19-4728; Rev. 0; 12/91

MAXIM

Quad SPST Precision Analog Switches

General Description

The DG411/DG412/DG413 are quad, single-pole-single-throw (SPST) precision analog switches. The DG411 is normally closed (SPST, NC), while the DG412 is normally open (SPST, NO). The DG413 has two normally open and two normally closed switches. All three parts offer low on resistance (less than 35Ω), low leakage (less than 250pA), and fast switching times – turn-on time less than 175ns and turn-off time less than 145ns.

The DG411/DG412/DG413 are fabricated with Maxim's new improved silicon gate process. And a 44V maximum breakdown voltage allows rail-to-rail switch-off blocking capability.

These devices can be used with a single positive supply (+12V to +30V) or split supplies (±4.5V to ±20V) while retaining CMOS logic input compatibility and fast switching. CMOS inputs provide reduced input loading and very low leakage currents.

Applications

Sample-and-Hold Circuits

Guidance and Control Systems

Winchester Disk Drives

Heads-Up Displays

Test Equipment

Military Radios

Communications Systems

Battery-Operated Systems

PBX, PABX

Features

- ◆ $r_{DS(ON)}$ < 35Ω
- ◆ Leakage < 250pA
- ◆ Single- or Bipolar-Supply Operation
- ◆ TTL/CMOS Logic Compatible
- ◆ Rail-to-Rail Switch-Off Blocking Capability
- ◆ Monolithic, Low-Power Design

Ordering Information

PART	TEMP. RANGE	PIN-PACKAGE
DG411C/D	0°C to +70°C	Dice*
DG411DJ	-40°C to +85°C	16 Plastic DIP
DG411DY	-40°C to +85°C	16 Narrow SO
DG411DK	-40°C to +85°C	16 CERDIP
DG411AK	-55°C to +125°C	16 CERDIP**
DG412C/D	0°C to +70°C	Dice*
DG412DJ	-40°C to +85°C	16 Plastic DIP
DG412DY	-40°C to +85°C	16 Narrow SO
DG412DK	-40°C to +85°C	16 CERDIP
DG412AK	-55°C to +125°C	16 CERDIP**
DG413C/D	0°C to +70°C	Dice*
DG413DJ	-40°C to +85°C	16 Plastic DIP
DG413DY	-40°C to +85°C	16 Narrow SO
DG413DK	-40°C to +85°C	16 CERDIP
DG413AK	-55°C to +125°C	16 CERDIP**

* *Contact factory for dice specifications.*
** *Contact factory for availability and processing to MIL-STD-883.*

Pin Configurations/Functional Diagrams