

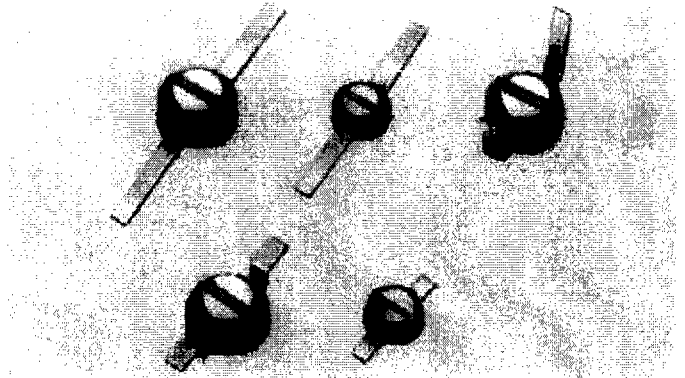
Ultraminiature Trimmer Capacitors



TCX, TCF, TSR, TSX, TSF, TSW Series

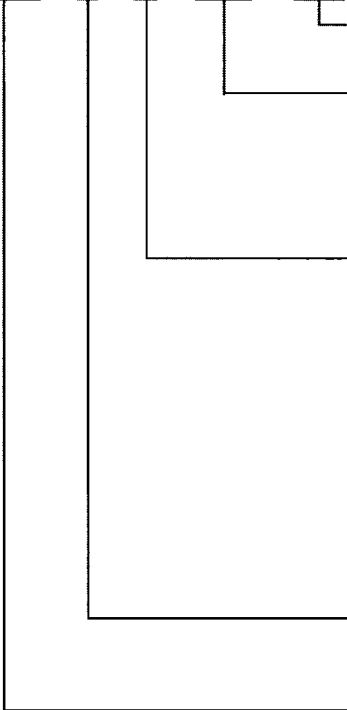
Features:

- 1) Small size and wide capacitance range.
- 2) Small ΔC in alcohol washing.
- 3) Wide slot type which can be trimmed using a non-conductive trimming tool.



How To Order:

TCX - 3 - S - 150 - AU



Lead Type HB available in 2 \emptyset & 3 \emptyset
 AB & AU available in 3 \emptyset only

Thickness Indication

(see specifications table)
 100 = 1.0 mm
 120 = 1.2 mm
 150 = 1.5 mm
 180 = 1.8 mm

Capacitance Value

(see specifications table)
 Codes marked with an asterisk denote standard values. Values in parentheses are only available in 1mm thickness. All values are in picofarads.

3 \emptyset Type

Z = 1 to 3 P = 1.5 to 5
 SP = 1.5 to 10 H = 2.5 to 10
 S3* = 5 to 20 S2* = 5 to 25
 S* = 5 to 30
 □* = 5 to 35

2 \emptyset Type

□* = 5 to 15 (6 to 15)
 L = 5 to 20 (6 to 20)

Diameter Indication

3 = 3 \emptyset mm
 2 = 2 \emptyset mm

Type

(see Table 2 at right)
 TCX, TCF, TSR, TSX, TSF, TSW

Table 1

(Unit: mm)

Dimension	HB type	AB type	AU type
Lead Type	HB	AB	AU
H	1.2 +0/-0.3	2.6 ±0.3	2.35 Max.
B	4.6 +0/-0.4	5.0 ±0.5	4.20 Max.
L	6.7 +0.1/-0.3	—	—

Table 2

Type	Lead Plating	Slot Specification	Diameter
TCX	Au	Normal	3 \emptyset , 2 \emptyset
TCF			2 \emptyset
TSR	3 \emptyset		
TSX	2 \emptyset		
TSF	2 \emptyset		
TSW	Ag	Wide	3 \emptyset

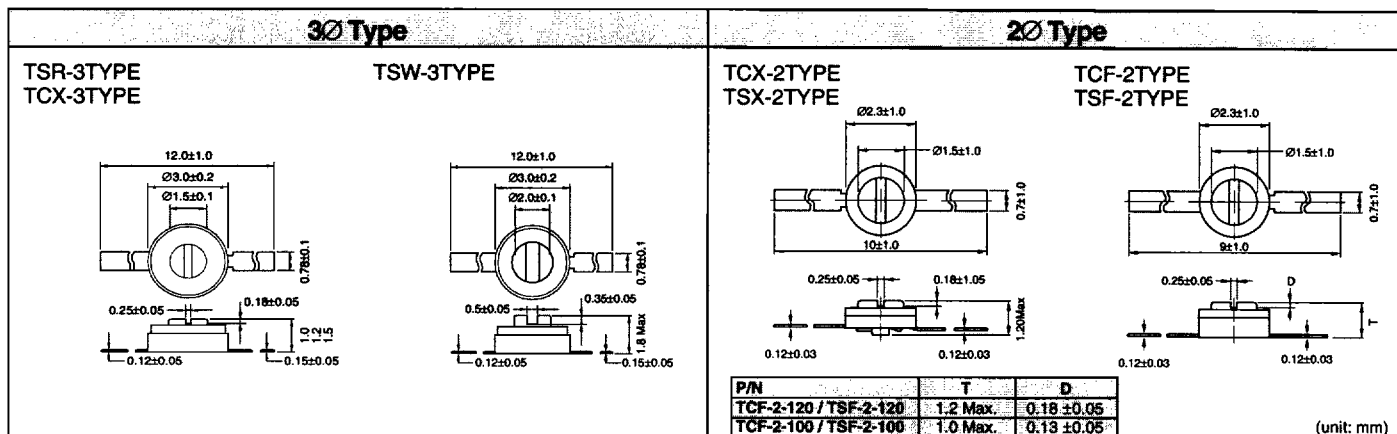
Normal slot (width) 0.25±0.05
 (depth) 0.18±0.05
 Wide slot (width) 0.5±0.05
 (depth) 0.35±0.05

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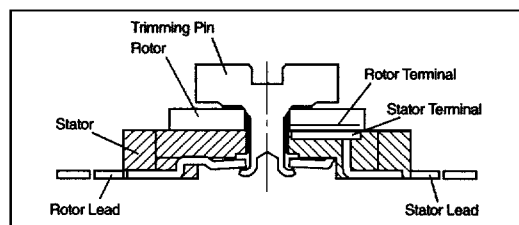


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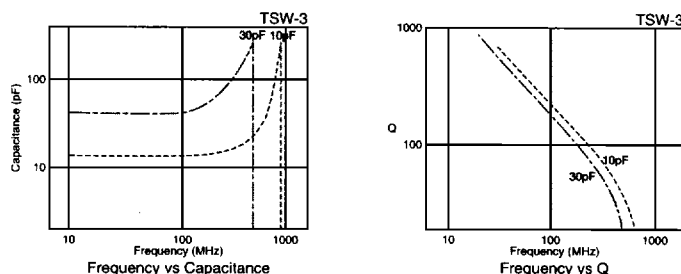
Dimensions



Construction



Performance Characteristic Graphs



Performance Characteristics

Item		Characteristic	Measuring Condition
Capacitance	—	within specification	TSW-3: 20±1MHz (1±0.5Vrms)(25°C)
Q factor	Q	TSW-3: > 200 TSR-3: } > 150 TCX-3: } TSX/TCX-2: } > 100 TSF/TCF-2: }	TSR-3: } TCX-3: } 1±0.1MHz TSX/TCX-2: } (1±0.5Vrms)(25°C) TSF/TCF-2: }
Rated Voltage	—	DC 25V	—
Withstanding Voltage	DWV	No problem observed	Apply 3 × rated voltage for 1 min.
Insulating Resistance	IR	> 10,000 MΩ	Apply rated voltage for 1 min.
Operating Temperature	—	-25°C to +85°C	—
Temperature Coefficient	TC	-1,200±800ppm/°C	-25°C to +85°C
Torque	—	10~75 g·cm	—

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Specifications

X=Standard, O=Option, Blank=Not Available

Type	P/N	Capacitance Range Mark	Capacitance Range (pF)	Thickness (mm)				Temp. Coef. (ppm/°C)	Q Factor	
				1.0	1.2	1.5	1.8			
				Thickness Marking P/N	100	120	150	180		
Ø3 Type	TCX-3 TSR-3 TSW-3	Z	1 to 3	TCX-3			O		NPO±300	TSW-3: 200 min (1±0.1 MHz) TSR-3 TCX-3 150 min (1±0.1 MHz)
				TSR-3			O			
				TSW-3				X		
		P	1.5 to 5	TCX-3			O			
				TSR-3			O			
				TSW-3				X		
		SP	1.5 to 10	TCX-3			O			
				TSR-3			O			
				TSW-3				X		
		H	2.5 to 10	TCX-3			O			
				TSR-3			O			
				TSW-3				X		
		S3	5 to 20 Standard	TCX-3	X	X	X			
				TSR-3	X	X	X			
				TSW-3				X		
		S2	5 to 25 Standard	TCX-3	X	X	X			
				TSR-3	X	X	X			
				TSW-3				X		
		S	5 to 30 Standard	TCX-3	X	X	X			
				TSR-3	X	X	X			
				TSW-3				X		
		□	5 to 35 Standard	TCX-3	X	X	X			
				TSR-3	X	X	X			
				TSW-3				X		
L	6 to 40	TCX-3		X	X					
		TSR-3		X	X					
		TSW-3				X				
Ø2 Type	TCX-2 TCF-2	□	5 to 15	TCX/TSX-2		X		N1200±800	100 min (1±0.1 MHz)	
			★(6 to 15)	TCF/TSF-2	X	X				
	L	5 to 20	TCX/TSX-2			X				
			★(6 to 20)	TCF/TSF-2	X	X				

Tolerance of variable capacitance range: Min +0/-100%, Max +100%/-0

★ Thickness only 1.0mm