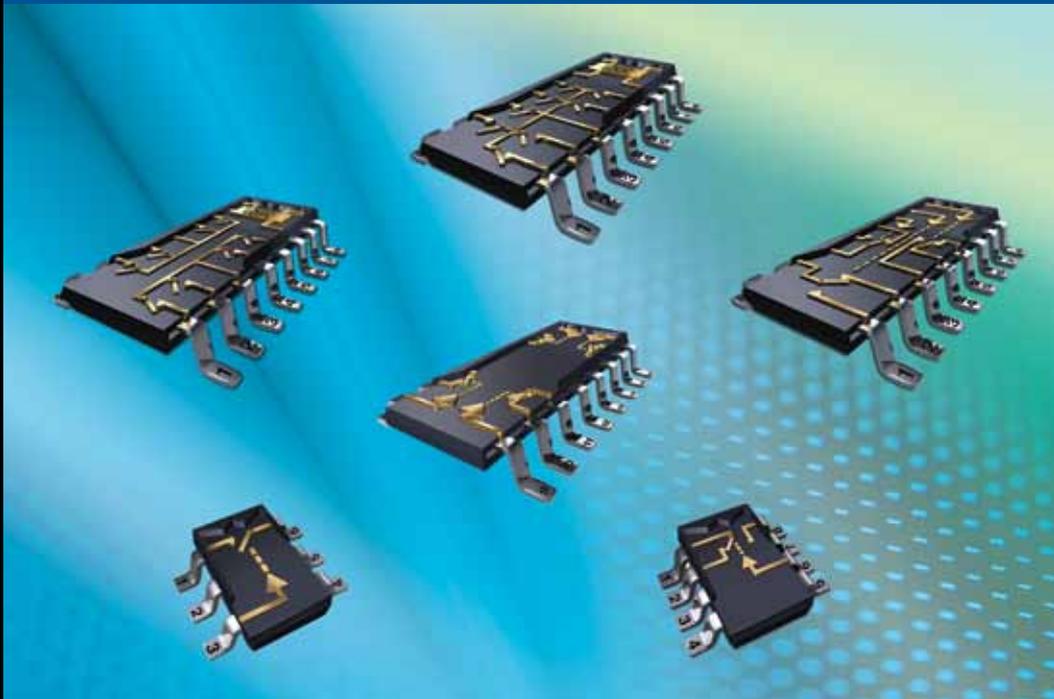




VISHAY INTERTECHNOLOGY, INC.



## ANALOG SWITCHES AND MULTIPLEXERS

### Vishay Siliconix

High-Performance and Industry-Standard Devices for All Applications

- High Bandwidth
- Low On-Resistance
- High Current
- Low Charge Injection
- Low Voltage

### Applications

- Analog audio and video signal routing
- Control timing circuits
- Current routing
- Data acquisition
- Data routing
- Load shedding
- Mechanical relay replacement
- Power routing
- Power/load management
- Programmable filters
- Programmable gain amplifiers (PGA)
- Sample and hold circuits
- Stand-by circuits

### End Products

- Audio and video systems
- Automatic test equipment (ATE)
- Data communications
- Hard disc drives
- Mobile communications
- Modems
- Network switching
- PCMCIA cards
- Portable instruments
- Portable medical devices
- USB signal switching
- Wireless home networks

## SEMICONDUCTORS

### RECTIFIERS

- Schottky (single, dual)
- Standard, Fast, and Ultra-Fast Recovery (single, dual)
- Bridge
- Superectifier®
- Sinterglass Avalanche Diodes

### HIGH-POWER DIODES AND THYRISTORS

- High-Power Fast-Recovery Diodes
- Phase-Control Thyristors
- Fast Thyristors

### SMALL-SIGNAL DIODES

- Schottky and Switching (single, dual)
- Tuner/Capacitance (single, dual)
- Bandswitching
- PIN

### ZENER AND SUPPRESSOR DIODES

- Zener (single, dual)
- TVS (TRANSZORB®, Automotive, ESD, Arrays)

### FETs

- Low-Voltage TrenchFET® Power MOSFETs
- High-Voltage TrenchFET® Power MOSFETs
- High-Voltage Planar MOSFETs
- JFETs

### OPTOELECTRONICS

- IR Emitters and Detectors, and IR Receiver Modules
- Optocouplers and Solid-State Relays
- Optical Sensors
- LEDs and 7-Segment Displays
- Infrared Data Transceiver Modules
- Custom Products

### ICs

- Power ICs
- Analog Switches
- RF Transmitter and Receiver Modules
- ICs for Optoelectronics

### MODULES

- Power Modules (contain power diodes, thyristors, MOSFETs, IGBTs)
- DC/DC Converters

## PASSIVE COMPONENTS

### RESISTIVE PRODUCTS

- Foil Resistors
- Film Resistors
  - Metal Film Resistors
  - Thin Film Resistors
  - Thick Film Resistors
  - Metal Oxide Film Resistors
  - Carbon Film Resistors
- Wirewound Resistors
- Power Metal Strip® Resistors
- Chip Fuses
- Variable Resistors
  - Cermet Variable Resistors
  - Wirewound Variable Resistors
  - Conductive Plastic Variable Resistors
- Networks/Arrays
- Non-Linear Resistors
  - NTC Thermistors
  - PTC Thermistors
  - Varistors

### MAGNETICS

- Inductors
- Transformers

### CAPACITORS

- Tantalum Capacitors
  - Molded Chip Tantalum Capacitors
  - Coated Chip Tantalum Capacitors
  - Solid Through-Hole Tantalum Capacitors
  - Wet Tantalum Capacitors
- Ceramic Capacitors
  - Multilayer Chip Capacitors
  - Disc Capacitors
- Film Capacitors
- Power Capacitors
- Heavy-Current Capacitors
- Aluminum Capacitors
- Silicon RF Capacitors

### STRAIN GAGE TRANSDUCERS AND STRESS ANALYSIS SYSTEMS

- PhotoStress®
- Strain Gages
- Load Cells
- Force Transducers
- Instruments
- Weighing Systems
- Specialized Strain Gage Systems

# **Analog Switch and Multiplexer Selector and Application Guide**

**High Bandwidth  
Low On-Resistance  
High Current  
Low Charge Injection  
Low Voltage**

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## Vishay Siliconix Analog Multiplexers and Switches

For more than 40 years, Vishay Siliconix analog switches and multiplexers have been providing benchmark performance in an astonishing array of end products. To meet specific application requirements, the devices are offered in a number of package options, including the TSOP, SOIC, miniQFN, MICRO FOOT®, and more. The devices provide a choice of single and dual supply operation. On-resistance values range from sub-ohmic to 10  $\Omega$  and above. Configurations include SPST, SPDT, DPST, DPDT, and bus switches, along with 2:1, 4:1, 8:1, and 16:1 multiplexers, including differential.

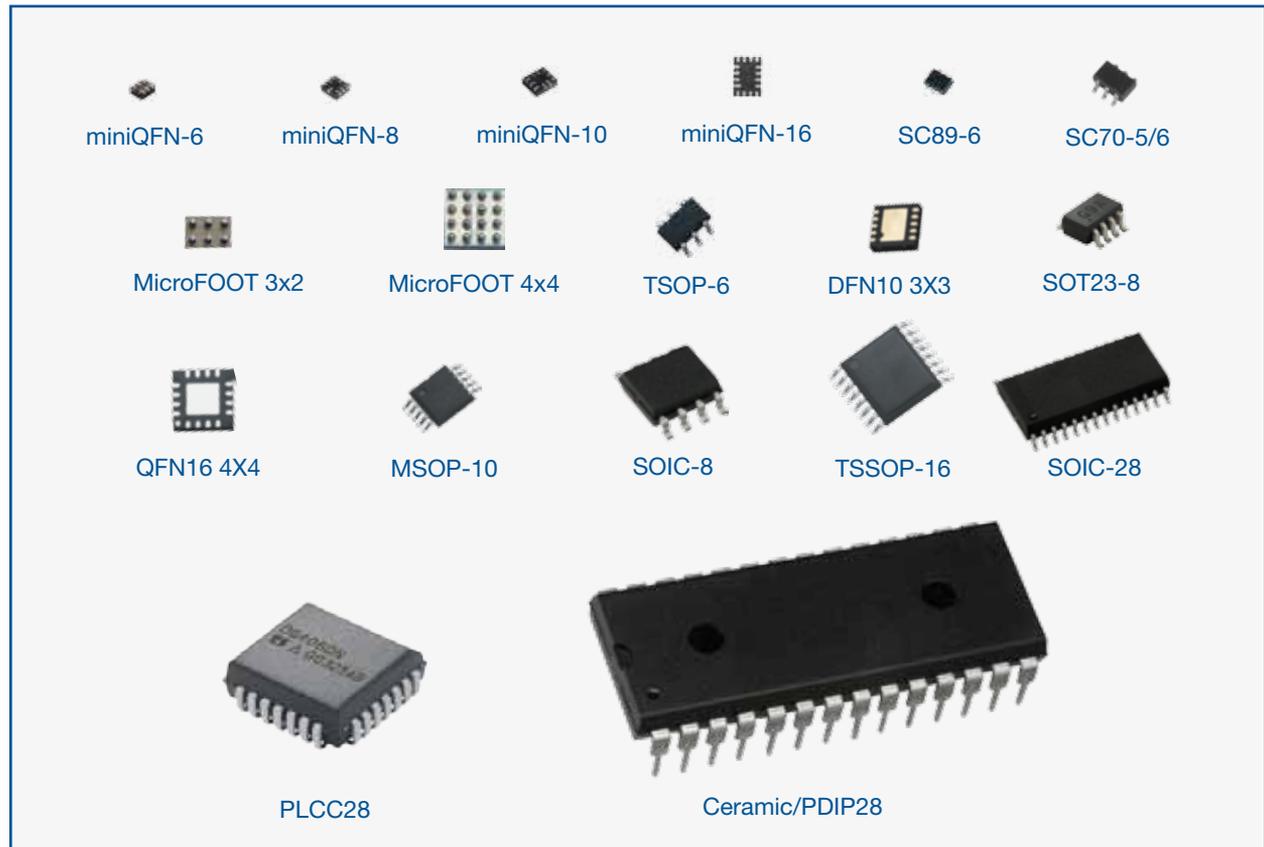
Vishay has made several recent additions to its line of analog multiplexers and switches for high voltage (15-V) and medium voltage ( $\pm 5$ -V, +5-V/+12-V) operation.

The Vishay Siliconix DG451 and DG454 series of quad 4- $\Omega$  SPST 44-V CMOS switches have a typical flatness of 0.2  $\Omega$ , ideal parameters for low-distortion audio signal switching. They feature fast switching speeds of  $t_{ON}$  80 ns and  $t_{OFF}$  60 ns, and offer a  $\pm 15$ -V analog signal range.

The DG469 and DG470 high-voltage, single- and dual-supply SPDT analog switches offer 4.2- $\Omega$  maximum on-resistance with a typical flatness of 0.4  $\Omega$ . Both devices are rated for 120 mA of continuous current, key for relay replacement and power routing.

New high-bandwidth analog multiplexers (DG636, DG604, DG4051A, DG4052A, and DG4053A) and switches (DG611A, DG612A, and DG613A) combine low charge injection (< 1 pC) and low switching capacitance (< 3 pF) with -3 dB bandwidth up to 680 MHz. These products are ideal for high-speed switching and multiplexing, audio and video routing, filtering, selecting gain and frequency, and calibration. They operate from  $\pm 5$ -V or single +5-V to +12-V supplies and come in SOIC, TSOP, and miniQFN packages.

### A wide selection of surface-mount packages to fit your requirements.



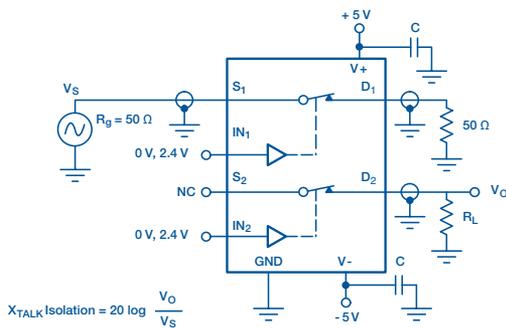
# HIGH BANDWIDTH: 150 MHz to 900 MHz

With high crosstalk rejection and high off-isolation



	Configuration	Basic Parameters			Characterization Voltages					Dynamic Performance				Package Options							
		r <sub>ON</sub> (Ω) typ	Charge Injection (pC) typ	C <sub>OFF</sub> (pF) typ	≤ 3 V	5 V	12 V	± 5 V	± 15 V	t <sub>ON</sub> Max. (ns)	Off Isolation @ 1 MHz (dB)	Cross-talk @ 1 MHz (dB)	BW (MHz)	TSSOP	SOIC	SOT-23	MSOP	QFN/DFN	Mini QFN	SC-70/SC89	MICRO FOOT
<b>NEW</b> DG2722 USB	DPDT	7	0.5	1.3	X	X				30	30	45	900							X	
<b>NEW</b> DG4053A	Triple 2:1 MUX	60	2	2			X	X	X	175	90	90	730	X	X					X	
<b>NEW</b> DG2737, DG3738, DG2739 USB	2 x SPST	6	10.4	4.4	X					60	79	109	720							X	
<b>NEW</b> DG2720 USB	2 x SPST	6	0.5	2.6	X		X			30	80	85	620					X			
<b>NEW</b> DG611A, DG612A, DG613A	4 x SPST	85	0.5	5	X	X	X	X		45	> 85	> 90	680	X					X		
<b>NEW</b> DG2723 USB	2 x SPST	7	0.5	2.5	X	X				30	30	45	700						X		
<b>NEW</b> DG636	2 x SPST	85	1.2	5	X	X	X	X		130	> 90	> 90	610	X					X		
DG611, DG612, DG613	4 x SPST	18	4	3			X	X	X	35	93	98	500		X						
<b>NEW</b> DG4052A	Dual 4:1 MUX	60	2	2	X	X		X		50	90	90	450	X	X				X		
<b>NEW</b> DG4051A	8:1 MUX	60	2	2	X	X		X		175	90	90	330	X	X				X		
<b>NEW</b> DG508B	8:1 MUX	180	2	3			X	X	X	300	80	> 80	200	X	X						
<b>NEW</b> DG509B	Dual 4:1 MUX	180	2	3			X	X	X	300	80	> 80	200	X	X						
<b>NEW</b> DG3157A With Power Down Protection	1 x SPDT	6	7	7	X	X				60	57	64	300						X		
DG3516, DG3517 (2:1 MUX)	2 x SPDT	2.5	1	12	X	X				52	74	74	300								X
<b>NEW</b> DG604	4:1 MUX	85	1	5	X	X	X	X		80	> 75	> 70	280	X					X		
DG2307	1 x SPDT	5	7	6.5	X	X				5.9	> 60	> 60	250								X
DG3157	1 x SPDT	8	7	7	X	X				10.2	58	59	250								X
DG2303	1 x SPDT	5	0.5	9	X	X				4.2	50	--	200								X
DG9411	1 x SPDT	7	5	7	X	X				40	75	68	200								X
DG2001	1 x SPDT	3	1	17	X	X				53	71	70	200			X					
DG2018	4 x SPST	6	3	9	X	X				65	54	53	150					X			

## Test-Measurement Circuit



## USB 2.0 Analog DPDT Switch for Two-Port Switching

- > 900 MHz, 3 dB bandwidth with 5 pF load
- Fast switching TON = 30 ns, TOFF = 25 ns @ 2.7 V
- Low bit-to-bit skew: 40 pS (typ.)
- Low on-resistance, 7.0 Ω (typ.)
- Low capacitance, 1.3 pF (typ.)
- Low voltage logic-compatible VINH = < 1.3
- 8 kV ESD protection (HBM)
- miniQFN-10 (1.4 mm x 1.8 mm x 0.55 mm)



## DG611A Insertion Loss, Off-Isolation, Crosstalk vs. Frequency

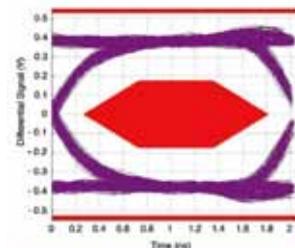
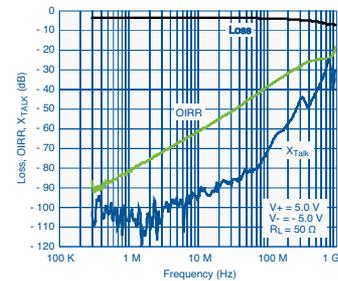


Figure 3, High-speed signal quality eye diagram test with V+ = 3.3V

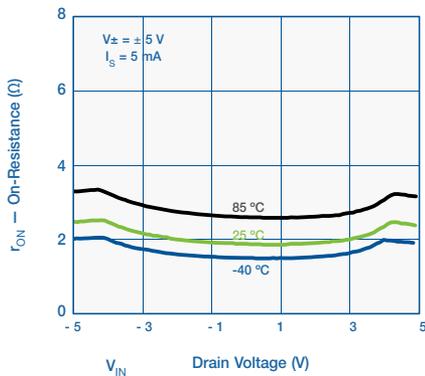


# LOW ON-RESISTANCE: $r_{ON}$ 0.3 $\Omega$ to 8 $\Omega$

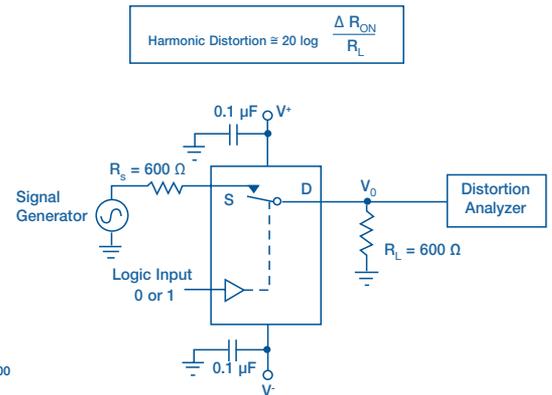
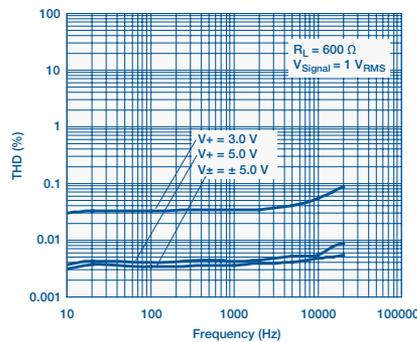
With flatness for low distortion

	Configuration	Basic Parameters			Characterization Voltages				Dynamic Performance			Package Options						Current					
		$r_{ON}$ ( $\Omega$ ) typ	Charge Injection (pC) typ	$C_{OFF}$ (pF) typ	$\leq 3$ V	$\leq 5$ V	12 V	$\neq 5$ V	$\neq 15$ V	$t_{ON}$ Max. (ns)	Off Isolation @ 1 MHz (dB)	Cross-talk @ 1 MHz (dB)	BW (MHz)	TSSOP	SOIC	SOT-23	TSOP	MSOP	QFN/DFN	Mini QFN	SC-70/SC89	MICRO FOOT	$I_{OUT}$ (mA)
					X	X																	
DG2799	2 x SPDT	0.3	160	108	X	X			60	> 50	> 50	> 2						X					300 mA
DG3535	2 x SPDT	0.3	21	145	X	X			90	60	60	> 10										X	300 mA
DG2535, DG2536	2 x SPDT	0.4	21	145	X	X			90	60	60	> 10							X				300 mA
NEW DG2747, DG2748, DG2749	2 x SPDT	0.4	10	55	X	X			25	52	90	93								X			300 mA
DG2788, DG2789	2 x DPDT	0.4	87	0.81	X	X			75	49	96	> 2								X			300 mA
DG2735, DG2736	2 x SPDT	0.6		55	X	X			80	53	60	> 2								X			250 mA
NEW DG2753	3 x SPDT	0.7	25	35	X	X			60	90	90	100	X					X					300 mA
DG2741, DG2742, DG2743	2 x SPST	0.8	6	81	X	4 V			50	56	89	> 6			X		X						200 mA
DG2612, DG2613	2 x SPST	1	2.4	36	X	X			63	46	42	> 2									X		150 mA
DG2012	1 x SPDT	1	7	22	X	X			65	63	64	> 20									X		100 mA
DG2041, DG2042, DG2043	4 x SPDT	1	1	4	X	X			82	63	94	> 20	X						X				50 mA
NEW DG2750 WITH NEGATIVE SWING	2 x SPDT	1.1		25	X	X			65			84									X		250 mA
DG2511	1 x SPDT	1.3	3	21	X	X			43	58	64	> 10								X			150 mA
DG9424, DG9425, DG9426	4 x SPST	1.8	38	49	X	X	X	X	57	56	77	--	X										100 mA
DG601, DG602	1 x SPST	2	260	50	X	X	X		120	60	--	180			X		X						200 mA
DG9421, DG9422	1 x SPST	2	320	32	X	X	X	X	45	60	--	--				X							50 mA
DG2032 (2:1 MUX)	2 x SPDT	2.4	38	15	X	X			59	78	82	> 20								X			50 mA
DG2016, DG2026 (2:1 MUX)	2 x SPDT	2.4	79	14	X	X			52	81	82	> 20						X				X	50 mA
DG3516, DG3517 (2:1 MUX)	2 x SPDT	2.5	1	12	X	X			52	74	74	300										X	100 mA
DG2001	1 x SPDT	3	1	17	X	X			53	71	70	720			X								50 mA
NEW DG469, DG470	1 x SPDT	3.6	64	37		X	X	X	166	57	63	--	X				X						30 mA
NEW DG451, DG452, DG453	4 x SPST	3.8	162	31		X	X	X		60	85	--	X	X									30 mA
NEW DG454, DG455, DG456	4 x SPST	3.8	162	31		X	X	X	118	60	85	--	X	X									30 mA
DG9408	8:1 MUX	4	29	23	X	X	X	X	70	80	85	--							X				100 mA
DG409	Dual 4:1 MUX	4	29	23	X	X	X	X	70	80	85	--							X				100 mA
DG2034	4:1 MUX	4	5	14	X	X			45	73	77	> 10					X	X					50 mA
DG2303	1 x SPDT	5	0.5	9	X	X				50	--	> 200									X		50 mA
DG2307	1 x SPDT	5	7	6.5	X	X				> 60	> 60	250									X		50 mA
DG2018	4 x SPST	6	3	9	X	X			65	54	53	150							X				50 mA
DG9411	1 x SPDT	7	5	7	X	X				50		> 200									X		50 mA
DG467, DG468	1 x SPST	7	21	30		X	X	X	140	61	N/A	--				X							30 mA
DG3157	1 x SPDT	8	7	7	X	X				58	59	> 250									X		50 mA

DG9421, DG9422  $r_{ON}$  vs.  $V_{IN}$   
Analog Voltage and Temperature



DG636 Total Harmonic Distortion vs. Frequency



# HIGH CURRENT: 50 mA to 300 mA

For relay replacement, power routing, and power savings



	Configuration	Basic Parameters			Characterization Voltages				Dynamic Performance				Package Options						Current			
		r <sub>ON</sub> (Ω) typ	Charge Injection (pC) typ	C <sub>OFF</sub> (pF) typ	≤ 3 V	5 V	12 V	± 5 V	± 15 V	t <sub>ON</sub> Max. (ns)	Off Isolation @ 1 MHz (dB)	Cross-talk @ 1 MHz (dB)	BW (MHz)	TSSOP	SOT-23	TSOP	MSOP	QFN/DFN	Mini QFN	SC-70/SC89	MICRO FOOT	I <sub>OUT</sub> (mA)
DG2799	2 x SPDT	0.25	160	108	X	4.3 V				60	> 50	> 50	> 2				X					300
DG3535	2 x SPDT	0.25	21	145	X	X				90	60	60	> 10								X	300
DG2535, DG2536	2 x SPDT	0.35	21	145	X	X				90	60	60	> 10				X					300
DG2788, DG2789	2 x DPDT	0.4	87	0.81	X	4.3 V				75	49	96	> 2						X			300
<b>NEW</b> DG2747, DG2748, DG2749	2 x SPDT	0.4	10	55	X					25	52	90	93						X			300
DG2735, DG2736	2 x SPDT	0.6		55	X	4.3 V				80	53	60	> 2						X			250
DG601, DG602	1 x SPST	2	260	50		X	X	X		120	60	--	180	X		X						200
<b>NEW</b> DG2753	3 x SPDT	0.7	25	35	X	X				60	90	90	100	X			X					300
DG2741, DG2742, DG2743	2 x SPST	0.8	6	81	X	4 V				50	56	89	> 6	X		X						200
DG2612, DG2613	2 x SPST	1	2.4	36	X	X				63	46	42	> 2							X		150
DG2012	1 x SPDT	1	7	22	X	X				65	63	64	> 20							X		100
<b>NEW</b> DG2750 WITH NEGATIVE SWING	2 x SPDT	1.1		25	X	X				65			84						X			250
DG2511	1 x SPDT	1.3	3	21	X	X				43	58	64	> 10						X			150
DG9424, DG9425, DG9426	4 x SPST	1.8	38	49	X	X	X	X		57	56	77	--	X								100
<b>NEW</b> DG3516, DG3517 (2:1 MUX)	2 x SPDT	2.5	1	12	X	X				52	74	74	300								X	100
<b>NEW</b> DG451	4 x SPST	3.8	22	31		X	X	X		118	60	85	--	X								100
DG454	4 x SPST	3.8	22	31		X	X	X		118	60	85	--	X								100
DG9408	8:1 MUX	4	29	23	X	X	X	X		70	80	85	--				X					100
DG2720 USB	2 x SPDT	6		2.6	X	X				30	30		700				X					300
DG9051	8:1 MUX	30	38	4	X	X	X	X		90	98	98	--	X								100
DG9421, DG9422	1 x SPST	2	320	32	X	X	X	X		45	60	--	--		X							50
DG2032 (2:1 MUX)	2 x SPDT	2.4	38	15	X	X				59	78	82	> 20						X			50
DG2016, DG2026 (2:1 MUX)	2 x SPDT	2.4	79	14	X	X				52	81	82	> 20			X				X		50
DG2001	1 x SPDT	3	1	17	X	X				53	71	70	720	X								50
DG2303	1 x SPDT	5	0.5	9	X	X				50	--	--	> 200							X		50
DG2307	1 x SPDT	5	7	6.5	X	X					> 60	> 60	250							X		50
DG3157	1 x SPDT	8	7	7	X	X					58	59	> 250							X		50
DG9411	1 x SPDT	7	5	7	X	X					50		> 200							X		50
DG2041, DG2042, DG2043	4 x SPST	1	1	4	X	X				82	63	94	> 20	X			X					50
DG2018	4 x SPST	6	3	9	X	X				65	54	53	150				X					50
DG2034	4:1 MUX	4	5	14	X	X				45	73	77	> 10			X	X					50

## Mechanical vs. Electronic Switches

	Mechanical	Electronic
<b>Advantages</b>	<ul style="list-style-type: none"> <li>• High Current</li> <li>• High Voltage</li> <li>• High Off Isolation</li> <li>• Zero On-Resistance</li> <li>• Low Capacitance</li> </ul>	<ul style="list-style-type: none"> <li>• No Switch Bounce</li> <li>• Reliability</li> <li>• Low Power Consumption</li> <li>• Low Cost</li> <li>• Miniature Size</li> </ul>
<b>Disadvantages</b>	<ul style="list-style-type: none"> <li>• Wear and Tear</li> <li>• Contact Bounce</li> <li>• Slow</li> <li>• High Power Consumption</li> <li>• Bulky</li> </ul>	<ul style="list-style-type: none"> <li>• Low Current: &lt; 500 mA / switch</li> <li>• Limited Voltage Range: &lt; 44 V</li> <li>• Off Isolation</li> <li>• On-Resistance</li> </ul>

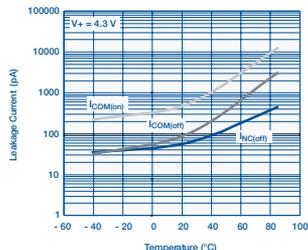


# LOW VOLTAGE: 1.8 V to 5 V, or ± 5 V

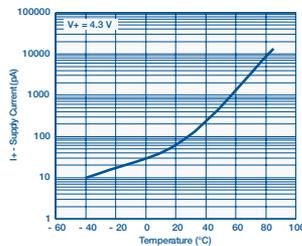
For portable and battery power

	Configuration	Basic Parameters			Characterization Voltages					Dynamic Performance			Package Options										
		$r_{ON}$ ( $\Omega$ ) typ	Charge Injection (pC) typ	$C_{OFF}$ (pF) typ	1.8 V	2 V	3 V	$\leq 5$ V	$\pm 5$ V	$t_{ON}$ Max. (ns)	Off Isolation @ 1 MHz (dB)	Cross-talk @ 1 MHz (dB)	BW (MHz)	TSSOP	SOIC	SOT-23	TSOP	MSOP	QFN/DFN	Mini QFN	SC-70/SC89	MICRO FOOT	
DG2799	2 x SPDT	0.3	160	108	1.6 V	X	X	X		60	> 50	> 50	> 2						X				
DG3535	2 x SPDT	0.3	21	145	X	X	X	X		90	60	60	> 10										X
<b>NEW</b> DG2747, DG2748, DG2749	2 x SPDT	0.4	10	55	1.6 V	X	X	X		25	52	90	93							X			
DG2535, DG2536	2 x SPDT	0.4	21	145			X			90	60	60	> 10						X				
DG2788, DG2789	2 x DPDT	0.4	87	0.81			X	X		75	49	96	> 2							X			
DG2735, DG2736	2 x SPDT	0.6		55	1.6 V	X	X	X		80	53	60	> 2							X			
<b>NEW</b> DG2753	3 x SPDT	0.7	25	35	1.6 V	X	X	X		60	90	90	100	X					X				
DG2741, DG2742, DG2743	2 x SPST	0.8	6	81	X		X	--		50	56	89	> 6			X		X					
DG2012	1 x SPDT	1	7	22		X	X	X		65	63	64	> 20									X	
DG2041, DG2042, DG2043	4 x SPDT	1	1	4		X	X	X		82	63	94	> 20	X					X				
DG2612, DG2613 WITH NEGATIVE SWING	2 x SPST	1	2.4	36	X	X	X	X		63	46	42	> 2									X	
<b>NEW</b> DG2750 WITH NEGATIVE SWING	2 x SPDT	1.1		25			X	X		65			84									X	
DG2511	1 x SPDT	1.3	3	21			X	X		43	58	64	> 10								X		
DG9424, DG9425, DG9426	4 x SPDT	1.8	38	49			X	X	X	57	56	77	--	X									
DG9421, DG9422	1 x SPST	2	320	32			X	X	X	45	60	--	--			X							
DG2032 (2:1 MUX)	2 x SPDT	2.4	38	15			X	X		59	78	82	> 20								X		
DG2016, DG2026 (2:1 MUX)	2 x SPDT	2.4	79	14			X	X		52	81	82	> 20					X					X
DG3516, DG3517 (2:1 MUX)	2 x SPDT	2.5	1	12			X	X		52	74	74	300										X
DG2001	1 x SPDT	3	1	17		X	X	X		53	71	70	720			X							
DG9408	8:1 MUX	4	29	23			X	X	X	70	80	85	--							X			
DG409	Dual 4:1 MUX	4	29	23			X	X	X	70	80	85	--							X			
DG2034	4:1 MUX	4	5	14			X			45	73	77	> 10					X	X				
<b>NEW</b> DG2303	1 x SPDT	5	0.5	9	X	X	X	X			50	--	> 200									X	
DG2307	1 x SPDT	5	7	6.5			X	X			> 60	> 60	250										X
<b>NEW</b> DG2737, DG2738, DG2739 USB	2 x SPST	6	10.4	4.4	X					60	79	109	720								X		
DG2018	4 x SPST	6	3	9			X	X		65	54	53	150							X			
<b>NEW</b> DG3157A WITH POWER DOWN PROTECTION	SPDT	6	7	7	X	X				60	57	64	300								X		
<b>NEW</b> DG2720 USB	2 x SPDT	6		2.6			X	X		30	30		700							X			
<b>NEW</b> DG2721	2 x SPDT	7	0.5	4	X	X	X	X		30	30	45	500								X		
<b>NEW</b> DG2722 USB	DPDT	7	0.5	1.3			X	X		30	30	45	900								X		
<b>NEW</b> DG2723 USB	2 x SPDT	7	0.5	2.5	X	X	X	X		30	30	45	700								v		
DG9411	1 x SPDT	7	5	7	X	X	X	X			50		> 200										X
DG3157	1 x SPDT	8	7	7	1.6 V	X	X	X			58	59	> 250										X
DG408L	8:1 MUX	17	1	6			X	X	X	55	70	82	--	X	X								
DG409L	Dual 4:1 MUX	17	1	6			X	X	X	55	70	82	--	X	X								
DG9432, DG9433, DG9434	2 x SPST	19	0.36	7.5			X	X		35	76	96	--			X		X					
DG411L	4 x SPST	20	5	5			X	X	X	50	71	95	--	X	X								
<b>NEW</b> DG9051	8:1 MUX	30	38	4			X	X	X	90	98	98	--	X									X
<b>NEW</b> DG9052	Dual 4:1 MUX	30	38	4			X	X	X	90	98	98	--	X									
<b>NEW</b> DG9053	Triple 2:1 MUX	30	38	4			X	X	X	90	98	98	--	X									
<b>NEW</b> DG4051A	8:1 MUX	60	2	2			X	X	X	175	90	90	330	X	X								X
<b>NEW</b> DG4052A	Dual 4:1 MUX	60	2	2			X	X	X	50	90	90	450	X	X								X
<b>NEW</b> DG4053A	Triple 2:1 MUX	60	2	2			X	X	X	175	90	90	730	X	X								X
<b>NEW</b> DG636	2 x SPDT	85	1.2	5			X	X	X	130	> 90	> 90	610	X									X
<b>NEW</b> DG611A, DG612A, DG613A	4 x SPST	85	0.5	5			X	X	X	45	> 85	> 90	680	X									X
<b>NEW</b> DG604	4:1 MUX	85	1	5			X	X	X	80	> 75	> 70	280	X									X

DG2735 Leakage Current vs. Temperature



DG2735 Supply Current vs. Temperature



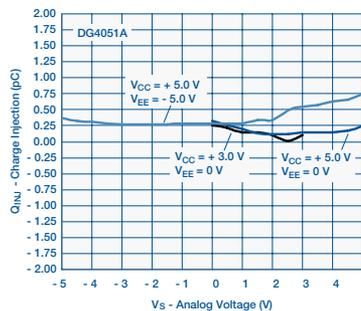
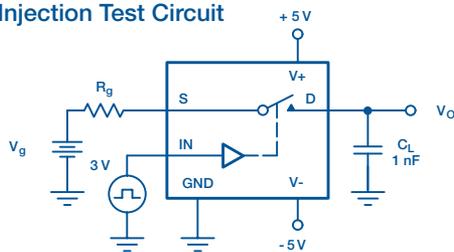
# LOW CHARGE INJECTION: 0.5 pC to 7 pC

For precision measurements and testing, with low capacitance



	Configuration	Basic Parameters			Characterization Voltages					Dynamic Performance				Package Options									
		$r_{ON}$ ( $\Omega$ ) typ	Charge Injection (pC) typ	$C_{OFF}$ (pF) typ	$\leq 3V$	5V	12V	$\pm 5V$	$\pm 15V$	$t_{ON}$ Max. (ns)	Off Isolation @ 1 MHz (dB)	Cross Talk @ 1 MHz (dB)	BW (MHz)	TSSOP	SOIC	SOT-23	TSOP	MSOP	QFN/DFN	Mini QFN	SC-70/SC89	MICRO FOOT	
NEW	DG2722 USB	DPDT	7	0.5	1.3	X	X				30	30	45	900							X		
NEW	DG2723 USB	2 x SPDT	7	0.5	2.5	X	X				30	30	45	700							X		
	DG611A, DG612A, DG613A	4 x SPST	85	0.5	5	X	X	X	X		45	> 85	> 90	680	X						X		
	DG2303	1 x SPDT	5	0.5	9	X	X					50	--	> 200								X	
NEW	DG9432, DG9433, DG9434	2 x SPST	19	0.36	8	X	X	X			35	76	96	--		X		X					
	DG604	4:1 MUX	85	1	5	X	X	X	X		80	> 75	> 70	280	X						X		
	DG444	4 x SPST	50	1	4			X	X	X	250	60	75	--	X								
	DG441	4 x SPST	50	1	4			X	X	X	250	60	100	--	X								
	DG213	4 x SPST	45	1	5			X	X	X	130	70	75	--	X	X							
	DG201B	4 x SPST	45	1	5			X	X	X	300	70	75	--	X	X							
	DG211B, DG212B	4 x SPST	45	1	5			X	X	X	300	70	75	--	X	X							
	DG408L	8:1 MUX	17	1	6	X	X	X	X		55	70	82	--	X	X							
	DG409L	Dual 4:1 MUX	17	1	6	X	X	X	X		55	70	82	--	X	X							
	DG2001	1 x SPDT	3	1	17	X	X				53	71	70	720			X						
	DG3516, DG3517 (2:1 MUX)	2 x SPDT	2.5	1	12	X	X				52	74	74	300								X	
NEW	DG2041, DG2042, DG2043	4 x SPDT	1	1	4	X	X				82	63	94	> 20	X				X				
NEW	DG636	2 x SPDT	85	1.2	5	X	X	X	X		130	> 90	> 90	610	X						X		
NEW	DG4051A	8:1 MUX	60	2	2	X	X	X	X		175	90	90	330	X	X					X		
NEW	DG4052A	Dual 4:1 MUX	60	2	2	X	X	X	X		50	90	90	450	X	X					X		
NEW	DG4053A	Triple 2:1 MUX	60	2	2		X	X	X		175	90	90	730	X	X					X		
	DG447, DG448	1 x SPST	17	2	19			X	$\pm 8V$	X	130	72	N/A	--			X						
	DG333A	SPDT	25	2	8			X	$\pm 8V$	X	175	72	80	--	X								
	DG2018	4 x SPST	6	3	9	X	X				65	54	53	150						X			
	DG2511	1 x SPDT	1.3	3	21	X	X				43	58	64	> 10							X		
NEW	DG611, DG612, DG613	4 x SPST	18	4	3			X	X	X	35	93	98	500		X							
NEW	DG508B	8:1 MUX	180	2	13			X	X	X	250	- 81	- 88	250	X	X							
NEW	DG509B	Dual 4:1 MUX	180	2	8			X	X	X	250	- 81	- 88	250	X	X							
	DG449	1 x SPDT	38	5	8			X	X	X	146	69	80	--			X						
	DG411	4 x SPST	25	5	9			X	X	X	175	68	85	--	X								
	DG411L	4 x SPST	20	5	5	X	X	X	X		50	71	95	--	X	X							
	DG9411	1 x SPDT	7	5	7	X	X					50		> 200								X	
	DG2034	4:1 MUX	4	5	14	X					45	73	77	> 10				X	X				
	DG3157	1 x SPDT	8	7	7	X						58	59	> 250								X	
	DG2307	1 x SPDT	5	7	7	X	X					> 60	> 60	250								X	
	DG2012	1 x SPDT	1	7	22	X	X				65	63	64	> 20								X	

Charge Injection Test Circuit



DG4051A Charge Injection vs. Analog Voltage

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# NOTES

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