

Capacitive Touch Screen 14-Pin SOIC T/R

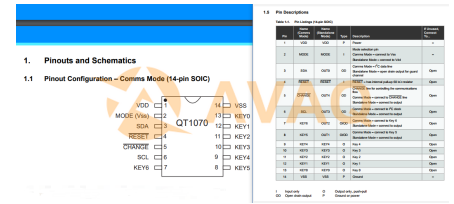
Manufacturer: [Microchip Technology, Inc](#)

Package/Case: SOP14

Product Type: Drivers

RoHS: RoHS Compliant/Lead free 

Lifecycle: Active



Images are for reference only

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General Description

The AT42QT1070 (QT1070) is a digital burst mode charge-transfer capacitive sensor driver. The device can sense from one to seven keys, dependent on mode.

The QT1070 has the optimized architecture where no external components are required and only 1-pin per channel. It includes all signal processing functions necessary to provide stable sensing under a wide variety of changing conditions, and the outputs are fully debounced.

The QT1070 modulates its bursts in a spread-spectrum fashion in order to heavily suppress the effects of external noise, and to suppress RF emissions. The QT1070 use a dual-pulse method of acquisition. This provides greater noise immunity and eliminates the need for external sampling capacitors, allowing touch sensing using a single pin.

Key Features

Comms and Standalone Mode Configurations

1 to 7 Keys (or 1 to 6 Keys Plus a Guard Channel)
Comms Mode

1 to 4 Keys Plus a Fixed Guard Channel on Key 0
Standalone Mode

5-output Standalone Mode

Patented Spread-spectrum Charge-transfer
Technology

6 x 6mm or Larger (Panel Thickness Dependent),
Widely Different Sizes and Shapes Possible

1 PCB Layer Required

Etched Copper, Silver, Carbon and Indium Tin
Oxide (ITO) Electrode Materials

Plastic, Glass, Composites and Painted surfaces
possible Panel Materials

Up to 10mm Glass, up to 5mm Plastic (Electrode
Size Dependent) Panel Thickness

Individually settable via simple commands over
I²C-compatible interface Comms mode

I²C-compatible Slave Mode (400kHz), Discrete
Detection Outputs Interface

Self-calibration, Auto Drift Compensation, Noise
Filtering, Adjacent Key Suppression® (AKS®)

Application

Building Automation, Security, Consumer Electronics, Imaging, Video & Vision, Industrial,
Communications & Networking, Lighting, Metering, Portable Devices, Computers & Computer
Peripherals

1. Pinouts and Schematics

1.1 Pinout Configuration – Comms Mode (14-pin SOIC)

1.5 Pin Descriptions

Table 1-1. Pin Listings (14-pin SOIC)

Pin	Pin Name	Pin Name (Alternative)	Type	Description	I/O Control
1	VDD	VDD	P	Power	–
2	MODE	MODE	I	Mode selector pin Comms Mode – connect to Vss Standalone Mode – connect to VDD	–
3	SDA	OUT0	OD	Comms Mode – I ² C data line Standalone Mode – open drain output for guard channel	Open
4	RESET	RESET	I	RESET – has internal pulldown (40k) resistor	Open
5	CHANGE	OUT4	OD	CHANGE – use for controlling the communications line Comms Mode – connect to CHANGE line Standalone Mode – connect to output	Open
6	SCL	OUT5	OD	Comms Mode – connect to I ² C clock Standalone Mode – connect to output	Open
7	KEY7	OUT2	OD	Comms Mode – connect to Key 6 Standalone Mode – connect to output	Open
8	KEY0	OUT0	OD	Comms Mode – connect to Key 0 Standalone Mode – connect to output	Open
9	KEY4	KEY4	O	Key 4	Open
10	KEY3	KEY3	O	Key 3	Open
11	KEY2	KEY2	O	Key 2	Open
12	KEY1	KEY1	O	Key 1	Open
13	KEY0	KEY0	O	Key 0	Open
14	VSS	VSS	P	Ground	–

I Input only
OD Open drain output
O Output only, push-pull
P Ground or power

Recommended For You

AT42QT160-MMU

Microchip Technology, Inc

QFN28

AT42QT120-MMH

Microchip Technology, Inc

QVFN20

AT42QT1011-MAH

Microchip Technology, Inc

UDFN-8

AT42QT1110-MU

Microchip Technology, Inc
QFN

AT42QT12120-XU

Microchip Technology, Inc
20LTSSOP

AT42QT1110-AU

Microchip Technology, Inc
QFP

AT42QT1060-MMU

Microchip Technology, Inc
QFN-28

AT42QT12161-MMU

Microchip Technology, Inc
QFN

AT42QT1110-MUR

Microchip Technology, Inc
QFN32

QT60240-ATG

Microchip Technology, Inc
QFP

AT42QT1244-MUR

Microchip Technology, Inc
VQFN

AT42QT1481-AN

Microchip Technology, Inc
TQFP-44

AT42QT1481-ANR

Microchip Technology, Inc
TQFP

AT42QT1085-AU

Microchip Technology, Inc
TQFP7x7

AT42QT1085-MU

Microchip Technology, Inc
VQFN5x5