



PRECISION ANALOG ICs

ANALOG SWITCH



DG721/DG722/DG723 and DG2537/DG2538/DG2539 Series



Precision Switch for Healthcare Systems, Meters and Instruments, Data Acquisition, and Automatic Test Equipment

The DG721/DG722/DG723 and DG2537/DG2538/DG2539 family series are precision dual SPST analog switches with low and flat switch on-resistance, pico-amp level leakage, low parasitic capacitance, low charge injection, and high bandwidth. With their optimized insertion losses and distortion to minimize switching noise/glitch effects, these two analog switch families are ideal for sample-and-hold circuitry, ADC switching, precision bias, and test channel selection.

KEY BENEFITS

- Wide operation voltage range
 - DG721/2/3: 1.8 V to 5.5 V
 - DG2537/8/9: ± 1.8 V to ± 2.75 V (supports asymmetrical dual power rails)
- Low and flat switch on resistance, 2.5Ω typ.
- Low leakage and parasitic capacitance
- 366 MHz, -3 dB bandwidth
- Switches both analog and digital signals
- Bi-directional switching
- Latch-up current > 300 mA (JEDEC78)
- Space saving packages
 - 2 mm x 2 mm TDFN8
 - 5 mm x 3 mm MSOP8
- Low-voltage control logic

APPLICATIONS

- Glucose, coagulation, and cholesterol meters
- Flow sensors for medical lifesciences, industrial, and microelectronics
- Environmental and safety instrumentation
- IR cameras
- Ultrasound
- Modems
- Security devices

RESOURCES

- DG721/DG722/DG723 datasheet: <http://www.vishay.com/doc?66586>
- DG2537/DG2538/DG2539 datasheet: <http://www.vishay.com/doc?68801>
- Analog Switches and Multiplexers: <http://www.vishay.com/analog-switches/>
- Technical questions: AnalogSwitchtechsupport@vishay.com
- Material categorization: For definitions of compliance please see <http://www.vishay.com/doc?99912>



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Device Performance	
Parameter	DG721/DG722/DG723 Series
Operation Voltage Range	1.8 V to 5.5 V
On-Resistance at 4.5 V	4.5 Ω
On-Resistance at 2.7 V	9 Ω
On-Resistance Flatness	1.5 Ω
On-Resistance Matching	0.9 Ω
Switch Off Leakage Current	± 0.25 nA
Charge Injection	2.2 pC typ.
Switch Off Capacitance	8 pF typ.
Switch On Capacitance	22 pF typ.
- 3 dB Bandwidth	366 MHz typ.
Cross Talk at 1 MHz	- 90 dB typ.
Cross Talk at 10 MHz	- 89 dB typ.
Off-Isolation at 1 MHz	- 67 dB typ.
Off-Isolation at 10 MHz	- 47 dB typ.
Turn On Speed - T_{ON}	17 ns typ.
Turn Off Speed - T_{OFF}	9 ns typ.
Power Supply Current	< 2 μ A
Operation Temperature Range	- 40 $^{\circ}$ C to 85 $^{\circ}$ C
Package Options	MSOP8, and TDFN8 2 mm x 2 mm

Note

Parameters shown are of maximum limit unless otherwise specified

Ordering Information			
Part Number	Configuration	Package	Single or Dual
DG721	SPST x 2, NO	MSOP-8, TDFN-8	Single Power
DG722	SPST x 2, NC	MSOP-8, TDFN-8	Single Power
DG723	SPST x 2, NC/NO	MSOP-8, TDFN-8	Single Power
DG2537	SPST x 2, NO	MSOP-10	Dual Power
DG2538	SPST x 2, NC	MSOP-10	Dual Power
DG2539	SPST x 2, NC/NO	MSOP-10	Dual Power

Typical Block Diagram Of A Glucose Meter

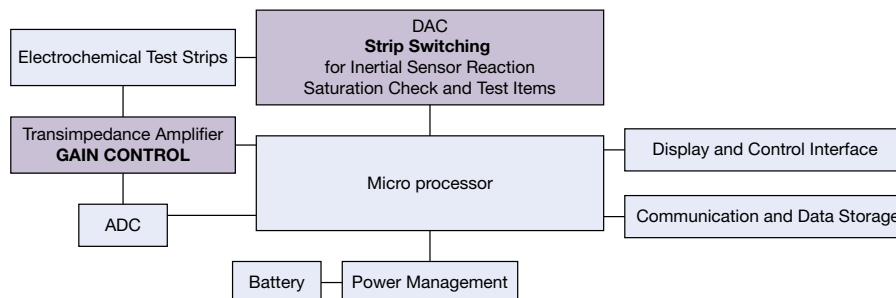


Fig. 1 - Impedance Controlled Device Evaluation Board

