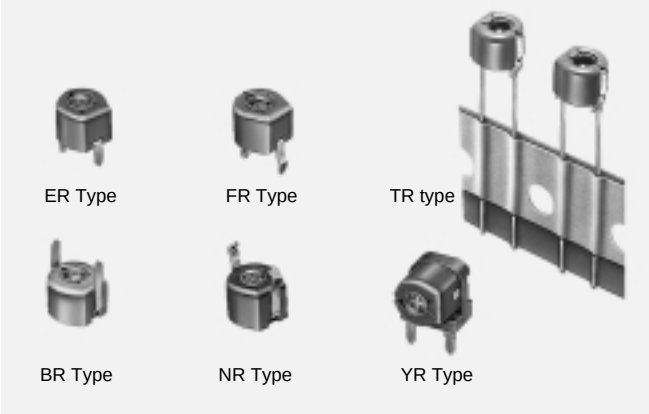
LEADED TRIMMER CAPACITORS

muRata
Innovator in Electronics

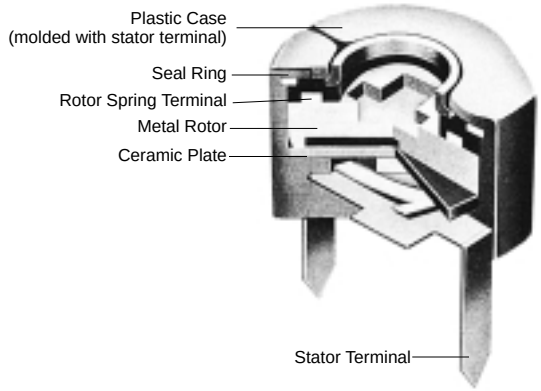
TZ03 Series



The TZ Series ceramic trimmer capacitors are built into and protected by a color coded plastic case. This unique, axle-less and solder-less construction protects the unit from damages during assembly and provides exceptionally linear temperature coefficient at low cost.

FEATURES

- Excellent shock and vibration resistance
- Exceptionally linear TC
- Dust and flux resistant construction
- Plastic case meets UL94V-0
- Available on tape and reel for automatic insertion



SPECIFICATIONS

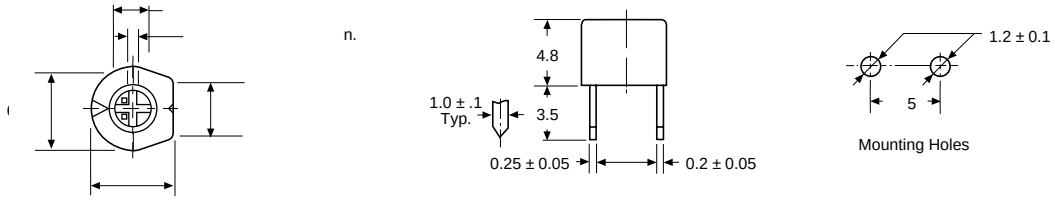
Working Voltage: 100VDC or 50VDC
Withstanding Voltage: 220VDC (100V units) or 110VDC (50V units)
Insulation Resistance: 10^4MΩ min. (50VDC, C max.)
Driving Torque: 1.96 to 14.7mNm (20 to 150)

Part Number	Capacitance (pF)		Temp. Coeff. (ppm/°C)	Q (1MHz, °C max.)	Temperature (°C)	Case Color
	Min.	Max.				
SINGLE CERAMIC PLATE TYPE, 100V SERIES						
★**TZ03Z2R3□□169**	1.25	2.3 $^{-0}_{+50}$%	NP0 ± 200	300 min.	–55 to +85	Black
★**TZ03Z050□□169**	1.8	5.0 $^{-0}_{+50}$%	NP0 ± 200	500 min.	–55 to +85	Blue
★**TZ03Z070□□169**	2.0	7.0 $^{-0}_{+50}$%	NP0 ± 200	500 min.	–55 to +85	Blue
★**TZ03Z100□□169**	2.7	10.0 $^{-0}_{+50}$%	NP0 ± 200	500 min.	–55 to +85	Blue
★**TZ03N100□□169**	2.1	10.0 $^{-0}_{+50}$%	N200 ± 200	500 min.	–55 to +85	White
★**TZ03T110□□169**	3.0	11.0 $^{-0}_{+50}$%	N450 ± 300	500 min.	–55 to +85	White
★**TZ03T200□□169**	4.2	20.0 $^{-0}_{+50}$%	N450 ± 300	500 min.	–55 to +85	Pink
★**TZ03R200□□169**	4.2	20.0 $^{-0}_{+50}$%	N750 ± 300	500 min.	–55 to +85	Red
★**TZ03R300□□169**	5.2	30.0 $^{-0}_{+50}$%	N750 ± 300	500 min.	–55 to +85	Green
★**TZ03P450□□169**	6.8	45.0 $^{-0}_{+50}$%	N1200 ± 500	300 min.	–55 to +85	Yellow
★**TZ03P600□□169**	9.8	60.0 $^{-0}_{+50}$%	N1200 ± 500	300 min.	–55 to +85	Brown
★**TZ03P700□□169**	12.0	70.0 $^{-0}_{+50}$%	N1200 ± 500	300 min.	–55 to +85	Brown
MONOLITHIC CERAMIC PLATE TYPE, 50V SERIES						
★**TZ03Z500□□169**	6.0	50.0 $^{-0}_{+100}$%	NP0 ± 300	300 min.	–55 to +85	Orange
★**TZ03R900□□169**	9.0	90.0 $^{-0}_{+100}$%	N750 ± 300	300 min.	–55 to +85	Black + Marking
★**TZ03R121□□169**	10.0	120.0 $^{-0}_{+100}$%	N750 ± 300	300 min.	–55 to +85	Black

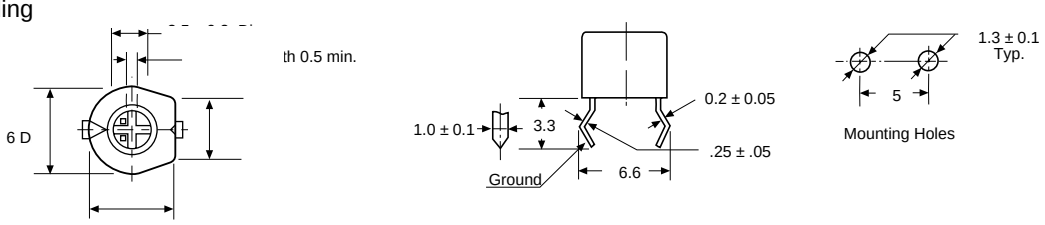
□□: Terminal Shape Stray capacitance for side adjustment (YR type) adaptor is .2pF.
★Available as standard through authorized Murata Electronics Distributors.

DIMENSIONS: mm

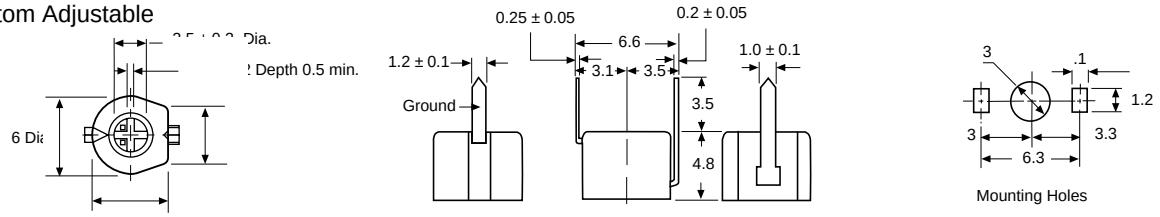
★ER TYPE
Top Adjusta



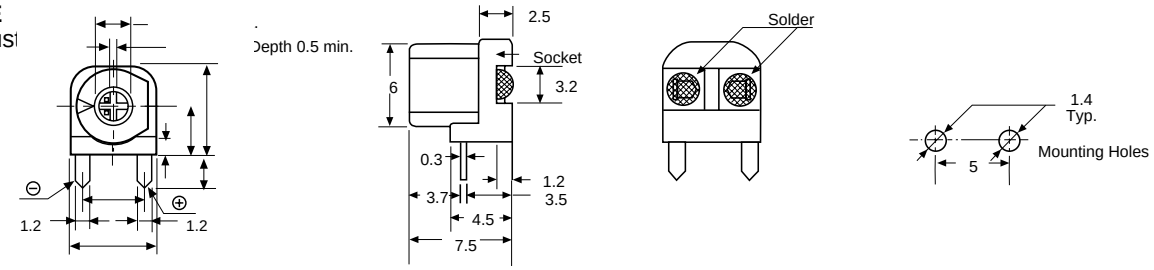
★FR TYPE
Self-Standing



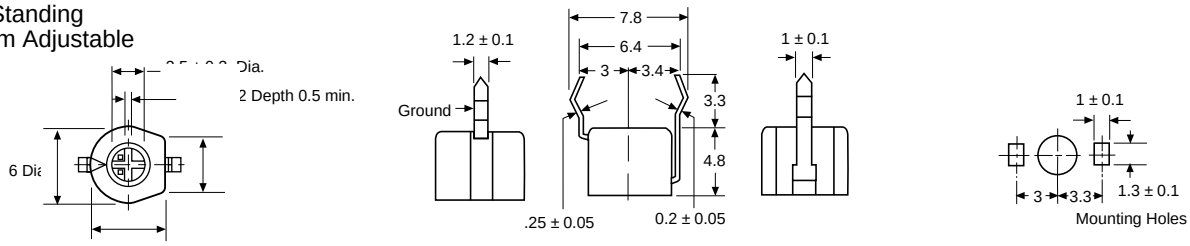
BR TYPE
Bottom Adjustable



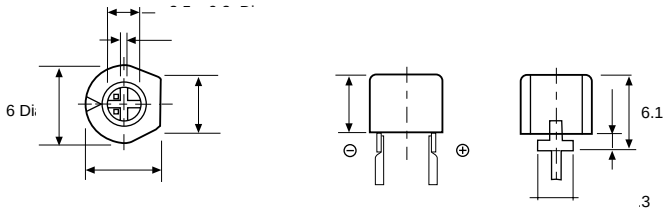
YR TYPE
Side Adjust



NR TYPE
Self-Standing
Bottom Adjustable



TR TYPE
Radial Taping
Terminal Style



Notes: Common dimensions shown on ER Style. Tolerances (unless otherwise shown) ±0.5mm
When ordering, ER, FR, BR, YR and NR are all bulk parts. If tape and ammo pack is desired, then an example part number would be TZ03Z070TR169T00.
★Available as standard through authorized Murata Electronics Distributors. T00 is available only TR style.

PART NUMBERING SYSTEM

TZ03 Z 070 ER 169 △△△

TYPE

TEMPERATURE CHARACTERISTIC

CAPACITANCE

TERMINAL TYPE
ER: Top Adjustable
FR: Self-Standing
BR: Bottom Adjustable
YR: Side Adjustable
NR: Self-Standing/Bottom Adjustable
TR: ER version on tape and ammo pack

OTHER SPECIFICATIONS
169: Standard

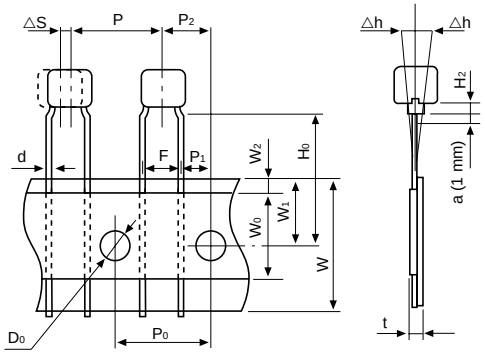
OPTIONAL TAPING
*T00: Tape and Ammo Pack (1000pcs/ ammo pack)
No Code: Bulk (1000pcs/bag)

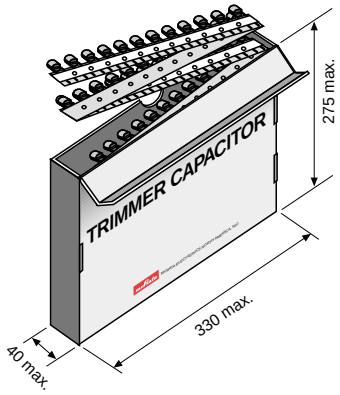
Caution: Do not water wash.

*T00 is available only TR style.

DIMENSIONS OF TAPE AND AMMO PACK: mm

TZ03△△△△TR169T00





Item	Code	Dimensions (mm)	Remark
Pitch of Component	P	12.7	
Pitch of Sprocket Hole	P_0	12.7 ± 0.3	
Length from Hole Center to Lead	P_1	3.85 ± 0.7	
	P_2	6.35 ± 1.3	
Lead Spacing	F	$5.0^{+0.8}_{-0.2}$	
Carrier Tape Width	W	18.0 ± 0.5	
Position of Sprocket Hole	W_1	9.0 ± 0.5	
Lead Distance between Reference and Bottom Planes	H_0	18.0 ± 0.5	
Stand-off	H_2	1.3 ± 0.5	
Diameter of Sprocket Hole	D_0	4.0 ± 0.1	
Total Thickness, Tape and Lead Wire	t	1.7 max.	
Deviation across Tape	△h	1.5 max.	
Deviation along Tape, Left or Right	△S	0 ± 1.5	
Lead Diameter	d	ϕ0.6 ± 0.1	Except 'a' part

Cautions In Handling:

Do not use in water wash process.

Do not use water soluble flux for soldering.

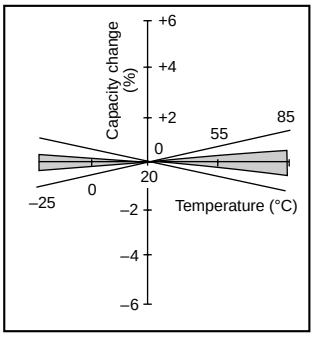
When hand soldering, avoid contact of the soldering iron to the plastic case.

Do not use locking adhesives to secure rotor in place.

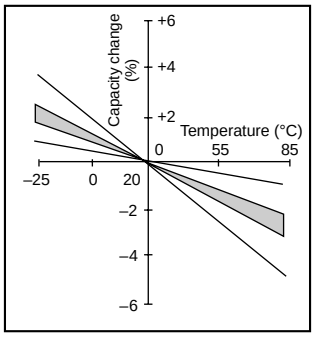
Avoid applying excessive force to terminals.

TECHNICAL DATA
Temperature Characteristics

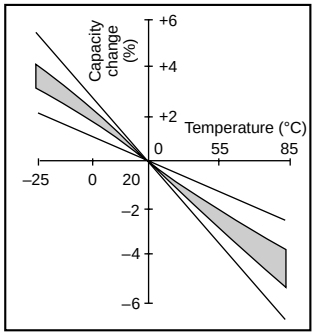
TZ03Z070 (NPO ± 200ppm/°C)



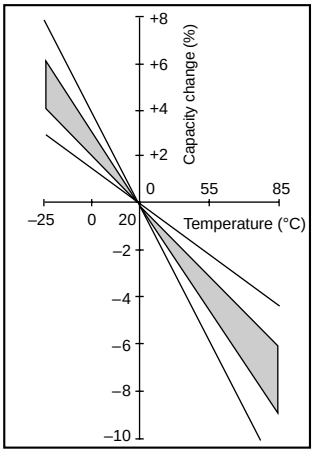
TZ03T110 (N450 ± 300ppm/°C)



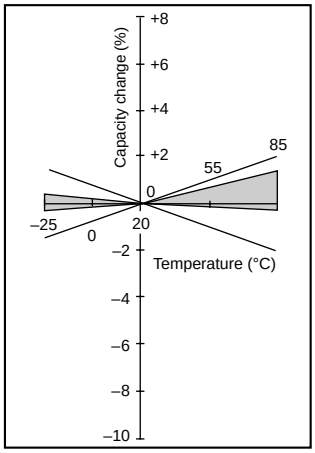
TZ03R200 (N750 ± 300ppm/°C)



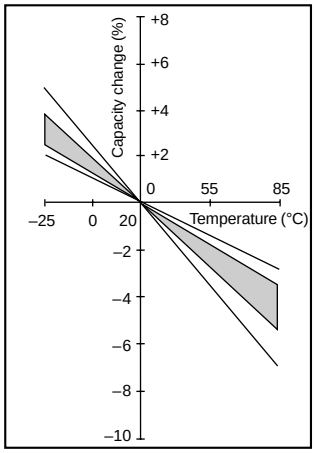
TZ03P600 (N1200 ± 500ppm/°C)



TZ03Z500 (NPO ± 300ppm/°C)

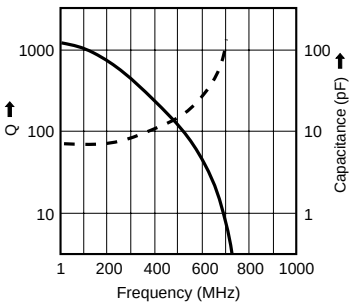


TZ03R121 (N750 ± 300ppm/°C)

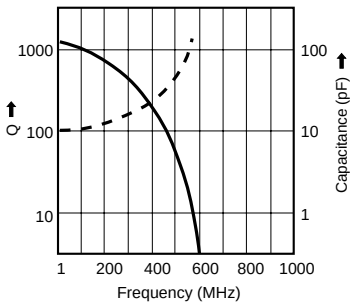


Q AND CAPACITANCE VS. FREQUENCY CHARACTERISTICS
Characteristics on curves are measured at the position of maximum rated capacitance value using RF impedance analyzer.

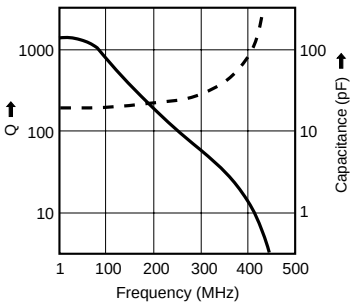
TZ03Z070



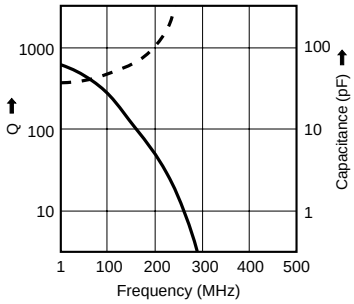
TZ03T110



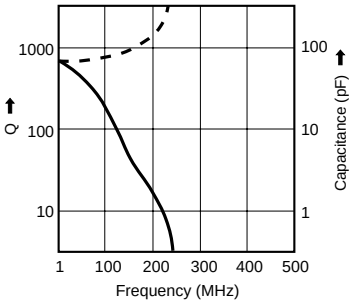
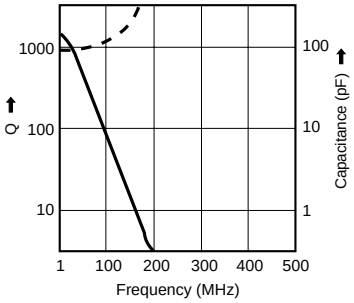
TZ03R200



TZ03P600



TZ03P450



TZ03R900