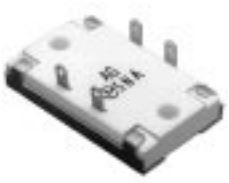
POSISTOR® for Heater

POSISOTR® for Constant Temperature Heating

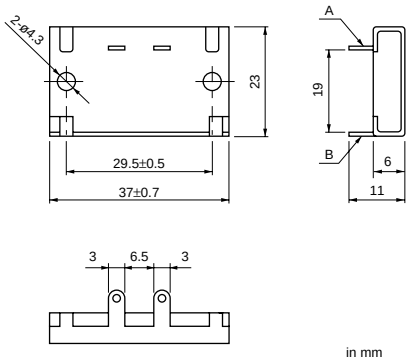
These "POSISTOR" are designed for various applications for constant temperature heating purpose.
Wide range of temperature characteristic shall make easier to select most suited heater device matching to the application.

■ Features

1. The heater element itself regulate designated temperature range.
   (Temperature can change depending on how to use it)
2. The temperature pulsation which is observed in case on-off temperature control system can be eliminated.
3. Out put wattage is decreased automatically when heat radiation is decreased.
   (Over heating is very small compared to constant wattage heater)
4. Compact and flat surface shall realize easy to install for various set.
   (PTWTA series has electrically insulated heating surface)
5. Depending on application, these PTC realize dual voltage use.
   (Out put wattage do not change much between 100V through 260V)

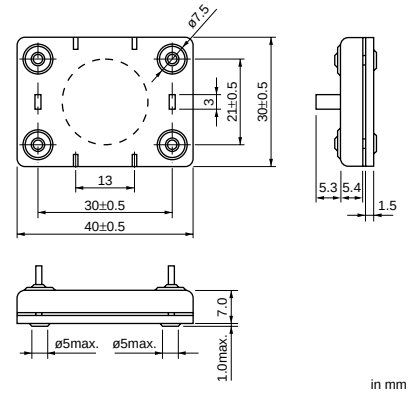


PTWSB Series



in mm

PTWTA Series



in mm

■ Applications

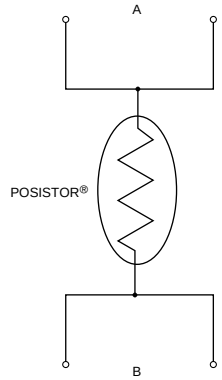
•Heated vessels (electronic jars, tea pots, etc.)
•Contact lens cleaner •Portable travel iron
•Massager •Fragrance
•Electric pot

Part Number	Curie Point (°C)	Rated Volt.	Max. Volt. (Vrms)	Inrush Current (A)	Steady State Current (at 120Vrms) (mA)	Steady State Current (at 220Vrms) (mA)	Surface Temp. (Nominal Value) (°C)
PTWSB1BC201T260A00	90 (BC)	120/220Vrms.	260	5.0 max.	28 ±20%	17 ±20%	105
PTWSB1AS201T260A00	135 (AS)	120/220Vrms.	260	5.0 max.	33 ±20%	21 ±20%	130
PTWSB2AH201T260A00	205 (AH)	120/220Vrms.	260	5.0 max.	58 ±20%	35 ±20%	185
PTWSB2AG201T260A00	225 (AG)	120/220Vrms.	260	5.0 max.	65 ±20%	39 ±20%	200
PTWTA1AD201T260A00	280 (AD)	120/220Vrms.	260	10.0 max.	-	75 ±30%	285

Inrush current based on 220Vrms.
Operating temperature range PTWSB1/PTWTA: 0 to +60(°C), PTWSB2: 0 to +85(°C)

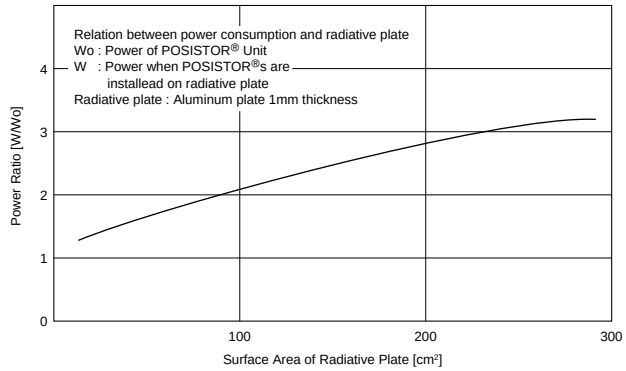
■ Terminal Connection

PTWSB Series

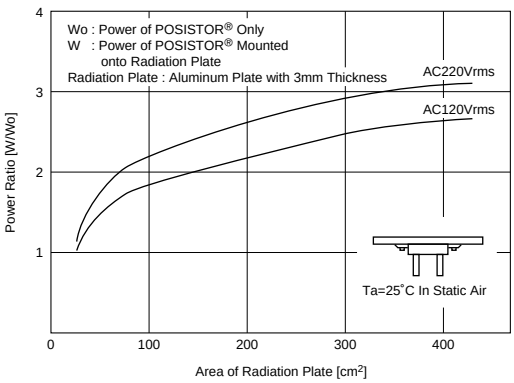


■ Power Consumption vs Radiative Plate

PTWSB Series

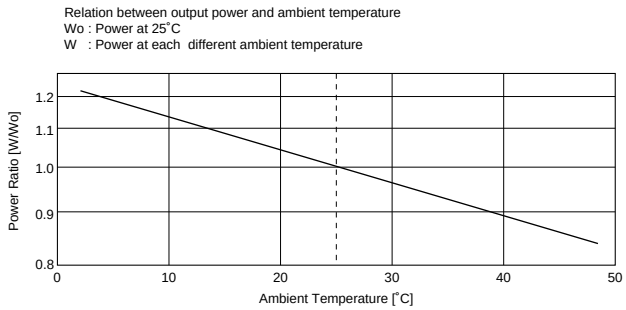


PTWTA Series



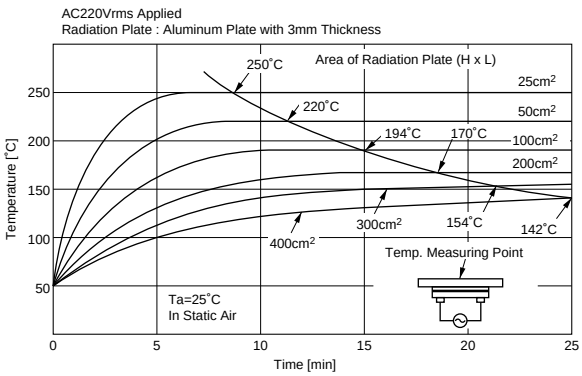
■ Output Power vs Ambient Temperature

PTWSB Series



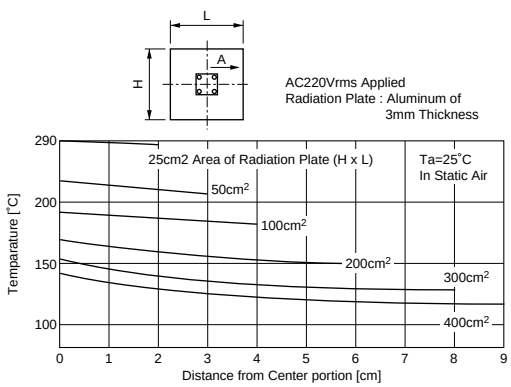
■ Radiation Plate vs Steady State Temperature

PTWTA Series



■ Area of Radiation Plate and Temp. Deviation

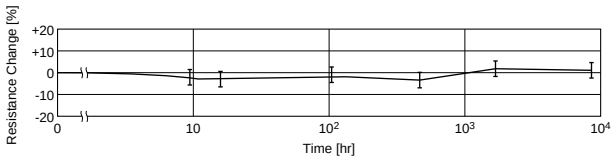
PTWTA Series



■ Continuous Load at High Temp.

PTWSB Series

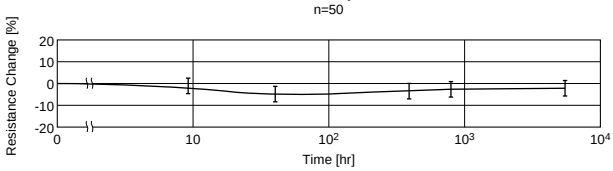
Measuring Condition : Temperature at 25˚C
Test Condition : Temperature at 85˚C 140Vrms AC applied continuously
n=50



■ Intermittent Load at High Humidity

PTWSB Series

Measuring Condition : Temperature at 25˚C
Test Condition : Temperature at 40˚C Humidity at 90-95% RH
Applied voltage 140Vrms AC for 30 minutes on 60 minutes off intermittently
n=50



Standard Type POSISTOR® ⚠ Caution/Notice

■ ⚠Caution(Soldering and Mounting)

1. Please do not fail to install the current fuse in series so that applied equipment is protected when "POSISTOR" get trouble by misuse or some other reason.
2. Please confirm safety of your products after installing "POSISTOR" by conducting suitable endurance test for the application.
3. Please provide proper insulation for PTWSB series because metallic plate is electrically hot too.

■ ⚠Caution(Storage and Operating Conditions)

This product is designed for the applications under ordinary environment (room temperature, normal humidity and atmospheric pressure).
Do not use under the following environments. Because all these factors can deteriorate the characteristics of product or can cause the failures and the burning-out.

1. Corrosive gas or deoxidizing gas.
   (Chlorine gas, Hydrogen sulfide gas, Ammonia gas, Sulfuric acid gas, Nitric oxide gas, etc.)
2. Volatile or flammable gas
3. Dusty place
4. Under vacuum, reducing pressure or under high-pressure
5. Place with splashed water or under high humidity with dewing
6. Place with salt water, oils, chemical liquids or organic solvents
7. Place strongly vibrated
8. Other place, where is similar like the above-mentioned environments

■ ⚠Caution(Others)

Be sure to provide an appropriate fail-safe function on your product to prevent a second damage that may be caused by the abnormal function or the failure of our product.

■ Notice(Storage and Operating Conditions)

PTWSB Series

Store the product under the following condition to prevent from change of characteristic or discoloration of terminal.

1. Storage condition
   Temperature:between -10 and +40(degree C)
   Humidity :less than 75% RH (not dewing condition)
2. Term
   Please use this product within 6 months after shipment by first-in first-out stocking system.
3. Handling after unpacking
   After unpacking of the minimum package, reseal it promptly or store it inside a sealed container with a drying agent.
4. Place
   Do not store this product in corrosive gas(SOx, Cl etc.) or under sun-light.

■ Notice(Storage and Operating Conditions)

PTWTA Series

Store the product under the following condition to prevent from change of characteristic or discoloration of terminal.

1. Storage condition
   Temperature:between 0 and +40(degree C)
   Humidity :less than 85% RH (not dewing condition)
2. Term
   Please use this product within 6 months after shipment by first-in first-out stocking system.
3. Handling after unpacking
   After unpacking of the minimum package, reseal it promptly or store it inside a sealed container with a drying agent.
4. Place
   Do not store this product in corrosive gas (SOx, Cl etc.) or under sun-light.

Standard Type POSISTOR® Notice

■ Notice(Soldering and Mounting)

PTWSB Series

1. Design aseembling position of "POSISTOR" with considering heatproof.
2. Make the heat resistance as small as possible, between the "POSISTOR" and the place it is connected. Do not use an insulating sheet which is poor in heat transmission. Install the "POSISTOR" in the flat surface to maximize the function. Application of heat resisting grease (e.g.siliconegrease), into interfaces of "POSISTOR" substrate - insulator - material to be heated, will permit effective heat transmission.
3. When more than one "POSISTOR" are used, be sure to connect them in parallel. If "POSISTOR" are connected in series, they don't operate normally.
4. When lead wires are connected to "POSISTOR", use rosin type flux which includes less than 0.2wt% of chlorine. Also pay attention to connecting method in order to prevent "POSISTOR" from invasion of flux, and to heatproof of connecting materials (ex:solder etc).
5. This product generates heat at operation, and direct touch to the surface can hart human finger or skin. Pay attention at the installation to prevent direct touch from outside.

■ Notice(Soldering and Mounting)

PTWTA Series

1. Heat resistance of the mounting part must be considered in designing.
2. Four mounting holes 1.0 to 1.5 mm in depth and 5 to 5.5 mm in diameter are required on the heated part contacting "POSISTOR".
3. Apply power with "POSISTOR" mounted into the part heated. If power is applied to "POSISTOR" alone, the alumina case may be broken.
4. When more than one "POSISTOR" are used, be sure to connect them in parallel. If "POSISTOR" are connected in series, they don't operate normally.
5. When lead wires are connected to "POSISTOR", spot welding method should be adopted. Recommendable material of lead wires is Nickel.
6. This product generates heat at operation, and direct touch to the surface can hart human finger or skin. Pay attention at the installation to prevent direct touch from outside.

■ Notice(Rating)

Do not apply voltage the maximum voltage.
Because their characteristics might be worse and PTC element may be destroyed.

● Part Numbering (The structure of the "Global Part Numbers" that have been adopted since June 2001 and the meaning of each code are described herein. If you have any questions about details, inquire at your usual Murata sales office or distributor.)

PTC Thermistors (POSISTOR®) for Heater

(Global Part Number)

PT	WSB1	AS	201	T	260	A00
❶	❷	❸	❹	❺	❻	❼

❶Product ID

Product ID	
PT	PTC Thermistors

❷Series

Code	Series
WSB1	Heater Standard Type B1 Series
WSB2	Heater Standard Type B2 Series
WTA1	High-temperature Heater A1 Series

❸Temperature Characteristics

Code	Temperature Characteristics
AD	Curie Point 280°C
AG	Curie Point 225°C
AH	Curie Point 205°C
AS	Curie Point 135°C
BC	Curie Point 90°C

❹Resistance

Expressed by three figures. The unit is ohm (Ω). The first and second figures are signficant digits, and the third figure expresses the number of zeros which follow the two figures. If there is a decimal point, it is expressed by the capital letter "**R**". In this case, all figures are significant digits.

Ex.)

Code	Resistance
201	200Ω

❺Resistance Tolerance

Code	Resistance Tolerance
Y	Special Tolerance

❻Maximum Voltage

Code	Maximum Voltage
260	260V

❼Individual Specifications

Code	Individual Specifications
A00	Structure, others

⚠Note:

1. Export Control
   〈For customers outside Japan〉
   No muRata products should be used or sold, through any channels, for use in the design, development, production, utilization, maintenance or operation of, or otherwise contribution to (1) any weapons (Weapons of Mass Destruction (nuclear, chemical or biological weapons or missiles) or conventional weapons) or (2) goods or systems specially designed or intended for military end-use or utilization by military end-users.
   〈For customers in Japan〉
   For products which are controlled items subject to the “Foreign Exchange and Foreign Trade Law” of Japan, the export license specified by the law is required for export.
2. Please contact our sales representatives or product engineers before using the products in this catalog for the applications listed below, which require especially high reliability for the prevention of defects which might directly damage a third party's life, body or property, or when one of our products is intended for use in applications other than those specified in this catalog.
   ① Aircraft equipment ② Aerospace equipment
   ③ Undersea equipment ④ Power plant equipment
   ⑤ Medical equipment ⑥ Transportation equipment (vehicles, trains, ships, etc.)
   ⑦ Traffic signal equipment ⑧ Disaster prevention / crime prevention equipment
   ⑨ Data-processing equipment ⑩ Application of similar complexity and/or reliability requirements to the applications listed above
3. Product specifications in this catalog are as of July 2001. They are subject to change or our products in it may be discontinued without advance notice. Please check with our sales representatives or product engineers before ordering. If there are any questions, please contact our sales representatives or product engineers.
4. Please read rating and ⚠CAUTION (for storage, operating, rating, soldering, mounting and handling) in this catalog to prevent smoking and/or burning, etc.
5. This catalog has only typical specifications because there is no space for detailed specifications. Therefore, please approve our product specifications or transact the approval sheet for product specifications before ordering.
6. Please note that unless otherwise specified, we shall assume no responsibility whatsoever for any conflict or dispute that may occur in connection with the effect of our and/or a third party's intellectual property rights and other related rights in consideration of your use of our products and/or information described or contained in our catalogs. In this connection, no representation shall be made to the effect that any third parties are authorized to use the rights mentioned above under licenses without our consent.
7. No ozone depleting substances (ODS) under the Montreal Protocol are used in our manufacturing process.

muRata **Murata Manufacturing Co., Ltd.**

http://www.murata.com/

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