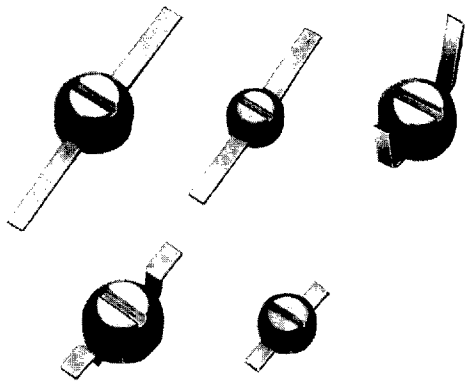
TCX, TCF, TSR, TSX, TSF, TSW Series

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 2Ø & 3Ø
AB & AU available in 3Ø 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.

3Ø 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

2Ø Type
□* = 5 to 15 (6 to 15)
L = 5 to 20 (6 to 20)

Diameter Indication
3 = 3Ømm
2 = 2Ømm

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	3Ø, 2Ø
TCF			2Ø
TSR	Ag		3Ø
TSX			2Ø
TSF			2Ø
TSW		Wide	3Ø

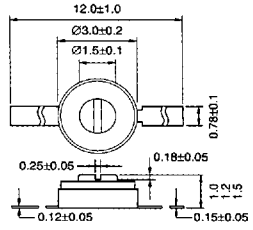
Normal slot (width) 0.25±0.05
(depth) 0.18±0.05
Wide slot (width) 0.5±0.05
(depth) 0.35±0.05

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

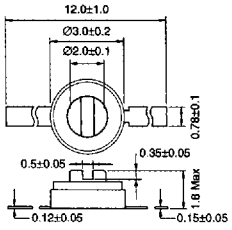
Dimensions

3Ø Type

TSR-3TYPE
TCX-3TYPE

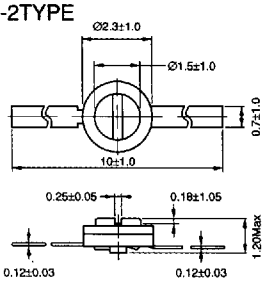


TSW-3TYPE

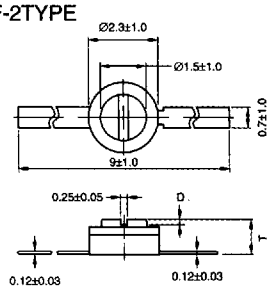


2Ø Type

TCX-2TYPE
TSX-2TYPE



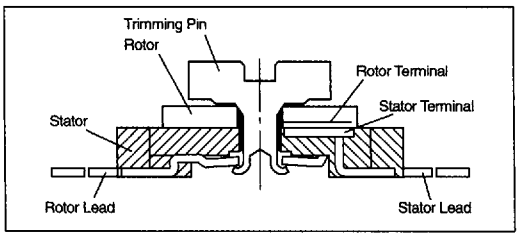
TCF-2TYPE
TSF-2TYPE



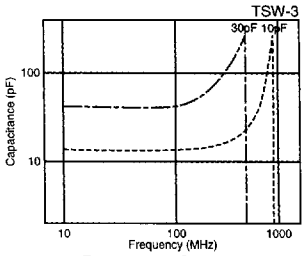
P/N	T	D
TCF-2-120 / TSF-2-120	1.2 Max.	0.18 ±0.05
TCF-2-100 / TSF-2-100	1.0 Max.	0.13 ±0.05

(unit: mm)

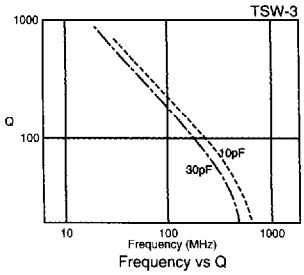
Construction



Performance Characteristic Graphs



Frequency vs Capacitance



Frequency vs Q

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: / TCX-3: > 150 TSX/TCX-2: / TSF/TCF-2: > 100	TSR-3: / TCX-3: / TSX/TCX-2: / TSF/TCF-2: 1±0.1MHz (1±0.5Vrms)(25°C)
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 Coefficiency	TC	-1,200±800ppm/°C	-25°C to +85°C
Torque	–	10~75 g•cm	———

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

Specifications

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

Type	P/N	Capacitance Range Mark	Capacitance Range (pF)	Thickness (mm) / Thickness Marking / P/N	1.0 / 100	1.2 / 120	1.5 / 150	1.8 / 180	Temp. Coef. (ppm/°C)	Q Factor
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		N400±300	
				TSR-3			O			
				TSW-3				X		
		H	2.5 to 10	TCX-3			O		NPO±500	
				TSR-3			O			
				TSW-3				X		
		S3	5 to 20 Standard	TCX-3	X	X	X		TSW-3: N750±500 TCX-3, TSR-3: N1200±800	
				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 TSX-2 TSF-2	□	5 to 15 ★(6 to 15)	TCX/TSX-2		X			N1200±800	100 min (1 ±0.1 MHz)
				TCF/TSF-2	X	X				
		L	5 to 20 ★(6 to 20)	TCX/TSX-2		X				
				TCF/TSF-2	X	X				

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

★ Thickness only 1.0mm