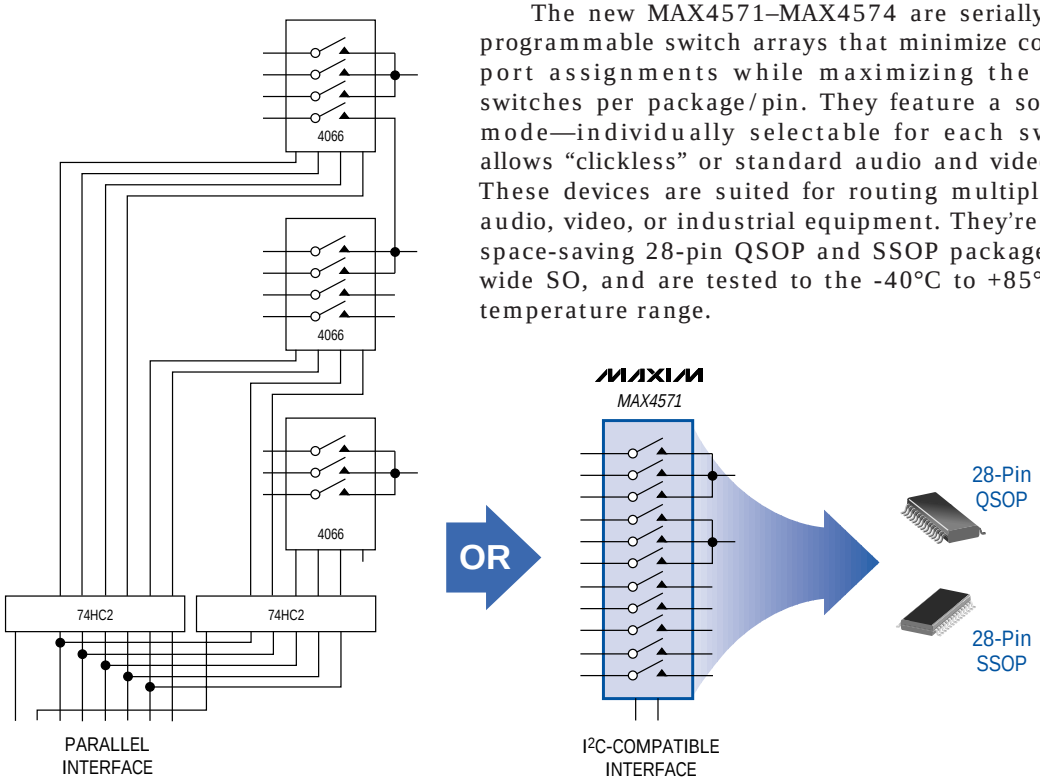
FUTURE PRODUCTS

Serially Controlled, Multipurpose Audio/Video Switches with “Clickless” Operation



The new MAX4571–MAX4574 are serially interfaced, programmable switch arrays that minimize controller I/O port assignments while maximizing the number of switches per package/pin. They feature a soft switching mode—individually selectable for each switch—that allows “clickless” or standard audio and video operation. These devices are suited for routing multiple signals in audio, video, or industrial equipment. They’re available in space-saving 28-pin QSOP and SSOP packages, as well a wide SO, and are tested to the -40°C to +85°C operating temperature range.

PART	SERIAL-INTERFACE TYPE	SWITCH CONFIGURATION	SUPPLY VOLTAGE (V)	TYPICAL R_{ON} (Ω)	CROSSTALK AND OFF-ISOLATION (dB)	
					AUDIO (at 10kHz)	VIDEO (at 3.4MHz)
MAX4571*	2-Wire, Fast Mode, I²C Compatible	11 SPST	+2.7 to +5.5	25	-80	-50
MAX4572*	2-Wire, Fast Mode, I²C Compatible	6 SPDT + 2 SPST	+2.7 to +5.5	25	-80	-50
MAX4573*	3-Wire, SPI™/QSPI™ Compatible	11 SPST	+2.7 to +5.5	25	-80	-50
MAX4574*	3-Wire, SPI™/QSPI™ Compatible	6 SPDT + 2 SPST	+2.7 to +5.5	25	-80	-50

*Future product—contact factory for availability.

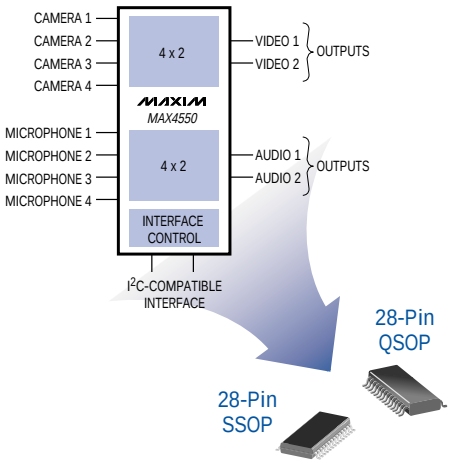
SPI and QSPI are trademarks of Motorola, Inc.

ANALOG DESIGN GUIDE

FUTURE PRODUCTS

Serially Controlled, Dual 4x2, “Clickless” Audio/Video Crosspoint Switches

The new MAX4550/MAX4570 serially interfaced, programmable, dual 4x2 crosspoint switches are ideal for multimedia audio/video applications. These devices have two identical sections, each consisting of a 4-input/2-output crosspoint switch. Each switch can be selectively programmed for hard-mode operation or for soft-mode when “clickless” audio operation is desired. The outputs can be switched to a set of resistor voltage-dividers, to be biased at $^1/_2$ V_{CC} for AC coupling the inputs. Four auxiliary outputs are provided to extend µP ports, allowing additional circuitry to be controlled from the same 2- or 3-wire interface. SX and SY are additional crosspoint inputs that can be used as a shunt to improve feedthrough. The MAX4550/MAX4570 are available in space-saving 28-pin QSOP and SSOP packages, in addition to a wide SO; they operate in the -40°C to +85°C temperature range.



PART	SERIAL-INTERFACE TYPE	SWITCH CONFIGURATION	SUPPLY VOLTAGE (V)	CROSSTALK AND OFF-ISOLATION (dB)	
				AUDIO (at 20kHz)	VIDEO (at 4.2MHz)
MAX4550*	2-Wire, Fast Mode, I²C Compatible	Dual 4x2	+2.7 to +5.5, ±2.7 to ±5.5	-95	-55
MAX4570*	3-Wire, SPI/QSPI Compatible	Dual 4x2	+2.7 to +5.5, ±2.7 to ±5.5	-95	-55

*Future product—contact factory for availability.

FUTURE PRODUCTS

Cal-Muxes Provide Voltage Reference for System Calibration

Maxim’s newest family of muxes now offers five “cal-mux” versions. These cal-muxes are available with 8-to-1 or dual 4-to-1 functionality and with operating supplies of ±15V or ±5V. Both the MAX4539/MAX4540 and MAX4578/MAX4579 offer internal resistors, which set a precision voltage that can be used for calibration or self-monitoring in ADC systems. The simplified MAX4598 does not include resistors, but has all the calibration and system monitoring functions of the other versions. These functions can be accessed in the MAX4598 by asserting the CAL pin along with the ENABLE pin, allowing the three address pins to select among the various functions.

PART	FUNCTION	R_{ON} (Ω max)	$I_{COM(OFF)}$ (nA)	R_{ON} MATCH (Ω max)	R_{ON} FLATNESS (Ω max)	t_{ON} (ns max)	t_{OFF} (ns max)	SUPPLY VOLTAGE (V)	INTERNAL VOLTAGE REFERENCE	PIN-PACKAGE
MAX4539*	8-to-1	100	±2	6	10	150	100	±2.7 to ±5	Yes	20-SSOP/ DIP
MAX4540*	Dual 4-to-1	100	±1	6	10	150	100	±2.7 to ±5	Yes	20-SSOP/ DIP
MAX4578*	8-to-1	500	±2	15	—	250	100	±4.5 to ±20	Yes	20-SSOP/ DIP
MAX4579*	Dual 4-to-1	500	±1	15	—	250	100	±4.5 to ±20	Yes	20-SSOP/ DIP
MAX4598*	8-to-1 or Dual 4-to-1	75	±2	8	10	150	100	±2.7 to ±5	No	20-SSOP/ DIP

*Future product—contact factory for availability.

MAXIM

FUTURE PRODUCTS

80Ω, Quad SPST Switches in QSOP-16 Improve the Industry Standard

Guaranteed Operation from +2V to +12V

The new MAX4610*/MAX4611*/MAX4612* are low-voltage, quad, single-pole/single-throw (SPST) CMOS switches. The MAX4610's switches are configured as normally open (NO), the MAX4611's switches are configured as normally closed (NC), and the MAX4612 is configured with 2 NO and 2 NC switches. Compare them to the industry-standard '4066, which only offers its switches in the NO configuration. The MAX4610/MAX4611/MAX4612 feature guaranteed operation from +2V to +12V and can handle Rail-to-Rail® bidirectional signals. ESD protection is greater than 2000V per Method 3015.7.

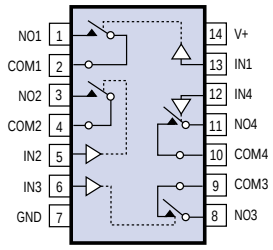
Improvements Over the Industry Standard:

- **Guaranteed Supply Operation: +2V to +12V**
- **Guaranteed On-Resistance Matching to 4Ω Max**
- **Guaranteed On-Resistance Flatness of 6Ω Max**
- **Low THD: 0.02% Typical**

Other Features:

- **Pin-Compatible with Industry-Standard 74HC4066/74HC4066A**
- **Low On-Resistance: 80Ω Max**
- **Guaranteed Low Leakage: 1nA at +25°C**
  10nA at +85°C
- **>2000V ESD per Method 3015.7**

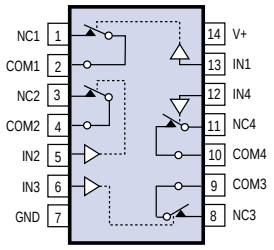
MAX4610



QSOP

LOGIC INPUT	SWITCH
LOW	OFF
HIGH	ON

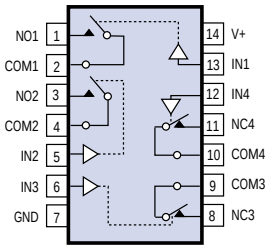
MAX4611



QSOP

LOGIC INPUT	SWITCH
LOW	ON
HIGH	OFF

MAX4612



QSOP

LOGIC INPUT	SW1, SW2 (NO)	SW3, SW4 (NC)
LOW	OFF	ON
HIGH	ON	OFF

*Future product—contact factory for availability.

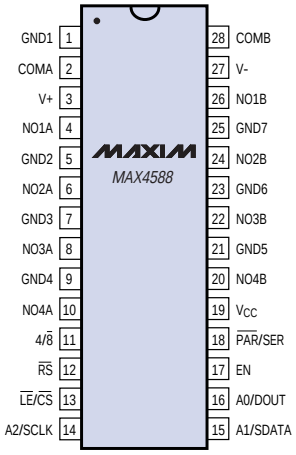
Rail-to-Rail is a registered trademark of Nippon Motorola, Ltd.

FUTURE PRODUCTS

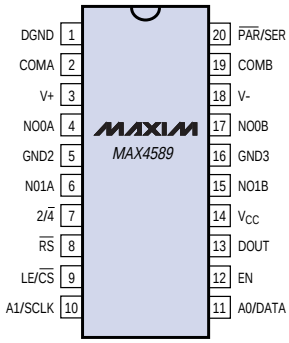
Video/RF Muxes Provide 90MHz -3dB Signal Bandwidth

Versatile Muxes Feature Parallel & SPI/Microwire Interface

The new MAX4588*/MAX4589* muxes are designed for switching video and RF signals up to 100MHz in 50Ω and 75Ω systems. The MAX4588 contains eight switches and the MAX4589 contains four. These versatile devices can be configured as either a single-ended mux or a differential mux, and both can be controlled by parallel or SPI/Microwire™ interface. Each channel is constructed using a "T" switch configuration, ensuring excellent high-frequency off-isolation. Both parts offer ESD protection greater than 2000V per Method 3015.7.



SSOP/DIP/Wide SO



SSOP/DIP/Wide SO

- **-80dB Off-Isolation at 10MHz**
- **>80dB Crosstalk at 10MHz**
- **60Ω Max On-Resistance**
- **Single-Supply Operation: +2.7V to +12V**
  Dual-Supply Operation: ±2.7V to ±6V
- **Rail-to-Rail, Bidirectional Signal Handling**
- **Dual Configuration Selection; Single-Ended or Differential**
- **TTL/CMOS-Compatible Input Control**

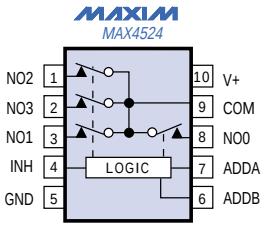
*Future product—contact factory for availability.

NEW

Single-Supply, 4-Channel Mux in 10-Pin µMAX

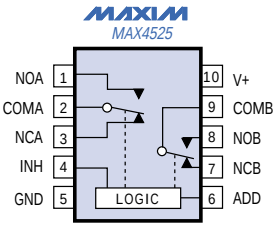
Guaranteed Operation from +2V to +12V

The new MAX4524 and MAX4525 are low-voltage, single-supply CMOS analog multiplexers configured as a 4-channel mux and a dual 2-channel mux with a common inhibit pin. Both parts come packaged in a space-saving 10-pin µMAX and are available in commercial and extended temperature ranges. These muxes are guaranteed to operate from +2V to +12V with on-resistance of 200Ω at +5V and 500Ω at +3V, plus 10Ω on-resistance matching and flatness. Each part offers low leakage currents of 1nA at +25°C and 10nA at +85°C. Power consumption is less than 5µW for the MAX4524/MAX4525, and the devices offer greater than 2000V ESD protection per Method 3015.7



µMAX

INH	ADDB	ADDA	ON SWITCH
1	X	X	NONE
0	0	0	COM-NO0
0	0	1	COM-NO1
0	1	0	COM-NO2
0	1	1	COM-NO3



µMAX

INH	ADD	ON SWITCH
1	X	NONE
0	0	COMA-NCA COMB-NCB
0	1	COMA-NOA COMB-NOB

Microwire is a trademark of National Semiconductor Corp.

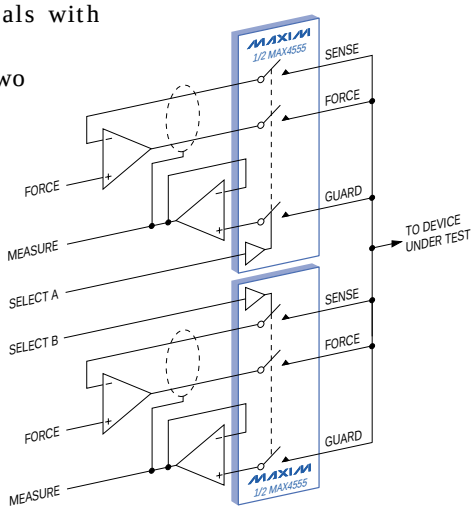
MAXIM

NEW Force/Sense Switches Provide 6Ω and 60Ω On-Resistance

The MAX4554/MAX4555/MAX4556 family of switches is specially designed for instrumentation, automatic test equipment, and other systems that switch Kelvin force/sense lines. The force switches have 6Ω max on-resistance and can switch continuous currents to 100mA or a peak current of 300mA. All three devices can switch rail-to-rail signals with supplies up to ±22V.

In addition to two 6Ω force switches, the MAX4554 contains two 60Ω sense switches and two 60Ω guard switches. The sense switches are designed to switch the Kelvin sense line used to close a feedback loop. The guard switches are normally used to switch a guard line. These guard lines reduce system leakage and improve system bandwidth by surrounding sensitive nodes with a signal driven by a unity-gain buffer connected to the sensitive node. With its triple-pole/double-throw (3PDT) configuration, the MAX4554 packs six switches into a 16-pin package. Additional flexibility comes from the use of two control lines, so the output can be open-circuited, driven by either the A or B side, or simultaneously driven by both the A and B side.

The MAX4555 is pin-compatible with the MAX312 (DG411/DG211 pinout), but instead of four 10Ω max on-resistance switches it offers two switches with 6Ω max on-resistance and two with 60Ω max. The MAX4555 is optimized for designs where two switches must have low on-resistance to support high currents and low voltage drop, while the other two switches handle lower currents.



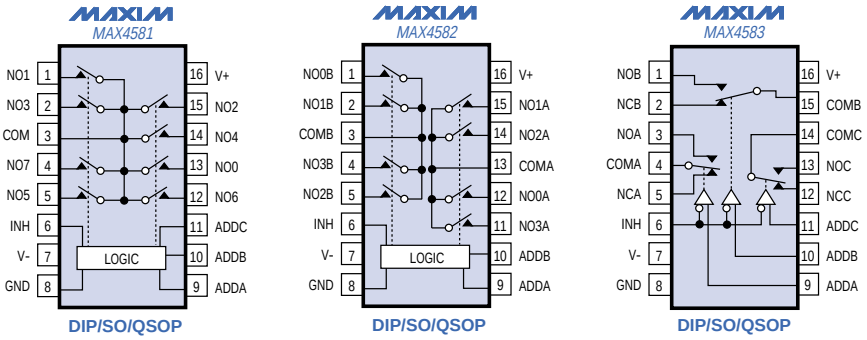
This typical automatic test equipment application uses the MAX4555 in a force/sense/guard circuit.

The third device, the MAX4556, is configured as three single-pole/double-throw (SPDT) switches. One of the SPDT switches has 6Ω max on-resistance, while the other two have 60Ω max.

NEW 75Ω, 8-Channel Muxes in QSOP-16

Guaranteed Operation from +2V to +12V

The MAX4581/MAX4582/MAX4583 are low-voltage CMOS multiplexers configured as an 8-channel mux (MAX4581), a dual 4-channel mux (MAX4582), and a triple 2-channel mux (MAX4583). These new parts are pin-compatible with 74HC4051/74HC4052/74HC4053 industry-standard mux types, but also guarantee operation from a single supply of +2V to +12V or from dual supplies of ±2V to ±6V. Each mux can handle rail-to-rail bidirectional signals. On-resistance is 75Ω, with on-resistance matching of 6Ω max and flatness of 10Ω max. These devices feature low leakage currents of 1nA at +25°C, as well as low 10µW power consumption, making them ideal for portable equipment. ESD protection is greater than 2000V per Method 3015.7, and the digital inputs are 0.8V/2.4V with supplies at +5V or ±5V.



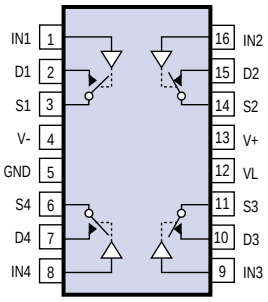
MAXIM

NEW Quad, Complementary CMOS Switch

Can Be Used as a SPDT or SPST

The new MAX4613 CMOS analog switch has two normally closed (NC) and two normally open (NO) switches. This versatile device can be configured as two single-pole/double-throw (SPDT) switches, four single-pole/single-throw (SPST) switches, or one "T" switch. All switches in the MAX4613 feature bidirectional on-resistance (65Ω max) and low leakage currents of 0.5nA at +25°C and 10nA at +85°C. Charge injection is guaranteed to be less than 10pC. Analog signal handling is rail-to-rail, and the supply ranges from +4.5V to +40V single or ±4.5V to ±20V dual. ESD protection is greater than 2000V per Method 3015.7. The MAX4613 is available in QSOP, SO, and DIP packages tested for commercial and extended temperature ranges.

MAXIM
MAX4613



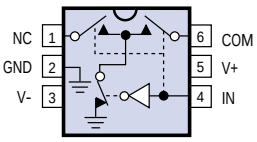
LOGIC	SW1, SW4	SW2, SW3
0	OFF	ON
1	ON	OFF

NEW Video/RF Switch in 6-Pin SOT23

80dB Off-Isolation at 10MHz

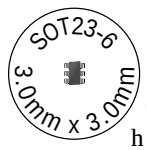
"T" SWITCH CONFIGURATION

MAXIM
MAX4529



SOT23-6

LOGIC	SWITCH
0	ON
1	OFF



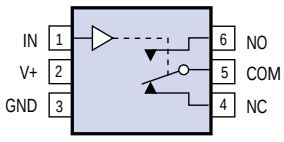
The new MAX4529 is a T-switch in a 6-pin SOT23 package, designed for switching video and RF signals from DC to 300MHz. Its "T" configuration design ensures excellent high-frequency off-isolation of 80dB at 10MHz. The MAX4529 can handle rail-to-rail bidirectional analog signals. On-resistance is 100Ω, and on-resistance flatness for the device is 10Ω. Off-leakage current is 0.5nA at +25°C and 20nA at +85°C. This switch consumes less than 1µW of power and can operate with dual supplies of ±2.7V to ±6V or a single supply of +2V to +12V. ESD protection is provided to greater than 2000V per Method 3015.7. The input is TTL/CMOS compatible to 0.8V/2.4V with ±5V or a single +5V supply.

60Ω SPDT CMOS Switch in 6-Pin SOT23

Guaranteed Operation from +2V to +12V

The MAX4541 family of precision low-voltage switches is designed to operate from +2V to +12V, making these devices ideal for portable applications. The family offers four configurations: dual SPST, NO (MAX4541); dual SPST, NC (MAX4542); dual SPST, NO/NC (MAX4543); and SPDT (MAX4544). Each offers 60Ω on-resistance, 2Ω matching, and 6Ω flatness. Low power consumption (<5µW) and fast switching speeds (t_{ON} = 35ns, t_{OFF} = 25ns) are additional key features. ESD protection is greater than 2000V per Method 3015.7 of MIL-STD-883B. All parts are available in 8-pin DIP/SO/µMAX packages, and the MAX4544 also comes in a 6-pin SOT23 package. They are available in the commercial and extended temperature ranges.

MAXIM
MAX4544



SOT23-6

LOGIC	NC	NO
0	ON	OFF
1	OFF	ON

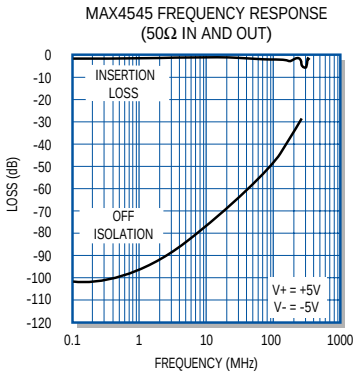
SWITCHES SHOWN FOR "0" INPUT

MAXIM

Video/RF Switches Provide -50dB Off-Isolation at 100MHz

20Ω Video/RF Dual SPDT & Quad SPST Switches

The MAX4545 family of wide-bandwidth video/RF switches is ideally suited for 75Ω systems. These devices offer low on-resistance (20Ω) and only 2dB of insertion loss. They operate from either a ±2.7V to ±5.5V dual supply or a +2V to +12V single supply, and can handle rail-to-rail analog signals in either direction. Off-isolation is greater than -50dB for these parts, and crosstalk is greater than -85dB at 100MHz. They also feature very low output capacitance (11pF) and a passband bandwidth greater than 300MHz. Harmonic distortion is less than 0.007%, with a guaranteed on-resistance flatness of 0.5Ω max over the 2Vp-p signal range. All devices are designed for channel-to-channel matching (1Ω max) and low charge injection (5pC max). They are available in plastic DIP, SO, and SSOP packages tested over the commercial and extended temperature ranges. The MAX4545 and MAX4546 are pin-compatible electrical upgrades for the DG540, DG542, and DG643.



Choose the Best Video/RF Switch for Your Application

PART	FUNCTION	R_{ON} (Ω max)	R_{ON} MATCHING (Ω max)	R_{ON} FLATNESS (Ω max)	OFF-ISOLATION 10MHz/100MHz (dB typ)	CROSSTALK 10MHz/100MHz (dB typ)	THD (%)	PIN-PACKAGE
MAX4545	Quad SPST (DG540)†	20	1	0.5	75/50	80/50	0.007	20-Pin DIP/ SO/SSOP
MAX4546	Dual SPDT (DG542/643)†	20	1	0.5	75/50	80/50	0.007	16-Pin DIP/ SO/QSOP
MAX4547	Dual SPDT (High-Isolation Pinout)	20	1	0.5	80/55	85/55	0.007	16-Pin DIP/ SO/QSOP
MAX4565	Quad SPST (DG540)†	60	2	1	75/50	80/50	0.007	20-Pin DIP/ SO/SSOP
MAX4566	Dual SPDT (DG542)†	60	2	1	75/50	80/50	0.007	16-Pin DIP/ SO/QSOP
MAX4567	Dual SPDT (High-Isolation Pinout)	60	2	1	80/55	85/55	0.007	16-Pin DIP/ SO/QSOP

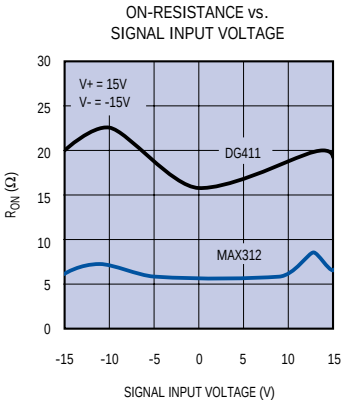
† Pin-compatible upgrade

MAXIM

World's First 10Ω, Quad CMOS Switches

Pin-Compatible Upgrades for DG411/412/413 Can Handle 300mA

The MAX312/MAX313/MAX314 are high-performance, quad, CMOS single-pole/single-throw (SPST) switches with 10Ω guaranteed on-resistance and 0.5nA leakage current. They are ideal for high-performance data acquisition, audio signal routing, and ATE relay replacement applications. All three devices are pin-compatible upgrades for industry standards and operate over a wide single-supply range of +4.5V to +40V or with dual supplies of ±4.5V to ±20V. Parts are available in 16-pin DIP and narrow SO packages specified at the commercial (0°C to +70°C) and extended (-40°C to +85°C) temperature ranges. A 16-pin CERDIP package is specified over the full (-55°C to +125°C) temperature range.



PART	RON (Ω max)	ΔRON MATCH (Ω max)	ΔRON FLATNESS (Ω max)	LEAKAGE AT +85°C (nA max)	CHARGE INJECTION (pC max)	PEAK CURRENT HANDLING (mA max)
±15V OPERATION						
MAX312 Quad SPST NC	10	1.5	2	2.5	30	300
MAX313 Quad SPST NO	10	1.5	2	2.5	30	300
MAX314 Quad SPST 2-NO/2-NC	10	1.5	2	2.5	30	300
INDUSTRY STANDARD						
DG411 Quad SPST NC	35	Not spec'd	Not spec'd	5	Not spec'd	100
DG412 Quad SPST NO	35	Not spec'd	Not spec'd	5	Not spec'd	100
DG413 Quad SPST 2-NO/2-NC	35	Not spec'd	Not spec'd	5	Not spec'd	100

NO = Normally Open, NC = Normally Closed

50 Muxes/Switches for Your 3V Application!

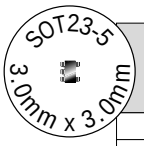
PART	FUNCTION	ON-RESISTANCE (Ω max)	ON-RESISTANCE MATCH/FLATNESS (Ω max)	CHARGE INJECTION (pC max)	UPGRADE FOR:	OPERATING SUPPLIES (V)	PACKAGES
SWITCHES							
MAX320/1/2	Dual SPST (NO, NC)	35	2 / 6	5	TSCW66F	±2.7 to ±8	8-pin µMAX/SO
MAX323/4/5	Dual SPST (NO, NC)	60	2 / 6	5	TSCW66F	+2.7 to +16	8-pin µMAX/SO
MAX381/3/5	Dual SPST/SPDT/DPST	35	2 / 6	5	DG401/3/5	±2.7 to ±8	16-pin SO/DIP/QSOP
MAX391/2/3	Quad SPST (NO, NC)	35	2 / 6	5	DG411/12/13	±2.7 to ±8	16-pin SO/DIP
MAX394	Quad SPDT	35	2 / 6	5	MAX333	±2.7 to ±8	20-pin SO/DIP/SSOP
MAX395	8 SPST w/Serial Control	100	5 / 10	10	MAX335	±2.7 to ±8	24-pin SO/DIP/SSOP
MAX4066/A	Quad SPST (NO)	45	2 / 6	10	74HC4066	+2 to +16	14-pin SO/DIP/QSOP
MAX4501/2	SPST (NO, NC)	250	—	10	TC7566F	+2 to +12	8-pin SO, 5-pin SOT23
MAX4503/4	SPST (NO, NC)	250	—	10	DG418/17	±2.7 to ±6	8-pin SO, 5-pin SOT23
MAX4514/15	SPST (NO, NC)	20	—	10	TC7566F	+2 to +12	8-pin SO, 5-pin SOT23
MAX4516/17	SPST (NO, NC)	20	—	10	DG418/17	±2.7 to ±6	8-pin SO, 5-pin SOT23
MAX4521/2/3	Quad SPST (NO, NC)	100	4 / 6	5	DG211/212	+2 to +12	16-pin SO/DIP/QSOP
MAX4536/7/8	Quad SPST w/Enable	100	4 / 6	5	74HC4316	±2 to ±6	16-pin SO/DIP/QSOP
MAX4541/2/3	Dual SPST (NO, NC)	35	2 / 6	5	MAX323/4/5	+2 to +12	8-pin µMAX/SO
MAX4544	SPDT in SOT23	35	2 / 6	5	—	+2 to +12	6-pin SOT23, 8-pin SO
MULTIPLEXERS							
MAX382/384	Dual 4/8-Channel w/Latch	100	10 / 16	5	DG428/429	±2.7 to ±8	18-pin SO/DIP
MAX349/350	Dual 4/8-Channel Serial	100	10 / 16	10	—	±2.7 to ±8	18-pin SO/DIP/SSOP
MAX396/397	Dual 8/16-Channel Parallel	100	6 / 10	5	DG406/407	±2.7 to ±8	28-pin SO/DIP/SSOP
MAX398/399	Dual 4/8-Channel Parallel	100	4 / 10	5	DG408/409	±2.7 to ±8	16-pin SO/DIP/QSOP
MAX4051/2/3	Dual 4/8-Channel Parallel	100	6 / 10	10	74HC4051/2/3	±2.7 to ±8	16-pin SO/DIP/QSOP
MAX4518/19	Dual 4/2-Channel	100	6 / 10	5	—	±2.7 to ±6	14-pin DIP/QSOP
MAX4530/1/2	Dual 4/8-Channel w/Latch	100	6 / 10	10	74HC4351/2/3	±2.7 to ±6	20-pin SO/DIP/SSOP

Industry's Only CMOS Switches with 20Ω On-Resistance in 5-Pin SOT23

The Only Low-Voltage Switches Guaranteed for 2V Operation

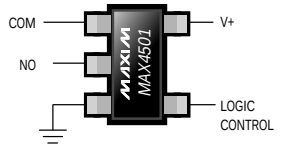
Devices in Maxim's family of single-pole/single-throw (SPST) low-voltage switches not only feature normally open (NO) and normally closed (NC) functions, but are also available in 5-pin SOT23 packages. These switches guarantee both single-supply operation from +2V to +12V and dual-supply operation from ±2V to ±6V. Two on-resistance ranges are available (250Ω and 20Ω), and leakage currents are only 1nA max at +25°C or 10nA at +85°C.

In their ultra-small SOT23-5 packages, these switches are ideally suited for applications such as PCMCIA cards, cellular phones, modems, and hand-held portable equipment. Their improved low on-resistance at low voltages greatly reduces the on-resistance variations that cause distortion in audio applications. In addition to the 5-pin SOT23, these parts are available in an 8-pin plastic DIP or SO. The input control is guaranteed to be TTL and CMOS compatible.



PART	FUNCTION	OPERATING SUPPLIES (V)	ON-RESISTANCE (Ω max)	LEAKAGE CURRENT (nA max)	PIN-COMPATIBLE UPGRADE FROM:
MAX4501	SPST (NO)	+2 to +12	250	1	TC7S66F
MAX4502	SPST (NC)	+2 to +12	250	1	TC7S66F
MAX4503	SPST (NO)	±2 to ±6	250	1	DG418DY
MAX4504	SPST (NC)	±2 to ±6	250	1	DG417DY
MAX4514	SPST (NO)	+2 to +12	20	1	TC7S66F
MAX4515	SPST (NC)	+2 to +12	20	1	TC7S66F
MAX4516	SPST (NO)	±2 to ±6	20	1	DG418DY
MAX4517	SPST (NC)	±2 to ±6	20	1	DG417DY

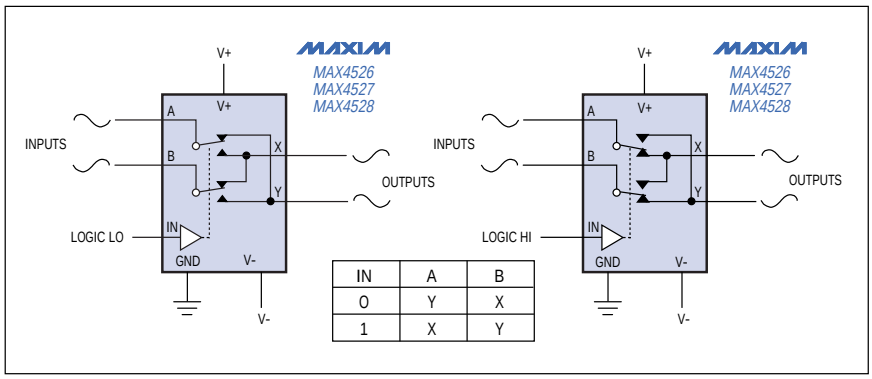
SINGLE SUPPLY



LOGIC INPUT	SWITCH STATE	
	MAX4501	MAX4502
LOW	OFF	ON
HIGH	ON	OFF

Phase-Reversal ICs Pack 4 SPST Switches into an 8-Pin µMAX

Matched Switches Simplify Polarity/Wiring Phase-Reversal



Devices in the MAX4526 family of phase-reversal switches integrate four single-pole/single-throw (SPST) switches in an 8-pin µMAX package. These switches have been designed to provide three unique features. First, the four SPST switches are arranged in a bridge configuration for use in Auto Cal and V_{OS} cancellation circuits. Second, each switch has matched turn-on time (t_{ON}), turn-off time (t_{OFF}), and charge injection (Q_j) for use in circuits such as lock-in amplifiers and synchronous demodulators. Last, the bridge configuration makes them easy to use in polarity/wiring phase reversal. Each switch is designed for 175Ω max on-resistance and is matched to 8Ω max. The charge injection is matched to less than 1pC for a 10Vp-p signal range. The MAX4526/MAX4527 are designed for ±15V applications and the MAX4528 is optimized for low voltages from ±2.7V to ±5.5V. All parts are available over the commercial and extended temperature ranges in 8-pin SO, µMAX, and DIP packages.

Low-Voltage Analog Switches[1]

	Part Number	Function[2]	$R_{DS(ON)}$[3] (Ω max)	$I_{COM(OFF)}$/ $I_{D(OFF)}$ (nA max)	R_{ON} Match (Ω max)	R_{ON} Flatness (Ω max)	t_{ON} (ns max)	t_{OFF} (ns max)	Pins-Package	Supply Voltage Range (V)	Features	Price† 1000-up ($)
	SPST											
	MAX4514/15	SPST NO/NC	20	1	–	–	150	100	8-SO, 5-SOT23	+2 to +12	Low R_{ON}, smallest package	0.47
	MAX4516/17	SPST NO/NC	20	1	–	–	100	75	8-SO, 5-SOT23	±1 to ±6	Low R_{ON}, smallest package	0.47
	MAX4501/2	SPST NO/NC	250	1	–	–	75	50	8-SO, 5-SOT23	+2 to +12	Low voltage, smallest package	0.42
	MAX4503/4	SPST NO/NC	250	1	–	–	150	100	8-SO, 5-SOT23	±1 to ±6	Low voltage, smallest package	0.42
	MAX320/1	2 SPST NO/NC	35	0.1	2	4	150	100	8-DIP/SO/µMAX	±2.7 to ±8	Low voltage, low R_{ON}	0.89
	MAX322	2 SPST NO, NC	35	0.1	2	4	150	100	8-DIP/SO/µMAX	±2.7 to ±8	Low voltage, low R_{ON}	0.89
	MAX381	2 SPST NO	35	0.1	2	4	175	100	16-DIP/SO	±2.7 to ±8	Single supply, +2.7V to +16V	1.23
	MAX323/4	2 SPST NO/NC	60	0.1	2	6	150	100	8-DIP/SO/µMAX	+2.7 to +16	Single supply, +2.7V/+5V	0.89
	MAX325	2 SPST NO, NC	60	0.1	2	6	150	100	8-DIP/SO/µMAX	+2.7 to +16	Single supply, +2.7V/+5V	0.89
	MAX4541/2	2 SPST NO/NC	60	0.1	2	6	150	75	8-DIP/SO/µMAX	+2 to +12	Low-cost MAX323/MAX324	0.41
	MAX4543	2 SPST NO, NC	60	0.1	2	6	150	100	8-DIP/SO/µMAX	+2 to +12	Low-cost MAX325	0.41
	MAX391/2	4 SPST NC/NO	35	0.1	2	4	130	75	16-DIP/SO	±2.7 to ±8	Single supply, +3V/+5V/+12V	1.87
	MAX393	4 SPST NO, NC	35	0.1	2	4	130	75	16-DIP/SO	±2.7 to ±8	Single supply, +3V/+5V/+12V	1.87
	MAX4066A	4 SPST NO	35	0.1	2	4	130	75	14-DIP/SO	+2.7 to +16	Low leakage	1.87
	MAX4066	4 SPST	45	1	4	6	130	75	14-DIP/SO, 16-QSOP	+2.7 to +16	Low voltage, 74HC4066 upgrade	0.99
	MAX4521/2	4 SPST NC/NO	100	1	4	12	80	30	16-DIP/SO/QSOP	+2 to +12	Improved, low-voltage DG211/DG212 replacement	0.69
	MAX4523	4 SPST	100	1	4	12	80	30	16-DIP/SO/QSOP	+2 to +12	Improved, low-voltage DG213 replacement	0.69
	MAX4536/7	4 SPST NO/NC	100	1	4	10	100	50	16-DIP/SO/QSOP	+2 to +12	Improved 74HC4316 with enable	0.98
	MAX4538	4 SPST NO, NC	100	1	4	10	100	50	16-DIP/SO/QSOP	+2 to +12	Improved 74HC4316 with enable	0.98
NEW	MAX4610/11	4 SPST NC/NO	80	±1	4	4	100	75	14-DIP/SO	+2 to +12	Improved 74HC4066	††
NEW	MAX4612	4 SPST NC, NO	80	±1	4	4	100	75	14-DIP/SO	+2 to +12	New 74HC4066	††
	SPDT											
	MAX4544	SPDT	60	0.1	2	6	150	100	8-DIP/SO, 6-SOT23	+2 to +12	Low-cost SOT23-6	0.41
	MAX383	2 SPDT	35	0.1	2	4	175	100	16-DIP/SO	±2.7 to ±8	Single supply (+2.7V to +16V)	2.57
	MAX4532	3 SPDT	100	1	10	2	175	150	16 DIP/SO/QSOP	±2.7 to ±5	Low-voltage, improved 74HC4353	1.12
	MAX4053	3 SPDT	125	1	6	10	175	150	16 DIP/SO/QSOP	±2.7 to ±8	Improved 74HC4053	1.46
	MAX4053A	3 SPDT	125	0.1	6	10	175	150	16 DIP/SO/QSOP	±2.7 to ±8	Improved 74HC4053	1.87
	MAX394	4 SPDT	35	0.25	2	3	175	145	18-SO, 20-SSOP	±2.7 to ±8	MAX333A replacement, +2.7V to +16V	3.19
	DPST											
	MAX385	2 DPST	35	0.1	2	4	175	100	16-DIP/SO	±2.7 to ±8	Single supply, +2.7V to +16V	2.57
	PHASE-REVERSAL SWITCH											
	MAX4528	Dual SPDT	175	0.5	–	–	0.2	0.2	8-DIP/SO/µMAX	±2.7 to ±5	Low voltage	0.98
	SERIAL-INTERFACE SWITCH											
	MAX395	8 SPST	100	±1	4	–	400	400	24-DIP/SO/SSOP	+2.7 to +17	±2.7V to ±8V	2.98
	CLICKLESS AUDIO/VIDEO SWITCHES											
NEW	MAX4571	11 SPST	35	±1	2	6	8000	6000	28-SO/SSOP/QSOP	+2.7 to +5.5	Fast mode I^2C	††
NEW	MAX4572	6 SPDT	35	±1	2	6	8000	6000	28-SO/SSOP/QSOP	+2.7 to +5.5	Fast mode I^2C	††
NEW	MAX4573	11 SPST	35	±1	2	6	8000	6000	28-SO/SSOP/QSOP	+2.7 to +5.5	3-wire SPI/QSPI	††
NEW	MAX4574	6 SPDT	35	±1	2	6	8000	6000	28-SO/SSOP/QSOP	+2.7 to +5.5	3-wire SPI/QSPI	††

1 Low-voltage supply voltage operation: +2V to +16V; ±1V to ±8V.

2 NO = Normally Open, NC = Normally Closed

3 Drain-source on-resistance is for the commercial grade, T_A = +25°C.

† Prices provided are for design guidance only and are FOB USA. International prices will differ due to local duties, taxes, and exchange rates.

†† Future product—contact factory for pricing and availability. Specifications are preliminary.

Low-Voltage Video Switches[1]

	Part Number	Function[2]	$R_{DS(ON)}$[3] (Ω max)	$I_{COM(OFF)}$/ $I_{D(OFF)}$ (nA max)	R_{ON} Match (Ω max)	R_{ON} Flatness (Ω max)	t_{ON} (ns max)	t_{OFF} (ns max)	Pins-Package	Supply Voltage Range (V)	Features	Price† 1000-up ($)
	MAX4529	SPST	90	0.5	–	10	75	75	6-SOT23, 8-µMAX	+2.7 to +12, ±2.7 to ±6	80dB isolation at 10MHz	0.88
	MAX4545	4 SPST	20	1	1	0.5	200	150	20-SO/SSOP	±2.7 to ±5.5	70dB isolation at 10MHz	1.80
	MAX4546	2 SPDT	20	1	1	0.5	200	150	16-SO/QSOP	±2.7 to ±5.5	70dB isolation at 10MHz	1.62
	MAX4547	2 SPDT	20	1	1	0.5	200	150	16-SO/QSOP	±2.7 to ±5.5	80dB isolation at 10MHz	1.62
	MAX4565	4 SPST	60	1	2	1	200	150	20-SO/SSOP	±2.7 to ±5.5	70dB isolation at 10MHz	1.55
	MAX4566	2 SPDT	60	1	2	1	200	150	16-SO/QSOP	±2.7 to ±5.5	70dB isolation at 10MHz	1.35
	MAX4567	2 SPDT	60	1	2	1	200	150	16-SO/QSOP	±2.7 to ±5.5	80dB isolation at 10MHz	1.35
	AUDIO/VIDEO CROSSPOINTS											
NEW	MAX4550	2 4x2	60	±10	5	8	800	400	28-SO/SSOP/QSOP	+2.7 to +12	±2.7V to ±6V, I^2C	††
NEW	MAX4570	2 4x2	60	±10	5	8	800	400	28-SO/SSOP/QSOP	+2.7 to +12	±2.7V to ±6V, SPI/QSPI	††

Standard Analog Switches[4]

Part Number	Function[2]	$R_{DS(ON)}$[3] (Ω max)	$I_{COM(OFF)}$/ $I_{D(OFF)}$ (nA max)	R_{ON} Match (Ω max)	R_{ON} Flatness (Ω max)	t_{ON} (ns max)	t_{OFF} (ns max)	Pins-Package	Supply Voltage Range (V)	Features	Price† 1000-up ($)
SPST											
MAX317/18	SPST NC/NO	45	0.25	–	3	175	145	8-DIP/SO	±4.5 to ±20	Improved DG417, low R_{ON} match/flatness	0.96
DG417/18	SPST NC/NO	45	0.25	–	4	175	145	8-DIP/SO	±4.5 to ±20		0.96
MAX4555	2 SPST	6	0.25	1	1.5	225	185	16-DIP/SO/SSOP	±15 to ±20	Low R_{ON} force switch of the MAX4555	2.42
	2 SPST	30	0.25	4.5	6.0	225	185	16-DIP/SO/SSOP	±15 to ±20	Medium R_{ON} sense switch of the MAX4555	
MAX301	2 SPST NO	45	0.25	2	3	150	100	16-DIP/SO	±4.5 to ±20	Improved DG401, low R_{ON} match/flatness	1.23
DG401	2 SPST NO	45	0.5	2	3	150	100	16-DIP/SO	±4.5 to ±20	Low power, high speed, low leakage	1.23
DG421	2 SPST NO	45	0.25	3	4	250	200	16-DIP/SO	±4.5 to ±20	Low power, high speed, has latches	1.59
DG200A	2 SPST NC	70	2	–	–	1000	500	14-DIP/SO	±4.5 to ±20		0.93
MAX312/13	4 SPST NC/NO	10	0.25	2	4	175	145	16-DIP/SO	±4.5 to ±20	Low R_{ON}	2.49
MAX314	4 SPST NO, NC	10	0.25	2	4	175	145	16-DIP/SO	±4.5 to ±20	Low R_{ON}	2.49
MAX351/2	4 SPST NC/NO	35	0.25	2	3	175	145	16-DIP/SO	±4.5 to ±20	Improved DG411/DG412, low R_{ON} match/flatness	1.76
MAX353	4 SPST NO, NC	35	0.25	2	3	175	145	16-DIP/SO	±4.5 to ±20	Improved DG413, low R_{ON} match/flatness	1.76
DG411/12	4 SPST NC/NO	35	0.25	2	4	175	145	16-DIP/SO	±4.5 to ±20	Low power, high speed, low leakage	1.85
DG413	4 SPST NO, NC	35	0.25	3	4	175	145	16-DIP/SO	±4.5 to ±20	Low power, high speed, low leakage	1.85
MAX334	4 SPST NC	50	1	–	–	100	50	16-DIP/SO	±4.5 to ±20	High speed, low R_{ON}	2.88
HI-201HS	4 SPST NC	50	1	–	–	50	50	16-DIP/SO	±4.5 to ±20	Low R_{ON}, high speed	2.64
MAX4613	4 SPST NO, NC	80	0.5	2	4	130	100	16-DIP/SO/QSOP	±4.5 to ±20	DG213 second source	1.05
MAX361/2	4 SPST NC/NO	85	0.5	2	5	250	120	16-DIP/SO	±4.5 to ±20	Improved DG441/DG442, low R_{ON} match/flatness	1.29
MAX364/5	4 SPST NC/NO	85	0.5	2	5	250	120	16-DIP/SO	±4.5 to ±20	Improved DG444/DG445, low R_{ON} match/flatness	1.03
DG441/2	4 SPST NC/NO	85	0.5	4	9	250	120	16-DIP/SO	±4.5 to ±20		1.29
DG444/5	4 SPST NC/NO	85	0.5	4	9	250	120	16-DIP/SO	±4.5 to ±20		1.03
DG211/12	4 SPST NC/NO	175	5	–	–	1000	500	16-DIP/SO	±4.5 to ±20	No V_{LOGIC} supply	0.91
DG201A/2	4 SPST NC/NO	200	1	–	–	600	450	16-DIP/SO	±4.5 to ±20	Low power, no V_{LOGIC} supply	0.95
MAX326/7	4 SPST NC/NO	3500	0.01	–	–	1000	500	16-DIP/SO	±4.5 to ±20	Ultra-low leakage, low charge injection	2.78
MAX335	8 SPST	175	1	–	–	400	400	24-DIP/SO	±4.5 to ±20	Serial interface with break-before-make	2.84

1 Low-voltage supply voltage operation: +2V to +16V; ±1V to ±8V.

2 NO = Normally Open, NC = Normally Closed

3 Drain-source on-resistance is for the commercial grade, T_A = +25°C.

4 Standard supply voltage operation: +4.5V to +40V; ±4.5V to ±20V.

† Prices provided are for design guidance only and are FOB USA. International prices will differ due to local duties, taxes, and exchange rates.

†† Future product—contact factory for pricing and availability. Specifications are preliminary.

Standard Analog Switches[4] (continued)

Part Number	Function[2]	$R_{DS(ON)}$[3] (Ω max)	$I_{COM(OFF)}$/ $I_{D(OFF)}$ (nA max)	R_{ON} Match (Ω max)	R_{ON} Flatness (Ω max)	t_{ON} (ns max)	t_{OFF} (ns max)	Pins-Package	Supply Voltage Range (V)	Features	Price† 1000-up ($)
SPDT											
MAX319	SPDT	45	0.25	2	3	175	145	8-DIP/SO	±4.5 to ±20	Improved DG419, low R_{ON} match/flatness	1.19
DG419	SPDT	45	0.25	3	4	175	145	8-DIP/SO	±4.5 to ±20		1.19
MAX303	2 SPDT	45	0.25	2	3	150	100	16-DIP/SO	±4.5 to ±20	Improved DG403, low R_{ON} match/flatness	2.57
DG403	2 SPDT	45	0.5	2	3	150	100	16-DIP/SO	±4.5 to ±20	Low power, high speed, low leakage	2.57
DG423	2 SPDT	45	0.25	3	4	250	200	16-DIP/SO	±4.5 to ±20	Low power, high speed, has latches	3.30
IH5051	2 SPDT	45	5	–	–	1000	500	16-DIP/SO	±4.5 to ±20	Low power, low R_{ON}	4.73
DG303A	2 SPDT	50	1	–	–	300	250	14-DIP	±4.5 to ±20	2.4V_{IH}, low R_{ON}	2.36
IH5043	2 SPDT	80	1	–	–	400	200	16-DIP/SO	±4.5 to ±20		2.36
MAX4554	3 PST	6	0.25	1	1.5	300	250	16-DIP/SO/SSOP	+20, -10	Low R_{ON} force switch of the MAX4554	2.42
	3 PST	60	0.25	9	12	300	250	16-DIP/SO/SSOP	+20, -10	Medium R_{ON} sense switch of the MAX4554	
MAX4556	SPDT	6	0.25	1	1.5	225	185	16-DIP/SO/SSOP	±15 to ±20	Low R_{ON} force switch of the MAX4556	2.42
	2 SPDT	60	0.25	9	12	225	185	16-DIP/SO/SSOP	±15 to ±20	Medium R_{ON} sense switch of the MAX4556	
MAX333A	4 SPDT	35	0.25	2	3	175	145	18-DIP/SO	±4.5 to ±20	Improved MAX333, low R_{ON}	3.60
MAX333	4 SPDT	175	5	–	–	1000	500	18-DIP/SO	±4.5 to ±20		2.87
DPST											
MAX305	2 DPST NO	45	0.25	2	3	150	100	16-DIP/SO	±4.5 to ±20	Improved DG405, low R_{ON} match/flatness	2.57
DG405	2 DPST NO	45	0.25	2	3	150	100	16-DIP/SO	±4.5 to ±20	High speed, low leakage	2.57
DG425	2 DPST	45	0.25	2	3	250	200	16-DIP/SO	±4.5 to ±20	High speed, has latches	3.30
PHASE-REVERSAL SWITCHES											
MAX4526	Dual SPDT	175	0.5	–	–	0.1	0.1	8-DIP/SO/µMAX	±4.5 to ±20	High speed	2.17
MAX4527	Dual SPDT	175	0.5	–	–	0.2	0.2	8-DIP/SO/µMAX	±4.5 to ±20	Low power	2.17

Standard Video Switches[4]

Part Number	Function[2]	$R_{DS(ON)}$[3] (Ω max)	$I_{COM(OFF)}$/$I_{D(OFF)}$ (nA max)	R_{ON} Match (Ω max)	R_{ON} Flatness (Ω max)	t_{ON} (ns max)	t_{OFF} (ns max)	Pins-Package	Supply Voltage Range (V)	Features	Price† 1000-up ($)
IH5341	2 SPST NO	75	1	5	–	300	150	14-DIP/SO	±5 to ±18	70dB isolation at 10MHz	2.48
IH5352	4 SPST NO	75	1	5	–	300	150	16-DIP/SO	±5 to ±18	70dB isolation at 10MHz	4.50

Signal-Line Circuit Protectors

Part Number	Function	$R_{DS(ON)}$[3] (Ω max)	$I_{D(OFF)}$ (nA max)	Analog-Signal Voltage Range (V)	Features	Price† 1000-up ($)
MAX366‡	3-line	100	1	-12.5 to +13.5	±35V overvoltage protected	1.42
MAX367‡	8-line	100	1	-12.5 to +13.5	±35V overvoltage protected	2.43

2 NO = Normally Open, NC = Normally Closed

3 Drain-source on-resistance is for the commercial grade, T_A = +25°C.

4 Standard supply voltage operation: +4.5V to +40V; ±4.5V to ±20V.

† Prices provided are for design guidance and are FOB USA. International prices will differ due to local duties, taxes, and exchange rates.

‡ No control required. Switches are always on when power is on.

Low-Voltage Analog Multiplexers[1]

Part Number	Function	$R_{DS(ON)}$[3] (Ω max)	$I_{D(OFF)}/I_{COM(OFF)}$ (nA max)	R_{ON} Match (Ω max)	t_{ON}/t_{OFF} (µs max)	Supply Voltage Range (V)	Features	Price† 1000-up ($)
MAX4583	1-of-2	75	1	6	175/150	+2 to +12	Improved 74HC4053, dual supplies	0.63
MAX4053A	1-of-2	100	0.1	4	0.15/0.15	+2.7 to +16	Improved 74HC4053, low voltage, improved R_{ON}	1.87
MAX4524	1-of-4	75	1	6	175/150	+2 to +12	Single-supply only, 10-pin µMAX	1.10
MAX4518	1-of-4	100	0.2	4	0.15/0.15	±2.7 to ±8	Low voltage, guaranteed R_{ON} match	1.15
MAX4581	1-of-8	75	1	6	175/150	+2 to +12	Improved 74HC4051, dual supplies	0.63
MAX349	1-of-8	100	0.1	5	0.275/0.150	+3, +5, ±5	Serial interface	2.98
MAX382	1-of-8	100	0.2	4	0.15/0.15	+3, +5, ±5	Low-voltage, latchable address inputs	3.00
MAX398	1-of-8	100	0.1	4	0.15/0.15	+3, +5, ±5	Low-voltage, DG408 pinout	2.59
MAX4051A	1-of-8	100	0.1	4	0.15/0.15	+2.7 to +16	Improved 74HC4051, low voltage, improved R_{ON}	1.87
MAX4530	1-of-8	100	1	10	–	+2 to +12	Improved 74HC4351	1.12
MAX4051	1-of-8	125	1	10	0.15/0.15	+2.7 to +16	Low-voltage, 74HC4051 upgrade, ±2.7V to ±8V	1.46
MAX4053	1-of-2	125	1	10	0.15/0.15	+2.7 to +16	Low-voltage, 74HC4053 upgrade	1.46
MAX396	1-of-16	100	0.1	4	0.15/0.15	+3, +5, ±5	Low-voltage, DG406 pinout	4.04
MAX4519	2-of-4	100	0.1	4	0.15/0.15	±2.7 to ±8	Low-voltage, guaranteed R_{ON} match	1.15
MAX4525	2-of-4	75	1	6	175/150	+2 to +12	Single-supply only, 10-pin µMAX	1.10
MAX4582	2-of-8	75	1	6	175/150	+2 to +12	Improved 74HC4052, dual supplies	0.63
MAX384	2-of-8	100	0.2	4	0.15/0.15	+3, +5, ±5	Low-voltage, latchable address inputs	3.00
MAX399	2-of-8	100	0.1	4	0.15/0.15	+3, +5, ±5	Low-voltage, DG409 pinout	2.59
MAX4052A	2-of-8	100	0.1	4	0.15/0.15	+2.7 to +16	Improved 74HC4051, low voltage, improved R_{ON}	1.87
MAX4531	2-of-8	100	1	10	–	+2 to +12	Improved 74HC4352	1.12
MAX397	2-of-8	100	0.1	4	0.15/0.15	+3, +5, ±5	Low-voltage, DG407 pinout	4.04
MAX350	2-of-8	125	1	10	0.275/0.150	+3, +5, ±5	Low-voltage, serial interface	2.98
MAX4052	2-of-8	125	1	10	0.15/0.15	+2.7 to +16	Low-voltage, 74HC4052 upgrade, ±2.7V to ±8V	1.46

	Part Number	Function	$R_{DS(ON)}$[3] (Ω max)	$I_{COM(OFF)}/I_{D(OFF)}$ (nA max)	R_{ON} Match (Ω max)	R_{ON} Flatness (Ω max)	t_{ON} (ns max)	t_{OFF} (ns max)	Pins-Package	Supply Voltage Range (V)	Features	Price† 1000-up ($)
	CAL MUXES											
NEW	MAX4539	8:1	100	±2	6	10	150	100	20-DIP/SO/SSOP	+2.7 to +12	±2.7V to ±6V, precision resistors set voltage reference	††
NEW	MAX4540	Dual 4:1	100	±1	6	10	150	100	20-DIP/SO/SSOP	+2.7 to +12	±2.7V to ±6V, precision resistors set voltage reference	††
NEW	MAX4598	8:1 or dual 4:1	75	±2	8	10	150	100	20-DIP/SO/SSOP	+2.7 to +12	±2.7V to ±6V, no reference	††
	VIDEO MULTIPLEXERS (NON-BUFFERED)											
NEW	MAX4588	8:1	60	±2	4	2	450	120	28-DIP/SO/SSOP	+2.7 to +12	±2.7V to ±6V, 80dB at 10MHz	††
NEW	MAX4589	4:1	60	±2	4	2	450	120	28-DIP/SO/SSOP	+2.7 to +12	±2.7V to ±6V, 80dB at 10MHz	††

1 Low-voltage supply voltage operation: +2V to +16V; ±1V to ±6V.

3 Drain-source on-resistance is for the commercial grade, T_A = +25°C.

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†† Future product—contact factory for pricing and availability. Specifications are preliminary.

Low-Voltage Video Multiplexers[1]

Part Number	Unity GBW (MHz)	Slew Rate (V/µs)	DP/DG (degrees/%)	Output Current (mA max)	Supply Voltage (V)	Supply Current (mA)	Features	Price† 1000-up ($)
MAX440	160, 110 ($A_V \geq 2$)	370	0.03/0.04	35	±5	40	Video amp with 8-channel mux, 0.03°/0.04% diff phase/gain error, 15ns switch time, high-Z output state	8.95
MAX441	160, 110 ($A_V \geq 2$)	370	0.03/0.04	35	±5	40	Video amp with 4-channel mux 0.03°/0.04% diff phase/gain error, 15ns switch time	5.90
MAX442	140	250	0.09/0.07	35	±5	40	Video amp with 2-channel mux, 24ns switch time, 8-pin DIP/SO	4.45

Part Number	Function	$R_{DS(ON)}$[3] (Ω max)	$I_{D(OFF)}$ (nA max)	t_{ON} (µs max)	V_{IL}/V_{IH} (V)	Analog-Signal Voltage Range (V)	Features	Price† 1000up ($)
MAX453	1-of-2 mux	Buffered output	10	0.12	0.8/2.4	±2	On-chip output amp	3.94
MAX454	1-of-4 mux	Buffered output	10	0.12	0.8/2.4	±2	On-chip output amp	5.25
MAX455	1-of-8 mux	Buffered output	10	0.12	0.8/2.4	±2	On-chip output amp	8.75

Standard Analog Multiplexers[4]

Part Number	Function	$R_{DS(ON)}$[3] (Ω max)	$I_{D(OFF)}/I_{COM(OFF)}$ (nA max)	R_{ON} Match (Ω max)	t_{ON}/t_{OFF} (µs max)	Supply Voltage Range (V)	Features	Price† 1000-up ($)
MAX308	1-of-8	100	0.75	5	0.225/0.150	±4.5 to ±20	Improved DG408, guaranteed R_{ON} match/flatness	2.59
DG408	1-of-8	100	1	–	0.225/0.150	±4.5 to ±20	Industry standard	2.59
MAX354	1-of-8	350	0.5	12	0.25/0.20	±4.5 to ±20	Improved MAX358, improved R_{ON}, ±35V fault protection	2.45
DG508A	1-of-8	350	2	–	1.0/1.7	±15	Industry standard	2.39
MX7501	1-of-8	350	5	–	1.5/1.0	±15	Industry standard	5.58
MX7503	1-of-8	350	5	–	1.5/1.0	±15	Industry standard	5.58
MAX338	1-of-8	400	0.02	10	0.50/0.50	±4.5 to ±20	Improved DG508A, low-leakage upgrade, QSOP	2.39
DG528	1-of-8	450	10	–	1.5	±15	Industry standard with latches	2.28
MAX358	1-of-8	1800	1	–	0.5	±15	Fault protected to ±35V	2.45
MAX368	1-of-8	1800	2	–	1.5/1.0	±15	Fault protected with latches to ±35V	3.50
HI-508A	1-of-8	1800	2	–	0.5	±15	Fault protected to ±35V	2.75
MAX388	1-of-8	3000	1	–	1	±15	Fault protected with latches to ±100V	4.50
MAX378	1-of-8	3500	1	–	0.75/0.5	±15	Fault protected to ±75V	3.50
MAX328	1-of-8	5000	0.02	–	1	±15	Ultra-low leakage	3.61
MAX306	1-of-16	100	2	5	0.2/0.15	±4.5 to ±20	Improved DG406, guaranteed R_{ON} match/flatness	3.87
DG406	1-of-16	100	2	–	0.2/0.15	±4.5 to ±20	Industry standard	4.53
MAX336	1-of-16	400	0.02	10	0.5/0.5	±4.5 to ±20	Improved DG506A, low leakage, SSOP	3.69
MX7506	1-of-16	450	5	–	0.15/1.0	±15	Industry standard	10.25
DG506A	1-of-16	450	5	–	1.0/0.4(typ)	±15	Industry standard	3.68
MAX309	2-of-8	100	1	5	0.225/0.150	±4.5 to ±20	Improved DG409, guaranteed R_{ON} match/flatness	2.59
DG409	2-of-8	100	1	–	0.225/0.150	±4.5 to ±20	Industry standard	2.59
MAX355	2-of-8	350	0.5	12	0.25/0.20	±4.5 to ±20	Improved MAX359, improved R_{ON}, ±35V fault protection	2.45
DG509A	2-of-8	350	2	–	1.0/1.7	±15	Industry standard	2.39
MX7502	2-of-8	350	3	–	1.5/1.0	±15	Industry standard	5.58
MAX339	2-of-8	400	0.02	10	0.50/0.50	±4.5 to ±20	Improved DG509A, low-leakage upgrade, QSOP	2.39
DG529	2-of-8	450	10	–	1.5	±15	Industry standard with latches	2.28
MAX359	2-of-8	1800	1	–	0.5	±15	Fault protected to ±35V	2.45
MAX369	2-of-8	1800	1	–	1.5/1.0	±15	Fault protected with latches to ±35V	3.50
HI-509A	2-of-8	1800	2	–	0.5	±15	Fault protected to ±35V	2.75
MAX389	2-of-8	3000	1	–	1	±15	Fault protected with latches to ±100V	4.50
MAX379	2-of-8	3500	1	–	0.75/0.5	±15	Fault protected to ±75V	3.50
MAX329	2-of-8	5000	0.02	–	1	±15	Ultra-low leakage	3.61
MAX307	2-of-16	100	2	5	0.2/0.15	±4.5 to ±20	Improved DG407, guaranteed R_{ON} match/flatness	3.87
DG407	2-of-16	100	2	–	0.2/0.15	±15	Industry standard	4.53
MAX337	2-of-16	400	0.02	10	0.5/0.5	±4.5 to ±20	Improved DG507A, low leakage, SSOP	3.69
MX7507	2-of-16	450	5	–	1.5/1.0	±15	Industry standard	10.25
DG507A	2-of-16	450	5	–	1.0/0.4(typ)	±15	Industry standard	3.68

1 Low-voltage supply voltage operation: +2V to +16V; ±1V to ±6V.

3 Drain-source on-resistance is for the commercial grade, T_A = +25°C.

4 Standard supply voltage operation: +4.5V to +40V; ±4.5V to ±20V.

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Standard Analog Multiplexers[4] (continued)

	Part Number	Function	$R_{DS(ON)}$[3] (Ω max)	$I_{COM(OFF)}$/ $I_{D(OFF)}$ (nA max)	R_{ON} Match (Ω max)	R_{ON} Flatness (Ω max)	t_{ON} (ns max)	t_{OFF} (ns max)	Pins-Package	Supply Voltage Range (V)	Features	Price† 1000-up ($)
	CAL MULTIPLEXERS											
NEW	MAX4578	8:1	500	±2	15	–	250	100	20-DIP/SO/SSOP	±4.5 to ±20	Precision resistors	††
NEW	MAX4579	4:1	500	±1	15	–	250	100	20-DIP/SO/SSOP	±4.5 to ±20	Set reference	††

Standard Video Multiplexers[4]

Part Number	Function	$R_{DS(ON)}$[3] (Ω max)	$I_{D(OFF)}$ (nA max)	t_{ON} (µs max)	V_{IL}/V_{IH} (V)	Analog-Signal Voltage Range (V)	Features	Price† 1000-up ($)
MAX310	1-of-8 mux	250	10	1.5	0.8/2.4	-12.5 to +13.5	70dB isolation at 10MHz	5.18
MAX311	2-of-8 mux	250	10	1.5	0.8/2.4	-12.5 to +13.5	70dB isolation at 10MHz	7.20

Video Crosspoint Switches

Part Number	Unity GBW (MHz)	Slew Rate (V/µs)	DP/DG (degrees/%)	Off-Isolation (dB typ)	Crosstalk (dB typ)	EV Kit	Features	Price† 1000-up ($)
MAX456	35	250	1/0.5	80 (5MHz)	70 (5MHz)	–	8x8 crosspoint switch array with eight output buffers, high-Z output capability	19.98
MAX458/459	100/90	300	0.05/0.01	60 (10MHz)	55 (10MHz)	Yes	8x4 crosspoint switch array with four 75Ω cable drivers, high-Z output capability	21.85
MAX4111	330	700	0.01/0.01	74 (30MHz)	–	Yes	1x1 video crosspoint building block, 0.1dB gain flatness of 150MHz	1.70
MAX4121	330	700	0.01/0.01	74 (30MHz)	66	Yes	2x1 video crosspoint building block, 0.1dB gain flatness of 150MHz	2.10
MAX4141	330	700	0.01/0.01	74 (30MHz)	66	Yes	4x1 video crosspoint building block, 0.1dB gain flatness of 150MHz	4.50
MAX4221	330	700	0.01/0.01	74 (30MHz)	66	Yes	Dual 2x1 video crosspoint building block, 0.1dB gain flatness of 150MHz	4.50

3 Drain-source on-resistance is for the commercial grade, T_A = +25°C.

4 Standard supply voltage operation: +4.5V to +40V; ±4.5V to ±20V.

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†† Future product—contact factory for pricing and availability. Specifications are preliminary.