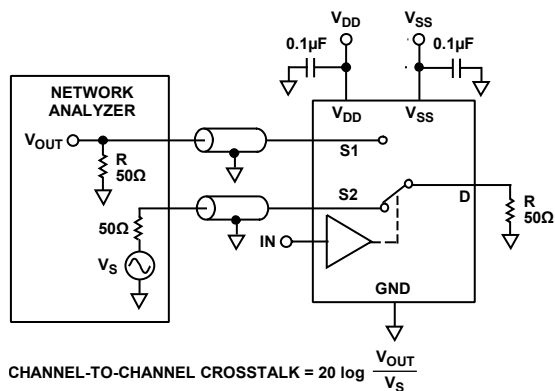


Figure 23. Channel-to-Channel Crosstalk

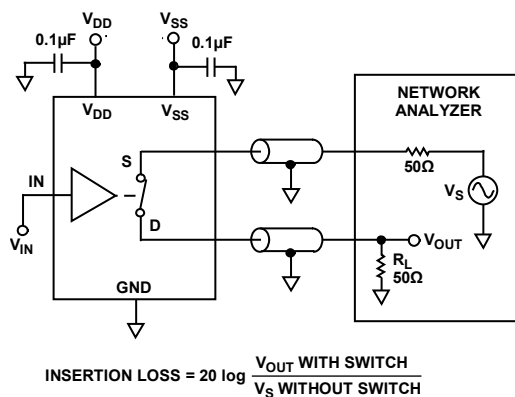
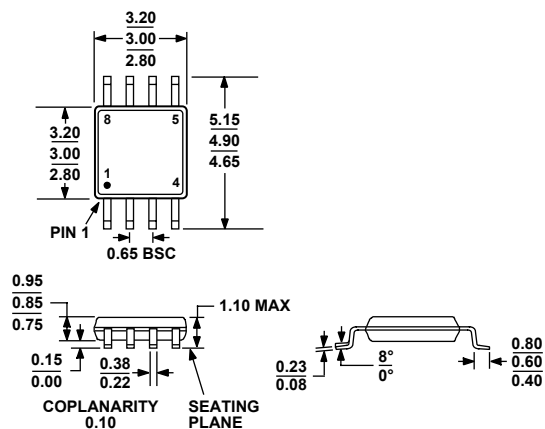


Figure 24. Bandwidth

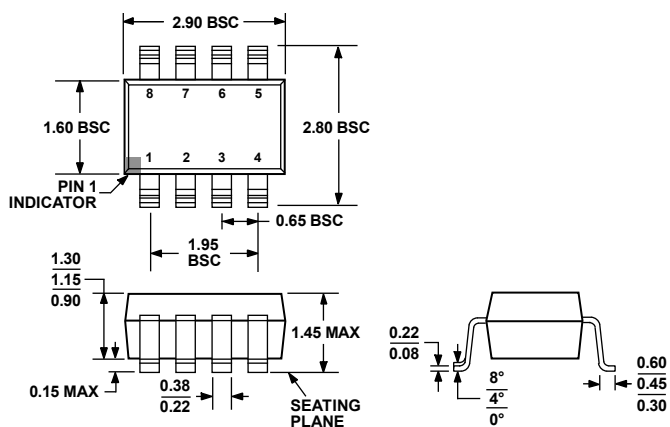
# OUTLINE DIMENSIONS



COMPLIANT TO JEDEC STANDARDS MO-187-AA

Figure 25. 8-Lead Mini Small Outline Package [MSOP]  
(RM-8)

Dimensions shown in millimeters



COMPLIANT TO JEDEC STANDARDS MO-178-BA

Figure 26. 8-Lead Small Outline Transistor Package [SOT-23]  
(RJ-8)

Dimensions shown in millimeters

# ADG619/ADG620

## ORDERING GUIDE

| Model                          | Temperature Range | Package Description                              | Package Option | Branding <sup>1</sup> |
|--------------------------------|-------------------|--------------------------------------------------|----------------|-----------------------|
| ADG619BRM                      | –40°C to +85°C    | 8-Lead Mini Small Outline Package (MSOP)         | RM-8           | SVB                   |
| ADG619BRM-REEL                 | –40°C to +85°C    | 8-Lead Mini Small Outline Package (MSOP)         | RM-8           | SVB                   |
| ADG619BRM-REEL7                | –40°C to +85°C    | 8-Lead Mini Small Outline Package (MSOP)         | RM-8           | SVB                   |
| ADG619BRMZ <sup>2</sup>        | –40°C to +85°C    | 8-Lead Mini Small Outline Package (MSOP)         | RM-8           | SCC                   |
| ADG619BRMZ-REEL <sup>2</sup>   | –40°C to +85°C    | 8-Lead Mini Small Outline Package (MSOP)         | RM-8           | SCC                   |
| ADG619BRMZ-REEL7 <sup>2</sup>  | –40°C to +85°C    | 8-Lead Mini Small Outline Package (MSOP)         | RM-8           | SCC                   |
| ADG619BRT-REEL                 | –40°C to +85°C    | 8-Lead Small Outline Transistor Package (SOT-23) | RJ-8           | SVB                   |
| ADG619BRT-REEL7                | –40°C to +85°C    | 8-Lead Small Outline Transistor Package (SOT-23) | RJ-8           | SVB                   |
| ADG619BRT-500RL7               | –40°C to +85°C    | 8-Lead Small Outline Transistor Package (SOT-23) | RJ-8           | SVB                   |
| ADG619BRTZ-REEL <sup>2</sup>   | –40°C to +85°C    | 8-Lead Small Outline Transistor Package (SOT-23) | RJ-8           | SCC                   |
| ADG619BRTZ-REEL7 <sup>2</sup>  | –40°C to +85°C    | 8-Lead Small Outline Transistor Package (SOT-23) | RJ-8           | SCC                   |
| ADG619BRTZ-500RL7 <sup>2</sup> | –40°C to +85°C    | 8-Lead Small Outline Transistor Package (SOT-23) | RJ-8           | SCC                   |
| ADG620BRM                      | –40°C to +85°C    | 8-Lead Mini Small Outline Package (MSOP)         | RM-8           | SWB                   |
| ADG620BRM-REEL                 | –40°C to +85°C    | 8-Lead Mini Small Outline Package (MSOP)         | RM-8           | SWB                   |
| ADG620BRM-REEL7                | –40°C to +85°C    | 8-Lead Mini Small Outline Package (MSOP)         | RM-8           | SWB                   |
| ADG620BRMZ <sup>2</sup>        | –40°C to +85°C    | 8-Lead Mini Small Outline Package (MSOP)         | RM-8           | S21                   |
| ADG620BRT-REEL                 | –40°C to +85°C    | 8-Lead Small Outline Transistor Package (SOT-23) | RJ-8           | SWB                   |
| ADG620BRT-REEL7                | –40°C to +85°C    | 8-Lead Small Outline Transistor Package (SOT-23) | RJ-8           | SWB                   |
| ADG620BRTZ-REEL7 <sup>2</sup>  | –40°C to +85°C    | 8-Lead Small Outline Transistor Package (SOT-23) | RJ-8           | S21                   |

<sup>1</sup> Branding on SOT-23 and MSOP is limited to three characters due to space constraints.

<sup>2</sup> Z = RoHS Compliant Part.

**NOTES**

## NOTES





Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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