



















Device Information

DG411[Printer Friendly Version](#)**Monolithic Quad SPST, CMOS Analog Switches**

 Datasheet & Related Docs	 Description	 Key Features	 Parametric Data	 Related Devices
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Ordering Information **RoHS/Pb-Free/Green Device**

Part No.	Status	Temp.	Package	MSL	Buy	Sample
DG411DJ	Active	Ind	16 Ld PDIP	N/A		
DG411DJZ 	Active	Ind	16 Ld PDIP	N/A		
DG411DY	Active	Ind	16 Ld SOIC	1		
DG411DY-T	Active	Ind	16 Ld SOIC T+R	1		
DG411DYZ 	Active	Ind	16 Ld SOIC	2		
DG411DYZ-T 	Active	Ind	16 Ld SOIC T+R	2		

The price listed is the manufacturer's suggested retail price for quantities between 100 and 999 units. However, prices in today's market are fluid and may change without notice.

MSL = Moisture Sensitivity Level - per IPC/JEDEC J-STD-020

SMD = Standard Microcircuit Drawing

Description

The DG411 series monolithic CMOS analog switches are drop-in replacements for the popular DG211 and DG212 series devices. They include four independent single pole throw (SPST) analog switches, and TTL and CMOS compatible digital inputs.

These switches feature lower analog ON resistance ($<35\Omega$) and faster switch time ($t_{ON} < 175\text{ns}$) compared to the DG211 or DG212. Charge injection has been reduced, simplifying sample and hold applications.

The improvements in the DG411 series are made possible by using a high voltage silicon-gate process. An epitaxial layer prevents the latch-up associated with older CMOS technologies. The 44V maximum voltage range permits controlling 40VP-P signals. Power supplies may be single-ended from +5V to +34V, or split from $\pm 5\text{V}$ to $\pm 20\text{V}$.

The four switches are bilateral, equally matched for AC or bidirectional signals. The ON resistance variation with analog signals is quite low over a $\pm 15\text{V}$ analog input range. The switches in the DG411 and DG412 are identical, differing only in the polarity of the selection logic. Two of the switches in the DG413 (#1 and #4) use the logic of the DG211 and DG411 (i.e., a logic "0" turns the switch ON) and the other two switches use DG212 and DG412 positive logic. This permits independent control of turn-on and turn-off times for SPDT configurations, permitting "break-before-make" or "make-before-break" operation with a minimum of external logic.

Key Features

- ON Resistance (Max) 35Ω
- Low Power Consumption (P_D) $<35iW$
- Fast Switching Action
 - t_{ON} (Max) 175ns
 - t_{OFF} (Max) 145ns
- Low Charge Injection
- Upgrade from DG211/DG212
- TTL, CMOS Compatible
- Single or Split Supply Operation
- Pb-Free Plus Anneal Available (RoHS Compliant)

Related Documentation

AN Application Note(s):

- [Analog Switch and Multiplexer Applications](#)
- [CMOS Analog Multiplexers and Switches; Specifications and Applications Considerations](#)
- [Recommended Test Procedures for Analog Switches](#)

DS Datasheet(s):

- [Monolithic Quad SPST, CMOS Analog Switches](#)

TH Technical Homepage:

- [Intersil Analog Switches, Analog Multiplexers, and Crosspoint Switches](#)

PT Parametric Data

Switch or MUX	Switch
Configuration	Quad NC
Type of Switch	SPST
$r_{DS(ON)}$ (Ω)	25
$T_{(ON)}$ (ns)	110
$T_{(OFF)}$ (ns)	100
CHG INJ (pC)	5
Leakage (nA)	.1
SRC Cap (pF)	9
DRN Cap (ON) (pF)	35
I_{CC} (A)	0.1n
V_{CC} Range ($\pm V$)	+5 to +34, ± 5 to ± 20

Applications

- Audio Switching
- Battery Operated Systems
- Data Acquisition
- Hi-Rel Systems
- Sample and Hold Circuits
- Communication Systems
- Automatic Test Equipment

RD Related Devices

PT [Parametric Table](#)

<u>DG412</u>	Monolithic Quad SPST, CMOS Analog Switches
<u>DG413</u>	Monolithic Quad SPST, CMOS Analog Switches
<u>DG441</u>	Monolithic, Quad SPST, CMOS Analog Switches
<u>DG442</u>	Monolithic, Quad SPST, CMOS Analog Switches
<u>DG444</u>	Monolithic, Quad SPST, CMOS Analog Switches
<u>DG445</u>	Monolithic, Quad SPST, CMOS Analog Switches
<u>HI-201</u>	Dual/Quad SPST, CMOS Analog Switches
<u>HI-201HS</u>	High Speed, Quad SPST, CMOS Analog Switch