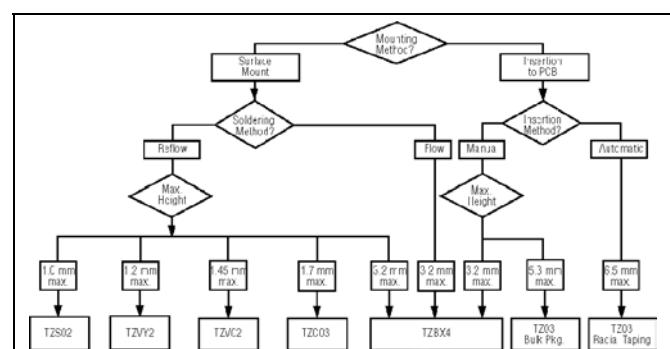


Visit Murata's Website at [www.murata.com](http://www.murata.com)**TZBX4 Series Chip Trimmer Capacitors**

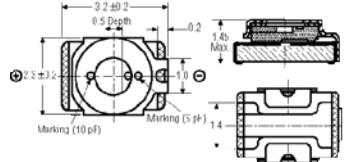
- Features**
- Miniature Rectangular Shape Just  $4.0 \times 4.5 \times 3.0$  mm
  - Specifically Designed for Auto Surface Placement; Designed to Withstand Solder Bath ( $260^\circ\text{C}$ , 5 Sec.) and Flux Baths
  - Can Be Reflow Soldered
  - Conventional Snap-In Configuration Available
  - Stable Characteristics Are a Wide Frequency Range
  - Color Coded Cases Make Distinguishing Easy
  - Operating Temperature:  $-55^\circ\text{C}$  to  $+85^\circ\text{C}$

**Applications**

- Transceiver
- VTR System
- Audio Equipment
- Radio
- Clock
- Pagers

Stock No.	Mfr.'s Type	Cap. (pF)		Temperature Coefficient (ppm/ $^\circ\text{C}$ )	Q Min. (1 MHz, C Max.)	Case Color	EACH*
		Min.	Max.				
231-8000	TZBX4Z060B110T00	2.0	6.0 (+50%, -0%)	NPO ( $\pm 200$ )	500	Blue	1.32
231-8002	TZBX4Z250B110T00	4.0	25.0 (+100%, -0%)	NPO ( $\pm 300$ )	300	Black	.95
231-8004	TZBX4Z100B110T00	3.0	10.0 (+50%, -0%)	NPO ( $\pm 300$ )	500	White	.43
231-8006	TZBX4Z030B110T00	1.4	3.0 (+50%, -0%)	NPO ( $\pm 200$ )	300	Brown	.43
231-8012	TZBX4Z100B110T00	3.0	10.0 (+50%, -0%)	NPO ( $\pm 300$ )	500	White	1.32
231-8014	TZBX4Z250B110T00	4.0	25.0 (+100%, -0%)	NPO ( $\pm 300$ )	300	Black	2.38
231-8018	TZBX4Z060B110T00	2.0	6.0 (+50%, -0%)	NPO ( $\pm 200$ )	500	Blue	.43
231-8020	TZBX4R200B110T00	4.5	20.0 (+50%, -0%)	N750 ( $\pm 300$ )	500	Red	1.32
231-8022	TZBX4R200B110T00	4.5	20.0 (+50%, -0%)	N750 ( $\pm 300$ )	500	Red	.58
231-8024	TZBX4R500B110T00	7.0	50.0 (+100%, -0%)	N750 ( $\pm 300$ )	300	Black	2.19
231-8026	TZBX4R500B110T00	7.0	50.0 (+100%, -0%)	N750 ( $\pm 300$ )	300	Black	.78
231-8028	TZBX4R500A110T00	7.0	50.0 (+100%, -0%)	N750 ( $\pm 300$ )	300	Black	2.05
231-8036	TZBX4P400B110T00	8.5	40.0 (+50%, -0%)	N1200 ( $\pm 500$ )	300	Yellow	.47

\*Sold only in multiples of 100.

**TZV02 Series Ceramic Trimmer Capacitors****Features**

- Miniature Size with External Dimensions of  $2.3 \times 3.2 \times 1.45$  mm ( $W \times L \times H$ )
- Mountable by Automatic Placer
- Rugged Construction Ensures High Stability Thereby Minimizing Capacitance Drift After Adjustment
- Voltage: Rated — 25 VDC; Withstanding — 55 VDC
- Insulation Resistance:  $10^8$  M $\Omega$  Min.
- Driving Torque: 1.0 to 9.8 mNm (10 to 100 g cm)
- Operating Temperature Range:  $-25^\circ\text{C}$  to  $+85^\circ\text{C}$

**Applications**

- Crystal Oscillators, Crystal Filters
- Pagers
- Cordless Telephones
- Camcorders
- Hand-Held Telephones, Automotive Telephones
- Hand Radios
- Radar Detectors
- Remote Keyless Entry Systems

Stock No.	Mfr.'s Type	Cap. (pF)		Temperature Coefficient (ppm/ $^\circ\text{C}$ )	Q Min. (1 MHz, C Max.)	Stator Color	EACH*
		Min.	Max.				
231-8204	TZV02Z250A110	0.65	2.5 (+100%, -0%)	NPO ( $\pm 300$ )	200†	White	.42
231-8209	TZV02Z060A110	2.50	6.0 (+100%, -0%)	NPO ( $\pm 300$ )	500	Light Green‡	.42
231-8210	TZV02Z100A110	3.00	10.0 (+100%, -0%)	NPO ( $\pm 300$ )	500	Light Green‡	.42
231-8212	TZV02R200A110	4.50	20.0 (+100%, -0%)	N750 ( $\pm 500$ )	500	Brown	.42

\*Sold only in multiples of 100. †At 200 MHz. ‡Light Green + Marking.

**Tuning Tools for Murata Trimming Capacitors**

711-3505, KMTZ04, For TZS02 Series.....	EACH 32.89
711-3515, KMTZ11V, For TZV02 Series.....	EACH 18.98
711-3520, PPTZ-0022, For TZBX4 and TZ03 Series.....	EACH 9.93

**TZS02 Series Ceramic Trimmer Capacitors****Features**

- Ultra-Small and Thin Type with External Dimensions of  $2.2 \times 2.7 \times 0.95$  mm ( $W \times L \times T$ )
- Mountable by Automatic Placer
- Newly Designed Metal Rotor and Rugged Construction Ensure High Stability Thereby Minimizing Capacitance Drift After Adjustment
- Voltage: Rated — 25 VDC; Withstanding — 55 VDC
- Funnel Shaped Metal Case and Pierced Square Hole Enable In-Process Automatic Adjustment; Pierced Square Hole Allows High Resistance to Tuning Force
- Insulation Resistance:  $10^8$  M $\Omega$  Min.
- Driving Torque: 0.49 to 4.9 mNm (5 to 50 g cm)
- Operating Temperature Range:  $-25^\circ\text{C}$  to  $+85^\circ\text{C}$

**Applications**

- Crystal Oscillators, Crystal Filters
- Pagers
- Cordless Telephones
- Camcorders
- Hand-Held Telephones, Automotive Telephones
- Hand Radios
- Radar Detectors
- Remote Keyless Entry Systems

Stock No.	Mfr.'s Type	Cap. (pF)		Temperature Coefficient (ppm/ $^\circ\text{C}$ )	Q Min. (1 MHz, C Max.)	Stator Color	EACH*
		Min.	Max.				
231-8084	TZS02Z060A110	3.0	6.0 (+100%, -0%)	NPO ( $\pm 300$ )	500	Light Green	.43
231-8086	TZS02Z100A110	3.5	10.0 (+100%, -0%)	NPO ( $\pm 300$ )	500	Light Green	.43
231-8088	TZS02R200A110	7.0	20.0 (+100%, -0%)	N750 ( $\pm 300$ )	500	Brown	.43

\*Sold only in multiples of 100.

**TZ03 Leaded Trimmer Capacitors****Features**

- Excellent Shock and Vibration Resistance
- Exceptionally Linear TC
- Dust and Flux Resistant Construction
- Plastic Case Meets UL34V-0
- Available on Tape and Reel for Automatic Insertion
- Operating Temperature:  $-55^\circ\text{C}$  to  $+85^\circ\text{C}$

Stock No.	Mfr.'s Type	Cap. (pF)		Temperature Coefficient (ppm/ $^\circ\text{C}$ )	Q Min. (1 MHz, C Max.)	Case Color	EACH*
		Min.	Max.				
231-8040	TZ03Z070FR169	2.0	7.0 (-0, +50%)	NPO (+200)	300 Min.	Blue	.64
231-8062	TZ03Z100ER169	2.7	10.0 (-0, +50%)	NPO (+200)	500 Min.	Blue	.64
231-8044	TZ03Z500FR169	6.0	50.0 (-0, +100%)	NPO (+300)	300 Min.	Orange	.63
231-8050	TZ03P450FR169	6.8	45.0 (-0, +50%)	N1200 ( $\pm 500$ )	300 Min.	Yellow	.28
231-8064	TZ03R300FR169	5.2	30.0 (-0, +50%)</				