

# Specification of Thermoelectric Module

## TEC1-12714S

### Description

The 127 couples, 62mmx62mm size module is a single stage module which is designed for cooling and heating up to 100°C applications. If higher operation or processing temperature is required, please specify, 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

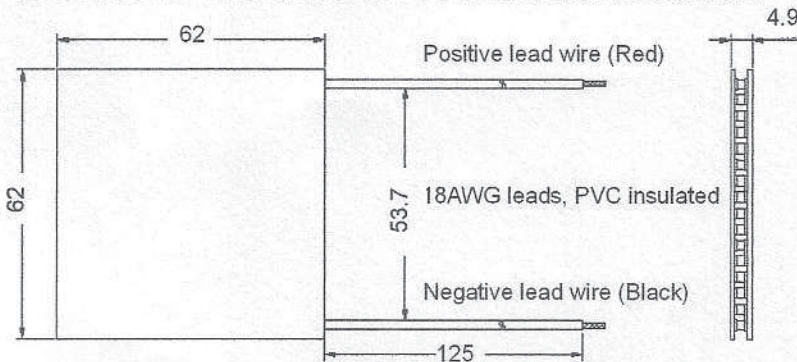
### Application

- 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

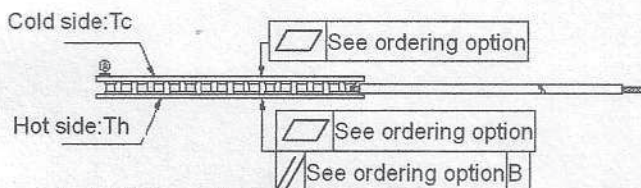
Th(°C)	27	50	Hot side temperature at environment: dry air, N <sub>2</sub>
DT <sub>max</sub> (°C)	68	76	Temperature Difference between cold and hot side of the module when cooling capacity is zero at cold side
U <sub>max</sub> (Voltage)	14.8	16.6	Voltage applied to the module at DT <sub>max</sub>
I <sub>max</sub> (amps)	14.0	14.0	DC current through the modules at DT <sub>max</sub>
Q <sub>Cmax</sub> (Watts)	140.0	153.5	Cooling capacity at cold side of the module under DT=0°C
AC resistance(ohms)	0.92	1.03	The module resistance is tested under AC

### Geometric Characteristics Dimensions in millimeters



### Sealing Option

Suffix	Sealant
NS	No sealing
SS	Silicone sealant
EPS	Epoxy
OS	Customer specify sealing other than above



### Additional

Ceramic material: Alumina (Al<sub>2</sub>O<sub>3</sub>, white 96%)  
Solder tinning: Bismuth Tin (BiSn) M.P. 138°C

### Ordering Option

Suffix	Thickness (mm)	Flatness/Parallelism (mm)	Lead wire length(mm) Standard/Optional length
TF	0:4.9±0.1	0: 0.05/0.05	125±1/Specify
TF	1:4.9±0.05	1: 0.04/0.04	125±1/Specify
TF	2:4.9±0.03	2: 0.03/0.03	125±1/Specify

Eg. TF01: Thickness 4.9±0.1(mm) and Flatness 0.04/0.04(mm)



# Specification of Thermoelectric Module

## TEC1-24116T200

### Description

The 241couples, 55mmx55mm size module is a single stage module which is designed for cooling and heating up to 180°C applications. If higher operation or processing temperature is required, please specify, 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

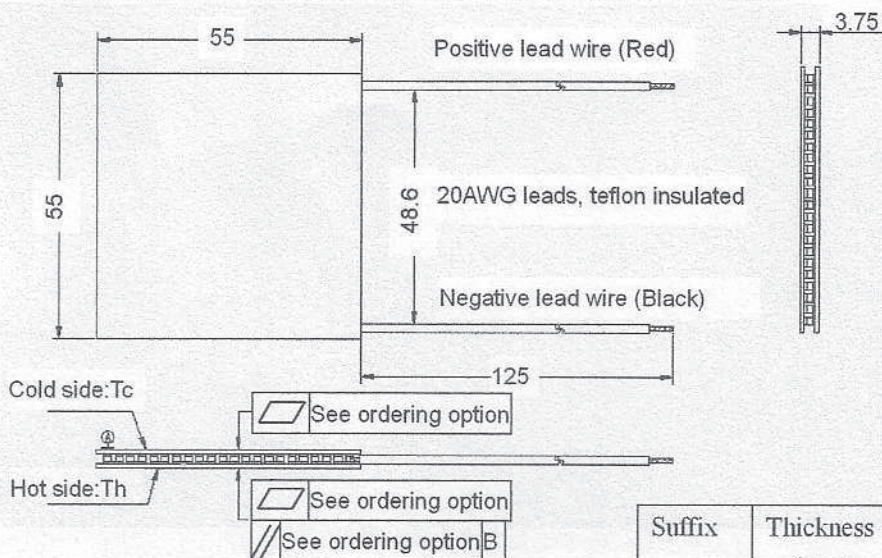
### Application

- 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, N <sub>2</sub>
DT <sub>max</sub> (°C)	68	76	Temperature Difference between cold and hot side of the module when cooling capacity is zero at cold side
U <sub>max</sub> (Voltage)	28.1	31.5	Voltage applied to the module at DT <sub>max</sub>
I <sub>max</sub> (amps)	12.0	12.0	DC current through the modules at DT <sub>max</sub>
Q <sub>Cmax</sub> (Watts)	224.0	245.6	Cooling capacity at cold side of the module under DT=0°C
AC resistance(ohms)	2.10	2.35	The module resistance is tested under AC

### Geometric Characteristics Dimensions in millimeters



### Sealing Option

Suffix	Sealant
NS	No sealing
SS	Silicone sealant
EPS	Epoxy
OS	Customer specify sealing other than above

### Ordering Option

Suffix	Thickness (mm)	Flatness/Parallelism (mm)	Lead wire length(mm) Standard/Optional length
TF	0:3.75±0.1	0: 0.04/0.04	125±1/Specify
TF	1:3.75±0.05	1: 0.03/0.03	125±1/Specify
TF	2:3.75±0.03	2: 0.02/0.02	125±1/Specify

Eg. TF01: Thickness 3.75±0.1(mm) and Flatness 0.03/0.03(mm)

### Additional

Ceramic material: Alumina (Al<sub>2</sub>O<sub>3</sub>, white 96%)  
Solder tinning: Copper Tin (CuSn) M.P. 227°C