

**type 49SXF smd crystal assembly
(1.80 ~ 250)MHz**

- **HC-49 smd assembly**
- **AT cut and BT cut**
- **express delivery available**
- **standard and custom frequencies**
- **RoHS compliant**

Electrical specification

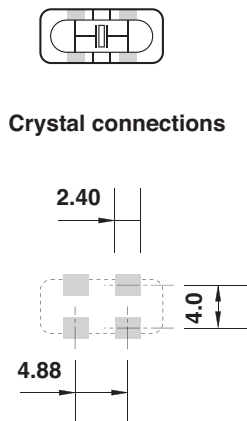
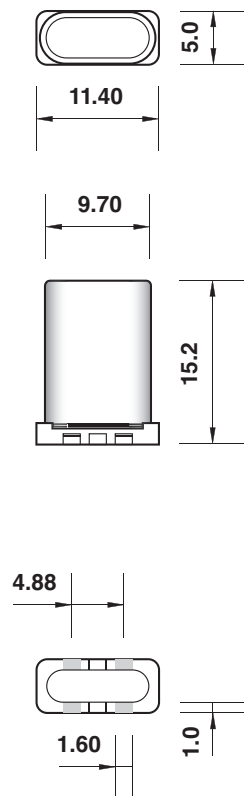
case style	49SXF: height 15.20mm
frequency range	(1.80 ~ 250)MHz, fundamental to 50.0MHz
adjustment tolerance	from ± 5 ppm at +25°C, frequency dependent
temperature tolerance	from ± 5 ppm, frequency and temperature range dependent
operating temperature	(-10 +60)°C ~ (-40 +85)°C
storage temperature	(-40 +85)°C
load	customer specified
shunt capacitance C_0	7.0pF max.
drive level	10 μ W ~ 5milli.W
Q factor	80,000 typical
ageing	± 1 ppm first year max.
insulation resistance	500Meg. ohm min. at+100Vd.c.

Ordering information

EXAMPLE	49XSF crystal, 10.00MHz, load 20pF, ± 20 ppm at +25°C, ± 50 ppm(-10 +60)°C
TFC PART NUMBER	49XSF 10.00M H C G I
49XSF	crystal series: 49XSF
10.00M	frequency: 16.00M = 10.00MHz, frequency range from (9.60 ~ 125)MHz
H	load capacitance: H = 20pF
C	adjustment tolerance at +25°C: C = ± 20 ppm
G	temperature tolerance: B = ± 50 ppm
I	temperature range: I = (-10 +60)°C
OPTIONS	
load capacitance	C: 10pF, D: 12pF, E: 15pF, F: 16pF, G: 18pF, H: 20pF, J: 32pF, S: series
adjustment tolerance	A: ± 5 ppm, B: ± 10 ppm, P: ± 15 ppm, C: ± 20 ppm, E: ± 30 ppm, G: ± 50 ppm
temperature tolerance	A: ± 5 ppm, B: ± 10 ppm, P: ± 15 ppm, C: ± 20 ppm, E: ± 30 ppm, G: ± 50 ppm, H: ± 100 ppm
temperature range	B: (0 +55)°C, I: (-10 +60)°C, C: (-20 +70)°C, L: (-40 +85)°C

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Dimensions(mm)



Crystal connections

Suggested pad layout

pads are tin plated suitable for vapour phase, reflow or direct soldering

pad size (2.4 x 2.2)mm

ESR - equivalent series resistance

frequency range(MHz)	cut/mode	esr(Ω)
1.80 ~ 3.0	BT1	<650
3.0 ~ 3.50	BT1	<350
3.50 ~ 4.0	AT1	<150
4.0 ~ 5.0	AT1	<100
5.0 ~ 6.0	AT1	<60
6.0 ~ 7.0	AT1	<50
7.0 ~ 50.0	AT1	<45
18 ~ 25	AT3	<60
25 ~ 48	AT3	<50
48 ~ 100	AT3	<40
75 ~ 160	AT3	<100
80 ~ 200	AT3	<150
100 ~ 250	AT3	<200