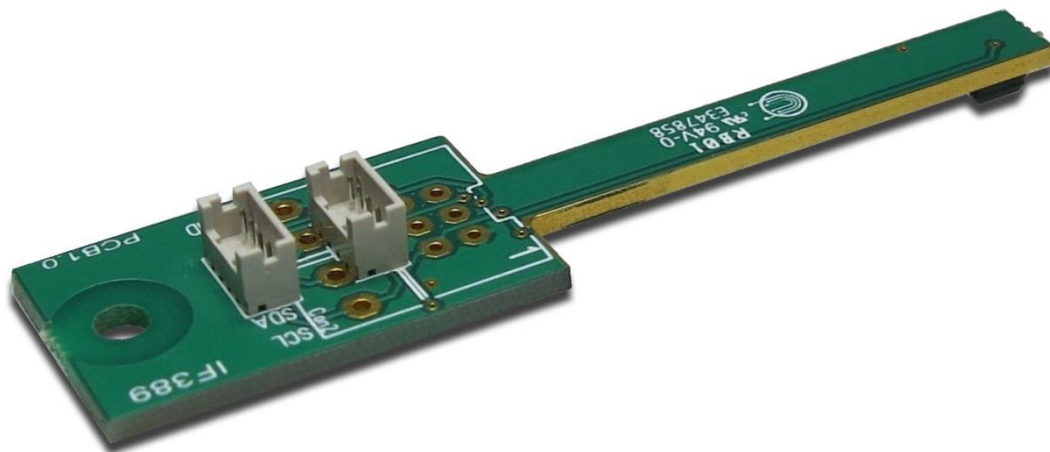


# Datasheet

## Temperature Sensor

### IF389

ZU-02-389



Version 1.3

**25.01.2018**

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## 1 Revision History

Date	Rev.No.	Description	Page
15.03.2012	1.0	Initial version	All
17.05.2017	1.1	Datasheet completely revised	All
24.05.2017	1.2	Updated picture on cover page	1
25.01.2018	1.3	Corrected $V_{IN}$ pin description; added daisy chain cable	5



## 2 General Description

The IF389 is an I<sup>2</sup>C high resolution temperature sensor. It utilizes the Maxim DS1631Z digital thermometer in a 150mil 8-Pin SO package and is configured and read via I<sup>2</sup>C protocol.

IF389 is intended for integration into monitors and other hardware, where the measurement of the operating temperature is crucial to avoid damage to the device.

IF389 can be connected to almost any Data Display TFT controller board (Prisma and Artista). For direct connection to our boards cable KA-30-323 is available from Data Display.

## 3 Electrical Specification

Item	Symbol	Condition	Min	Max	Unit
Supply Voltage	V <sub>IN</sub>	Within operating temp. range	3.0	5.5	V
Active Supply Current	I <sub>IN</sub>	Within operating temp. range	--	1	mA
Standby Supply Current	I <sub>STBY</sub>	0°C to +70°C	--	800	nA
Temperature Error	T <sub>ERR</sub>	0°C to +70°C -35°C to +85°C	-- --	±0.5 ±2	°C °C

Item	Bin	Hex	Note
7-bit I2C Bus Address	1001111	0x4F	Can be changed upon customer request

## 4 Environmental Specification

Item	Symbol	Min	Max	Unit	Note
Operating Temperature	T <sub>OP</sub>	-35	+85	°C	Limited by CON4 & CON5
Storage Temperature	T <sub>STR</sub>	-35	+85	°C	

## 5 Absolute Maximum Ratings

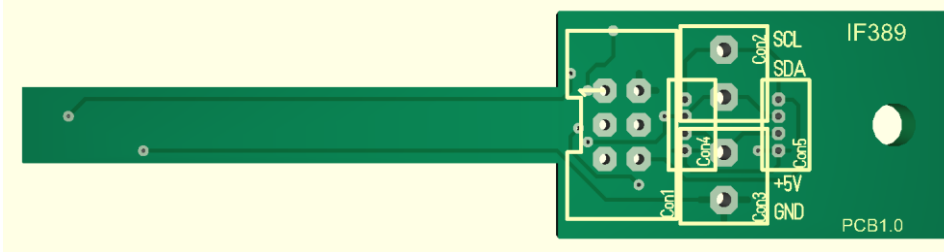
Permanent damage to the device may occur if maximum values are exceeded.

Item	Symbol	Min	Max	Unit	Note
Voltage on any Pin to Ground	V <sub>MAX</sub>	-0.5	+6.0	V	



## 6 Connectors

Connector Positions (Top View):



### 6.1 CON1 – Box Header Connector (Option)

Not mounted, assembled only upon customer request.

Pin	Signal	Description
1	GND	Ground
2	V <sub>IN</sub>	Supply Voltage
3	NC	Not connected
4	NC	Not connected
5	SDA	I <sup>2</sup> C data signal
6	SCL	I <sup>2</sup> C clock signal

### 6.2 CON2 – Screw Terminal (Option)

Not mounted, assembled only upon customer request.

Pin	Signal	Description
1	SCL	I <sup>2</sup> C clock signal
2	SDA	I <sup>2</sup> C data signal

### 6.3 CON3 – Screw Terminal (Option)

Not mounted, assembled only upon customer request.

Pin	Signal	Description
1	V <sub>IN</sub>	Supply Voltage
2	GND	Ground

### 6.4 CON4 & CON5 – Hirose Connector DF13-4P-1.25DSA

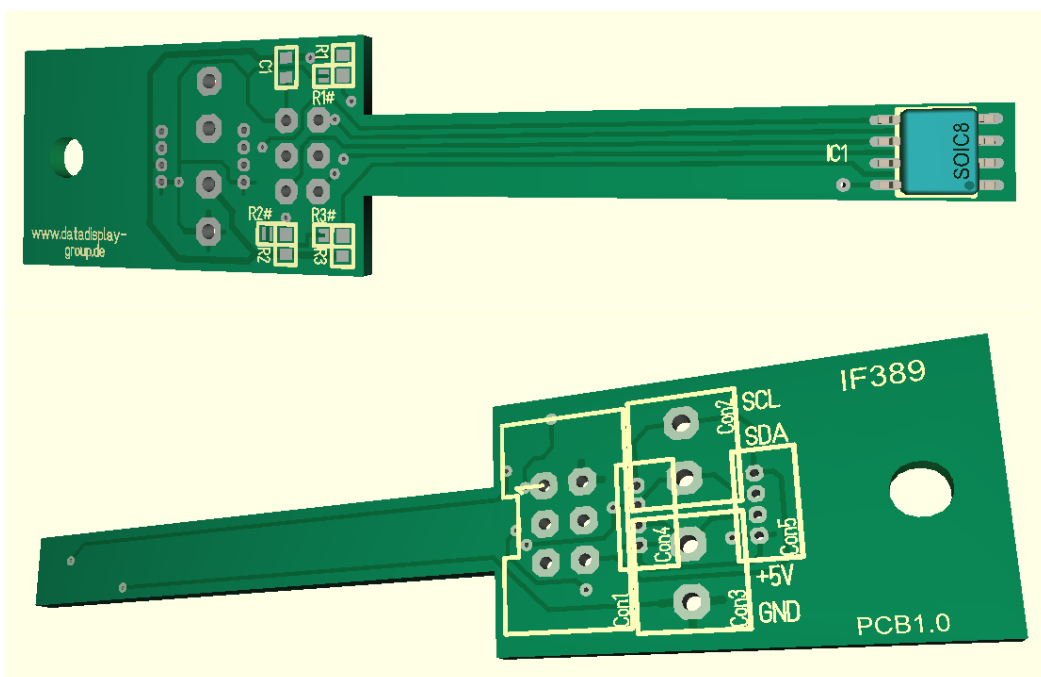
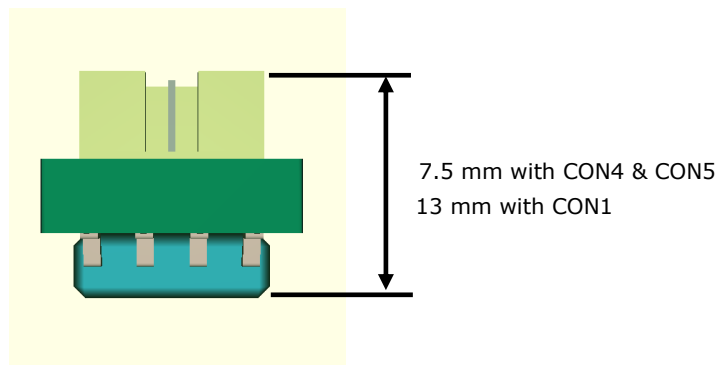
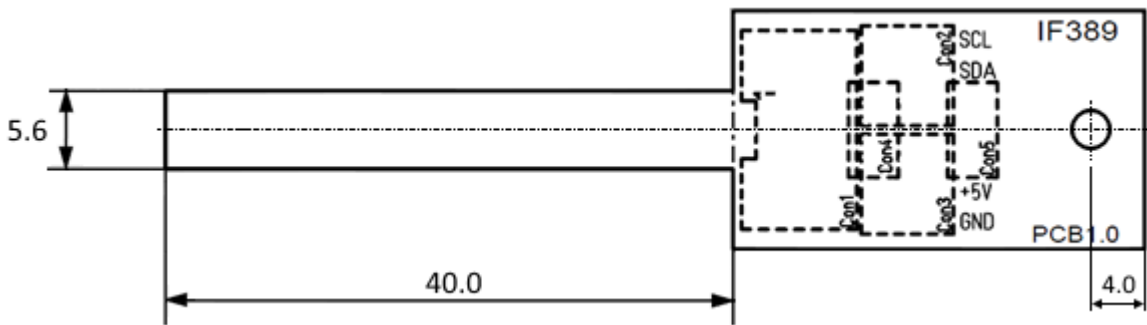
Cable **KA-30-323** (length 50cm) from Data Display can be used to directly connect the sensor to a Prisma or Artista board. CON4 and CON5 are mounted in parallel. The second connector can be used to daisy chain to further I2C sensors: For example cable **KA-30-959** (80cm) is available to daisy chain to Data Display's Ambient Light Sensor **ZU-02-412**.

Pin	Signal	Description
1	SCL	I <sup>2</sup> C clock signal
2	SDA	I <sup>2</sup> C data signal
3	V <sub>IN</sub>	Supply Voltage
4	GND	Ground



## 7 Mechanical Dimensions

Item		Remarks
Length [mm]	69.0	
Width [mm]	16.8	
Height [mm]	7.5 13	with CON4 & CON5 assembled with CON1 assembled
Mounting Hole Diameter [mm]	3.2	



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