

Specification of Thermoelectric Module

TES1-07139

Description

The 71 couples, 23 mm × 23 mm size single module which is made of our high performance ingot to achieve superior cooling performance and 70°C or larger delta T max, is designed for superior cooling and heating applications. Beyond the standard below, we can design and manufacture the custom made module according to your special requirements.

Features

- 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

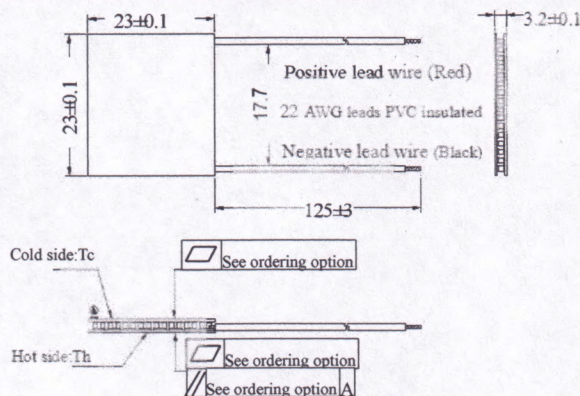
Application

- Food and beverage service refrigerator
- Portable cooler box for cars
- Liquid cooling
- Temperature stabilizer
- CPU cooler and scientific instrument
- Photonic and medical systems

Performance Specification Sheet

Th(°C)	27	50	Hot side temperature at environment: dry air, N2
DTmax(°C)	68	76	Temperature Difference between cold and hot side of the module when cooling capacity is zero at cold side
Umax(Voltage)	8.67	9.71	Voltage applied to the module at DTmax
Imax(amps)	4.7	4.7	DC current through the modules at DTmax
QCmax(Watts)	25.9	28.4	Cooling capacity at cold side of the module under DT=0 °C
AC resistance(ohms)	1.58~1.76	1.74~1.95	The module resistance is tested under AC

Geometric Characteristics Dimensions in millimeters



Flatness/ Parallelism Option

Suffix	Thickness / H (mm)	Flatness/ Parallelism (mm)	Lead wire length(mm) Standard/Optional length
TF	0:3.2±0.1	0:0.05/0.05	125±3/Specify
TF	1:3.2±0.05	1:0.025/0.025	125±3/Specify
TF	2:3.2±0.03	2:0.015/0.015	125±3/Specify

Eg. TF01: Thickness 3.2±0.1(mm) and Flatness 0.025/0.025(mm)

Manufacturing Options

A. Solder:

1. T100: BiSn (Melting Point=138°C)
2. T200: CuSn (Melting Point= 227 °C)

B. Sealant:

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

C. Ceramics:

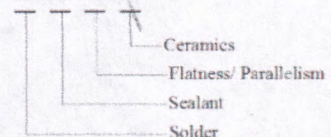
1. Alumina (Al₂O₃, white 96%)(AIO)
2. Aluminum Nitride (AlN)

D. Ceramics Surface Options:

1. Blank ceramics (not metalized)
2. Metalized (Copper-Nickel plating)

Naming for the Module

TES1- 07139 - X - X - X - X



TEC1-07139- T200 -NS - TF02 - AIO

T200: Solder, Copper Tin (Melting Point=227 °C)

NS: No sealing

AIO: Alumina white 96%

TF02: Thickness ±0.1(mm) and Flatness/Parallelism 0.015/0.015(mm)