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Capacitors > Ceramic Trimmer Capacitors

Specification

Details

Global Part Number	TZ03R300E169B00
Previous Part Number	TZ03R300ER169
Cmin.	5.2pF max.
Cmax.	30.0pF +50/-0%
TC	N750±300ppm/°C
Q	500min. at 1MHz, Cmax.
Rated Voltage	100Vdc
Withstanding Voltage	220Vdc
Insulation Resistance	10000M ohm min.
Torque	2.0~15.0mNm
Operating Temperature Range	-25~+85°C
Stator/Case Color	Green
Adjustment Direction	Top
Soldering Method	Flow
Height	4.8mm ±0.5
Automatic Insertion	No
Weight	0.4g

- Part Numbering
- Appearance
- Dimensions
- Features and Applications
- Construction
- Mounting Holes
- Mounting on PCBs
- Soldering
- Temperature Profile(Flow)
- Cleaning
- Notice (Handling)
- Notice (Storage and operating condition)
- Notice (Other)

Minimum Quantity

180mm Paper Tape	
180mm Plastic Tape	
330mm Paper Tape	
330mm Plastic Tape	
Bulk Case	
Bulk(Bag)	1000
Ammo Pack	
320Reel	
Magazine	
Box	



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.

● Part Numbering

Ceramic Trimmer Capacitors

(Global Part Number)

TZ	Y2	R	200	A	001	R00
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① ② ③ ④ ⑤ ⑥ ⑦

① Product ID

Product ID	
TZ	Trimmer Capacitors

② Series/Terminal

Code	Series/Terminal
03	6mm Size Lead Type
B4	4mm Size Chip/Lead Type
C3	3mm Size Chip Type
S2	2mm Size Chip Type (Height 1.0mm)
Y2	2mm Size Chip Type (Height 1.25mm)
V2	2mm Size Chip Type (Height 1.45mm)

⑤ Temperature Characteristics

Code	Temperature Characteristics
Z	NP0 ppm/°C
S	N150ppm/°C
N	N200ppm/°C
T	N450ppm/°C
R	N750ppm/°C
K	N1000ppm/°C
P	N1200ppm/°C

Please refer to ratings for tolerance of temperature characteristics.

① Maximum Capacitance

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

⑤ Terminal Shape

Code	Terminal Shape
A	Top Adjustment; TZS2, TZY2, TZV2, TZC3, TzB4 (Chip Type)
B	Top Adjustment; TzB4 (Chip Type), Rear Adjustment; TZ03 (Lead Type)
C	Top Adjustment; TzB4 (Lead Type)
D	Rear Adjustment; TzB4 (Lead Type)
E	Top Adjustment; TZ03 (Lead Type), Rear Adjustment; TzB4 (Chip Type)
F	Top Adjustment; TZ03 (Lead Type)
N	Rear Adjustment; TZ03 (Lead Type)
T	Top Adjustment; TZ03 (Taping Type)
Y	Side Adjustment; TZ03 (Lead Type)

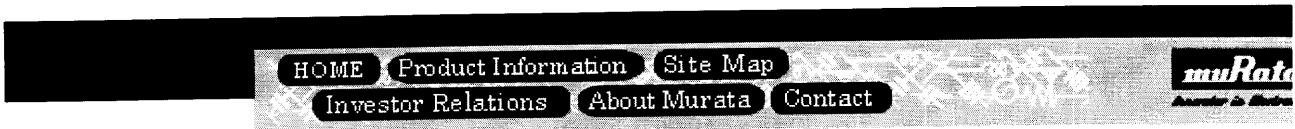
Please refer to dimensions for terminals in detail.

⑥ Individual Specification

Code	Individual Specifications
001	TZS2, TZY2 Standard Type
110	TZV2, TZC3 (Minus Slot) Standard Type
169	TZ03 Standard Type
310	TZC3 (Plus Slot) Standard Type
A10	TzB4 No-cover Film Standard Type
B10	TzB4 with Cover Film Standard Type

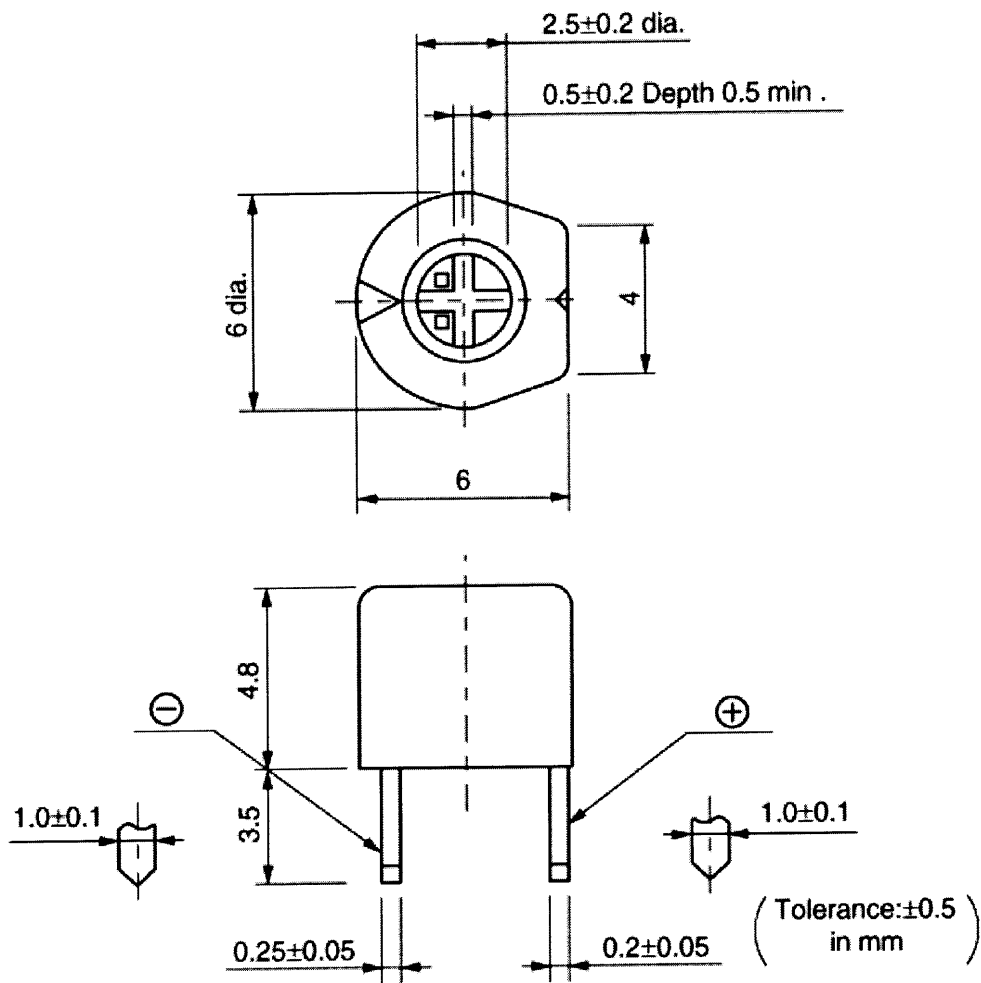
⑦ Packaging

Code	Packaging
A00	Ammo Pack (Radial Taping)
B00	Bulk
M00	Magazine
R00	Reel (Taping ø180mm)
R01	Reel (Taping ø330mm)



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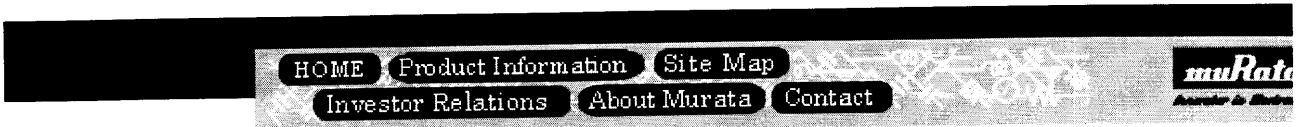
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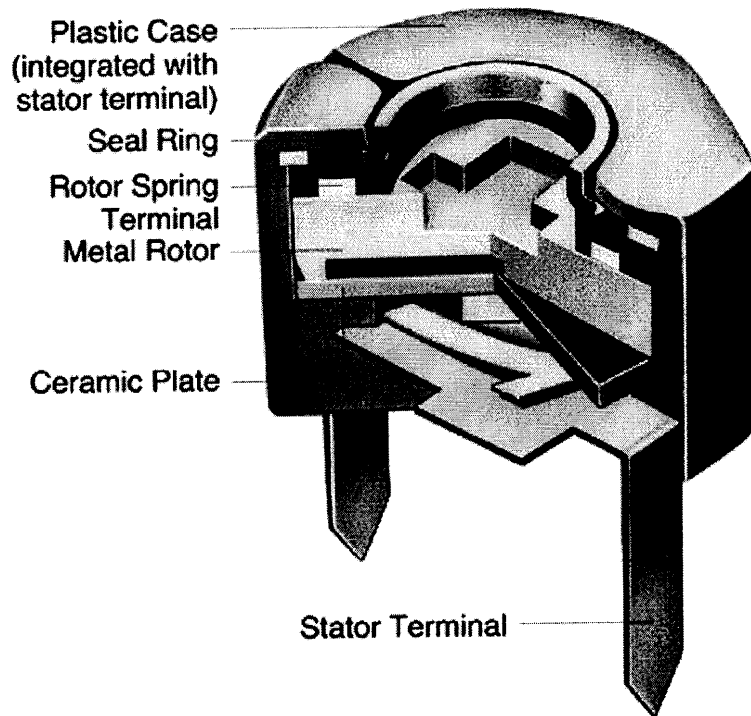
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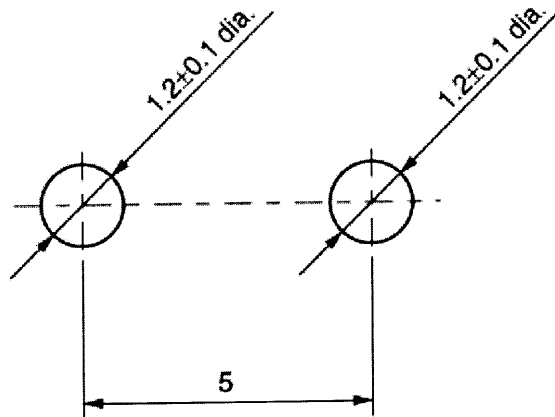
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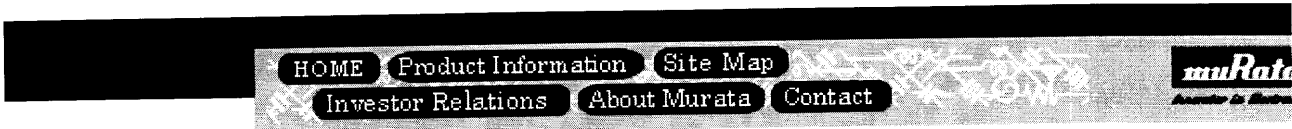


(Tolerance: ±0.5
in mm)

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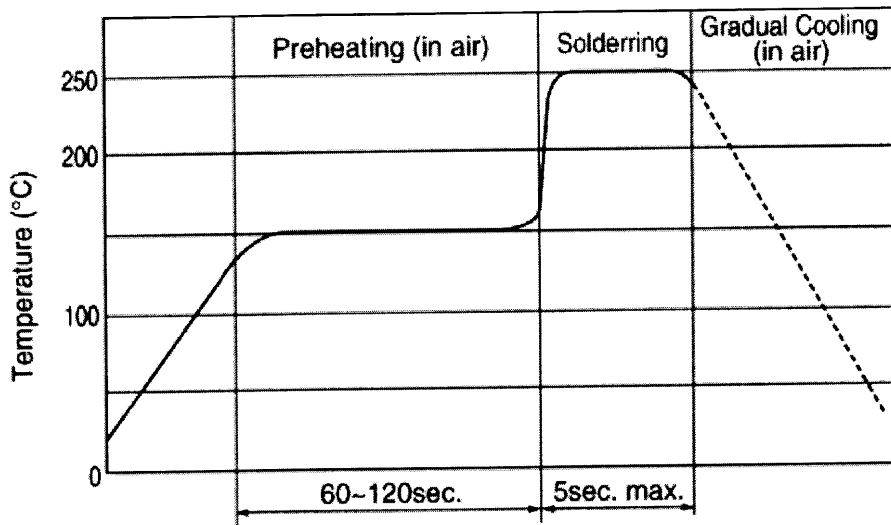
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SOLDERING

1. Standard soldering condition

(1) Flow soldering : Refer to the standard temperature profile.

(2) Soldering iron

Temperature of tip : $260 \pm 10^{\circ}\text{C}$

Soldering time : 3 sec. max.

Diameter : 3mm max.

Wattage of iron : 30W max.

Before using other soldering conditions than those listed above, please consult with Murata factory representative in advance. If the soldering conditions are not suitable, e.g. excessive time and/or excessive temperature, the trimmer capacitor may deviate from the specified characteristics.

2. The amount of solder is critical. Insufficient amounts of solder can lead to insufficient soldering strength on PCB. Excessive amounts of solder may cause the bridging between the terminals, resulting in shorting between the terminals.
3. To prevent the deterioration of trimmer capacitor characteristics, apply flux only to terminals.
4. Do not use water-soluble flux if using water for washing.
5. The solder iron should not come in contact with the plastic case of the trimmer capacitor. If such contact does occur, the trimmer capacitor may be damaged.
6. TZ03 series can not be soldered using the re-flow soldering method.

CLEANING

1. Isopropyl-alcohol and Ethyl-alcohol are available material for cleaning under the conditions mentioned below. Water group material like Pinealpha, Cleanthru can not be used. For other materials, please consult with Murata factory representative in advance.
2. The total cleaning time by dipping, vapor and ultra-sonic method shall be less than 2 minutes. For ultra-sonic cleaning, the available condition is as follows.

Cleaning time : 30 sec. max.

Power : 20W/liter max.

Frequency : 20~60kHz

Temperature : Ambient temperature

Due to the ultra-sonic cleaning equipment peculiar self resonance point and the cleaning compatibility usually depends on the jig construction and/or the cleaning condition such as the depth of immersion, please check the cleaning equipment to determine the suitable conditions.

If the component is cleaned by other conditions, it may not perform in accordance with the specified characteristics.

Notice (Handling)

1. Use suitable screwdrivers that fit comfortably in driver slot.
 - *Recommended screwdriver for manual adjustment
MURATA : KMDR010 (PPTZ-0022)
 - *Recommended screwdriver bit
for automatic adjustment
MURATA : KMBT010 (KMTZ35)
2. When adjusting with a screwdriver, do not apply excessive force (preferable 1.0N (Ref; 100gf) max.) to minimize capacitance drift. If excessive force applied to the screwdriver slot, it may cause deformation of the products.
3. Do not apply adhesive, lock paints, or any other substances to the trimmer capacitor to secure the rotor position. They may cause corrosion or electrical contact problems.

Notice (storage and operating condition)

1. Do not use the trimmer capacitor under atmosphere of RTV silicone rubber (Room Temperature Vulcanizing Silicone Rubber) except Acetone liberating silicone sealant.
2. Before using trimmer capacitor, please store under the condition of -10 to +40°C and 30 to 85%RH.
3. Do not store in or near corrosive gasses.
4. Use within 6 months of deliverly.
5. Open the package just before using.
6. Prior to storing previously opened packages, the packaging should be heat-sealed. Avoid using rubber bands for repackage.
7. Do not store under direct sunlight.
8. Do not use the trimmer capacitor under the conditions listed below.
 - ¥Corrosive gasses atmosphere (Ex. Cl₂, H₂S, NH₃, SO₂, NO_x, etc.)
 - ¥In liquid (Ex. water, oil, medical liquid, organic solvent, etc.)
 - ¥Dusty / dirty atmosphere
 - ¥Direct sunlight
 - ¥Static voltage nor electric/magnetic fields
 - ¥Direct sea breeze
 - ¥Other variations of the above

Notice (other)

1. Before using trimmer capacitor, please test after assembly in your particular mass production system.
2. MURATA cannot guarantee trimmer capacitor integrity when used under conditions other than those specified in this document.

FEATURES

1. Color coded case facilitates identification of capacitance range.
2. Sealed construction prevents the penetration of flux and dust.
3. Available in three adjustment styles : Top / Rear / Side.
4. Available in both tape and reel and magazine packaging for automatic insertion.
5. +(Cross-shaped) slot enables automatic adjustment.

APPLICATIONS

- Car audio systems
- Stereos
- Cordless telephones
- Compact radio equipments
- Burglarproof devices
- Car clocks
- Radio cassette tape recorders
- Video games
- Remote keyless entry systems