
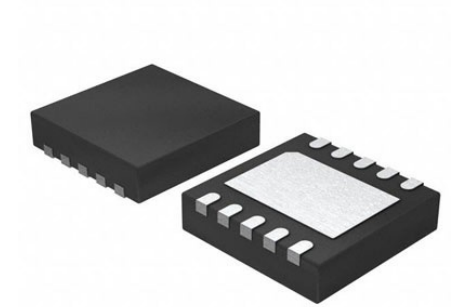


Temp Sensor Analog 8-Pin WSON EP T/R

Manufacturer:	Texas Instruments, Inc
Package/Case:	WSON-8
Product Type:	Sensors, Transducers
RoHS:	RoHS Compliant/Lead free 
Lifecycle:	Active



Images are for reference only

[Inquiry](#)

General Description

The LM57 device is a precision, dual-output, temperature switch with analog temperature sensor output for wide temperature industrial applications. The trip temperature (T_{TRIP}) is selected from 256 possible values in the range of -40°C to $+150^{\circ}\text{C}$. The V_{TEMP} is a class AB analog voltage output that is proportional to temperature with a programmable negative temperature coefficient (NTC). Two external 1% resistors set the T_{TRIP} and V_{TEMP} slope. The digital and analog outputs enable protection and monitoring of system thermal events.

Built-in thermal hysteresis (T_{HYST}) prevents the digital outputs from oscillating. The T_{OVER} and $\overline{T_{OVER}}$ digital outputs will assert when the die temperature exceeds T_{TRIP} and will de-assert when the temperature falls below a temperature equal to T_{TRIP} minus T_{HYST} .

T_{OVER} is active-high with a push-pull structure. $\overline{T_{OVER}}$ is active-low with an open-drain structure. Tying T_{OVER} to TRIP-TEST will latch the output after it trips. The output can be cleared by forcing TRIP-TEST low. Driving the TRIP-TEST high will assert the digital outputs. A processor can check the state of T_{OVER} or $\overline{T_{OVER}}$, confirming they changed to an active state. This allows for in-situ verification that the comparator and output circuitry are functional after system assembly. When TRIP-TEST is high, the trip-level reference voltage appears at the V_{TEMP} pin. The system could then use this voltage to calculate the threshold of the LM57.

Key Features

See LM57-Q1 datasheet for AEC-Q100 Grade 1/Grade 0/Grade 0 Extended (Qualified and Manufactured on an Automotive Grade Flow)

Trip Temperature Set by External Resistors with Accuracy of $\pm 1.7^{\circ}\text{C}$ or $\pm 2.3^{\circ}\text{C}$ from -40°C to $+150^{\circ}\text{C}$

Resistor Tolerance Contributes Zero Error

Push-Pull and Open-Drain Switch Outputs

Wide Operating Temperature and Trip-Temperature Range of 50°C to 150°C ,

Very Linear Analog V_{TEMP} Temp Sensor Output with $\pm 0.8^{\circ}\text{C}$ or $\pm 1.3^{\circ}\text{C}$ Accuracy from -40°C to $+150^{\circ}\text{C}$

Short-Circuit Protected Analog and Digital Outputs

Latching Function for Digital Outputs

TRIP-TEST Pin Allows In-System Testing

Low Power Minimizes Self-Heating to Under 0.02°C

Recommended For You

LM186QDCKRQ1

Texas Instruments, Inc
SC70-5

LM50CIM3

Texas Instruments, Inc
SOT23

LM50BIM3/NOPB

Texas Instruments, Inc
SOT23

LM74CIM-3

Texas Instruments, Inc
SOP-8

LM94021BIMG/NOPB

Texas Instruments, Inc
SC70-5

LM187QDCKRQ1

Texas Instruments, Inc
SC70-5

LM77CIM-3/NOPB

Texas Instruments, Inc
SOP8

LM74CIMX-3/NOPB

Texas Instruments, Inc
SOP8

LM57CISD-5/NOPB

Texas Instruments, Inc
WSO-8

LM101LPG

Texas Instruments, Inc
TO-92

LM101DQXT

Texas Instruments, Inc
WSO-2

LM101LPGM

Texas Instruments, Inc
TO-92-2

LM101DQXR

Texas Instruments, Inc
WSO-2

LM186QDCKTQ1

Texas Instruments, Inc
SC70-5

LM71CIMF

Texas Instruments, Inc
SOT23-5