

Switch ICs

0.6Ω 2.0-channel SPDT Analog Switches With Negative Swing Capability



AS3718

● General Description

The AS3718 is a bidirectional, 2-channel single pole double-throw (SPDT) analog switch designed to operate from 1.8V to 5.5V. The device features negative signal swing capability that allows signals below ground to pass through the switch without distortion. Targeted application include battery powered equipment that benefit from the low on-resistance and fast switching speeds. Low ON-state resistance, excellent channel-to-channel ON-state resistance matching, and minimal total harmonic distortion (THD) performance are ideal for audio applications. The break-before-make feature prevents signal distortion during the transferring of a signal from one path to another.

The AS3718 is a committed dual single-pole / double-throw (SPDT) that consist of two normally open (NO) and two normally close (NC) switches. This configuration can be used as a dual 2-to-1 multiplexer. The device can pass -2V ground referenced signal with very low distortion. The select input is TTL-level compatible.

The AS3718 features very low quiescent current even when the control voltage is lower than the VCC supply. The feature suits portable/handset application by allowing direct interface with baseband processor general purpose I/Os with minimum battery consumption.

The AS3718 is offered in Green QFN1418-10L package and is specified over an ambient temperature range of -40°C to 85°C.

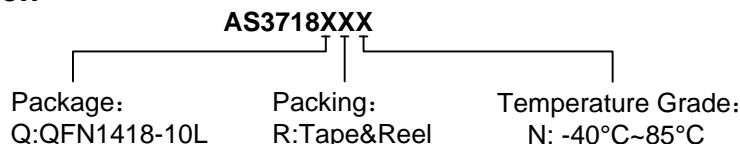
● Features

- Specified Break-Before-Make Switching
- Negative Signaling Capability: Maximum Swing from -2.75V to 2.75V (V_{CC}=2.75V)
- Low On- Resistance (0.6Ω Typical) at 3.6V
- Low Charge Injection
- Excellent On-State Resistance Matching
- Wide V_{CC} Range: 1.8V to 5.5V
- -2V Low Distortion Negative Signal Passing
- Fast Switching Times
- Rail to Rail Input and Output Operation
- 1.8V Logic Compatible Control Pin
- Break-Before-Make Switching
- High Off-Isolation: -70dB at 100KHz
- Low Crosstalk: -70dB at 100KHz
- -3db Bandwidth: 75MHz
- THD for 2V_{P-P} at 32Ω: 0.034%(V_{CC}=3.6V)
- RoHS and Green Compliant
- QFN1418-10L Packages
- -40°C to +85 °C Temperature Range

● Applications

- Cell Phones
- PDAs, Digital Camera, Notebook
- Portable Instrumentation/Media Players
- Battery Operated Equipment
- LCD Monitor, TV, and Set-Top Box
- Audio Routing
- Medical Imaging
- Audio and Video Signal Routing
- Smart Speaker, Sound Box

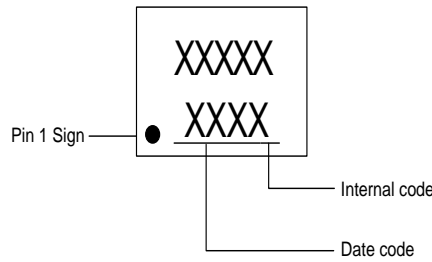
● Ordering Information



Part Number	Bandwidth	Package Type	Package Qty	Temperature	Eco Plan	Lead
AS3718QRN	75MHz	QFN1418-10L	7-in reel 4000pcs/reel	-40~85°C	Green	Cu

● **Marking Information**

QFN1418-10L:



● **Typical Application Circuit**

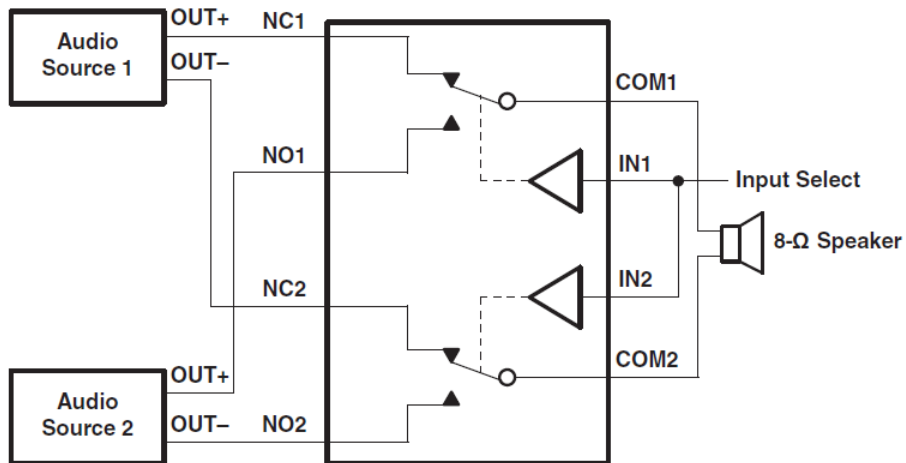


Figure 1, Typical Application Circuit of AS3718

● **Pin Definitions**

QFN1418-10L

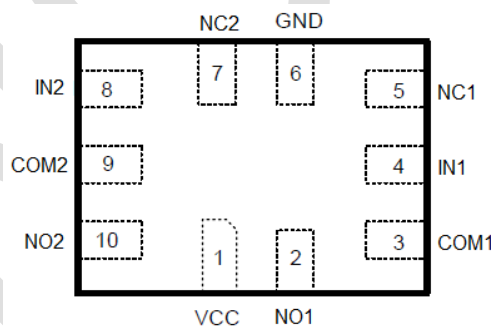
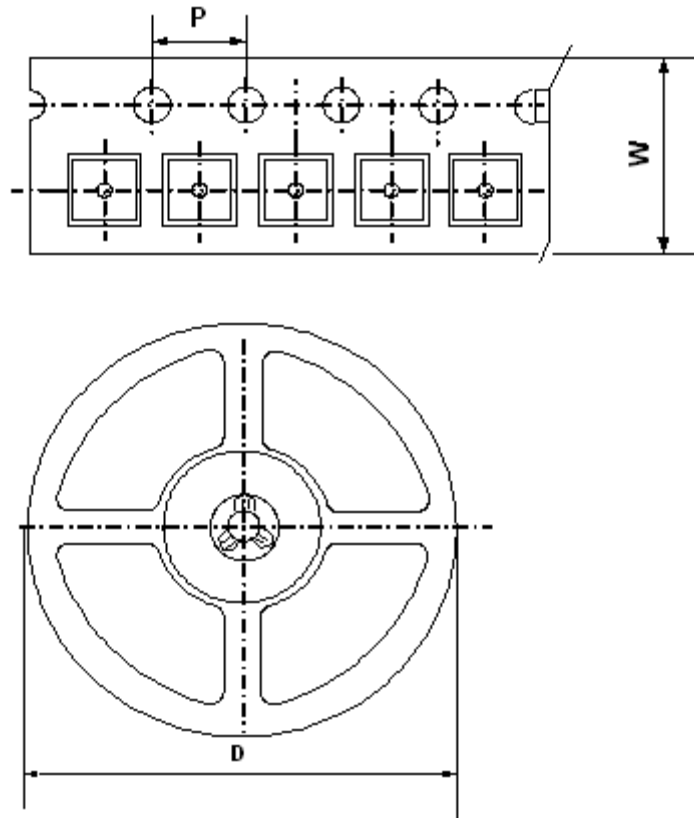


Figure 2, Top View Pin Assignments of AS3718

Pin Name	Pin No.	I/O	Pin Function
	QFN1418-10L		
VCC	1	P	Power Supply
NO1	2	I/O	Normally Open (NO) signal path, Switch 1
COM1	3	I/O	Common signal path, Switch 1
IN1	4	I	Digital Control Pin, Switch 1
NC1	5	I/O	Normally Closed (NC) signal path, Switch 1
GND	6	P	Ground
NC2	7	I/O	Normally Closed (NC) signal path, Switch 2
IN2	8	I	Digital Control Pin, Switch 2
COM2	9	I/O	Common signal path, Switch 2
NO2	10	I/O	Normally Open (NO) signal path, Switch 2

■ Packing Information



Package Type	Carrier Width(W)	Pitch(P)	Reel Size(D)	Packing Minimum
QFN1418-10L	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	4000pcs

Note: Carrier Tape Dimension, Reel Size and Packing Minimum