

SPECIFICATIONS

- Package type 97SMX(A)
- Frequency range 9.000 MHz to 150.000 MHz
- Frequency tolerance O : ±10 ppm at +25°C ±3°C
Q : ±15 ppm at +25°C ±3°C
R : ±20 ppm at +25°C ±3°C
- Temperature stability (referred to +25°C) See table below

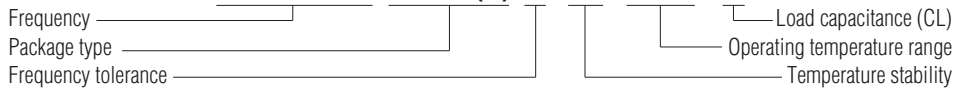
Ope. Temp. Range	Temperature Stability	PPM												
		±3.0 (FF)	±5.0 (JJ)	±7.5 (LL)	±10 (OO)	±15 (QQ)	±20 (RR)	±30 (TT)	±50 (XX)	±100 (CC)	±150 (GG)			
0~+45°C (edd)		○	○	○	○	○	○	○	○	○	○	○	○	○
0~+50°C (eee)		○	○	○	○	○	○	○	○	○	○	○	○	○
0~+60°C (egg)		○	○	○	○	○	○	○	○	○	○	○	○	○
0~+70°C (eii)			○	○	○	○	○	○	○	○	○	○	○	○
-10~+50°C (gee)			○	○	○	○	○	○	○	○	○	○	○	○
-10~+60°C (ggg)			○	○	○	○	○	○	○	○	○	○	○	○
-10~+70°C (gii)			○	○	○	○	○	○	○	○	○	○	○	○
-10~+75°C (gij)				○	○	○	○	○	○	○	○	○	○	○
-20~+70°C (iii)				○	○	○	○	○	○	○	○	○	○	○
-20~+75°C (ijj)					○	○	○	○	○	○	○	○	○	○
-30~+75°C (kii)						○	○	○	○	○	○	○	○	○
-30~+80°C (kkk)							○	○	○	○	○	○	○	○
-30~+85°C (kll)								○	○	○	○	○	○	○
-35~+80°C (lkk)									○	○	○	○	○	○
-40~+85°C (mll)										○	○	○	○	○
-40~+90°C (mmm)											○	○	○	○
-40~+105°C (mpp)												○	○	○
-40~+125°C (mtt)													○	○

○: Available (The extremes depend on actual frequencies.)

- Equivalent series resistance (ESR) 80 Ω max. (9.000 MHz to 12.000 MHz)
60 Ω max. (12.000 MHz to 16.000 MHz)
40 Ω max. (16.000 MHz to 80.000 MHz)
100 Ω max. (40.000 MHz to 150.000 MHz)
- Shunt capacitance (Co) 5 pF max.
- Drive level (P) 100 μW max. (10 μW for testing)
- Aging ±2 ppm max. at +25°C ±3°C for first year
- Cut/Oscillation mode AT-Cut/Fundamental (9.000 MHz to 80.000 MHz)
AT-Cut/3rd overtone (40.000 MHz to 150.000 MHz)
- Reflow condition 10 seconds max. at +250°C ±10°C

PART NUMBERING GUIDE

10.3680 MHz 97SMX(A) R / XX / mmm / 12



EXAMPLE

SMI PART NO.	Frequency	Package	Frequency tolerance
10.3680 MHz 97SMX(A) R/XX/mmm/12	10.3680 MHz	97SMX(A)	R = ±20 ppm
21.2500 MHz 97SMX(A) Q/FF/eee/14	21.2500 MHz	97SMX(A)	Q = ±15 ppm

Temperature stability	Operating temperature range	Load capacitance
XX = ±50 ppm	mmm = -40°C to +90°C	CL = 12 pF
FF = ±3.0 ppm	eee = 0°C to +50°C	CL = 14 pF

PACKAGE DATA

Item	Package	97SMX(A)
Lid		Metal
Base		Ceramic
Sealing		Seam
Terminal		Tungsten (metalized)
Terminal plating		Gold / Nickel (surface) / (under)
RoHS		Compliant (Pb-free)