

Specification of Thermoelectric Module

TEC5-127-71-31-17-08-04

Description

The TEC5-127-71-31-17-08-04 is a multistage module designed for greater temperature differential cooling, good for cooling and heating up to 100 °C applications. It 127-71-31-17-08 couples module in size of 10mm×10mm (top)/40mm ×40mm (bottom). If higher operation or processing temperature is required, please specify, we can design and manufacture according to your special requirements.

Features

- High Temperature Differential
- No moving parts, no noise, and solid-state
- Compact structure, small in size, light in weight
- Environmental friendly
- RoHS compliant
- Precise temperature control
- Exceptionally reliable in quality, high performance

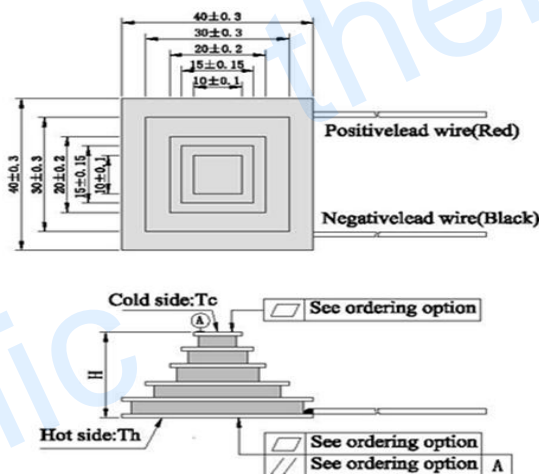
Application

- Infrared (IR) Sensors
- CCD Sensor
- Gas Analyzers
- Calibration Equipment
- CPU cooler and scientific instrument
- Photonic and medical systems
- Guidance Systems

Performance Specification Sheet

Th (°C)	27	50	Hot side temperature at environment: dry air, N ₂
DT _{max} (°C)	135	151	Temperature Difference between cold and hot side of the module when cooling capacity is zero at cold side
U _{max} (Voltage)	14.6	16.4	Voltage applied to the module at DT _{max}
I _{max} (Amps)	4.4	4.4	DC current through the modules at DT _{max}
Q _{Cmax} (Watts)	5.51	6.00	Cooling capacity at cold side of the module under DT=0 °C
AC resistance (Ohms)	3.25	3.55	The module resistance is tested under AC
Tolerance (%)	± 10		For thermal and electricity parameters

Geometric Characteristics Dimensions in millimeters



Manufacturing Options

A. Solder:

1. T100: BiSn (T_{melt}=138°C)
2. T200: CuSn (T_{melt} = 227 °C)

B. Sealant:

1. NS: No sealing (Standard)
2. SS: Silicone sealant
3. EPS: Epoxy sealant
4. Customer specify sealing

C. Ceramics:

1. Alumina (Al₂O₃, white 96%)
2. Aluminum Nitride (AlN)

D. Ceramics Surface Options:

1. Blank ceramics (not metallized)
2. Metallized (Au plating)

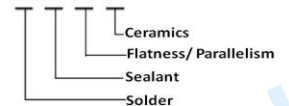
Ordering Option

Suffix	Thickness (mm)	Flatness/ Parallelism (mm)	Lead wire length(mm) Standard/Optional length
TF	0: 13.4±0.3	0: 0.1/0.1	125±1/Specify
TF	1: 13.4±0.15	1:0.05/0.05	125±1/Specify

Eg. TF01: Thickness 13.4±0.3 (mm) and Flatness/ Parallelism : 0.05/0.05(mm)

Naming for the Module

TEC5-127-71-31-17-08-04-X-X-X-X



TEC5-127-71-31-17-08-04-T100-NS-TF01-AIO

T100: BiSn (T_{melt}=138°C)

NS: No sealing

AIO: Alumina (Al₂O₃, white 96%)

TF01: Thickness ±0.3 (mm) and Flatness/ Parallelism : 0.05/0.05(mm)

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