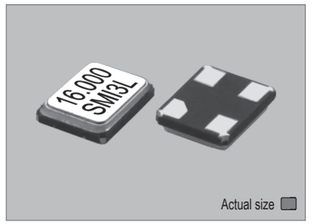
22SMX

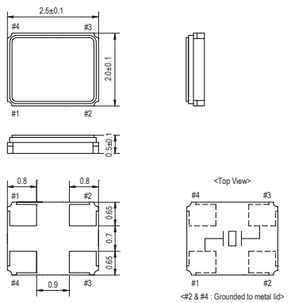
STANDARD SMD CRYSTALS

22SMX

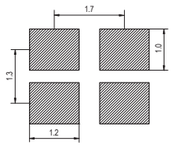


0.00953 gm (wt.)

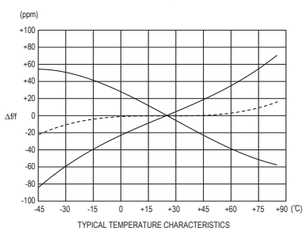
22SMX



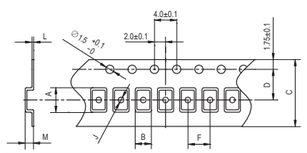
SOLDERING PATTERN



AT-CUT



TAPE SPECIFICATIONS



A	B	C	D	F	J	L	M	Reel Dia.	Qty/Reel
2.8	2.3	8.0	3.5	4.0	1.05	0.25	0.75	180	3000pcs (1000pcs)

STANDARD SPECIFICATIONS

Item	Specifications
Package type	22SMX
Frequency range	16.000 MHz to 80.000 MHz
Frequency tolerance	±30 ppm at +25˚C ±3˚C
Temperature stability (referred to +25˚C)	±30 ppm over −20˚C to +70˚C
Load capacitance (CL)	8 pF, Typical
Shunt capacitance (C0)	5 pF max.
Drive level (P)	100 µW max. (10 µW for testing)
Aging	±5 ppm max. at +25˚C ±3˚C per year
Cut / Oscillation mode	AT−Cut / Fundamental
Reflow condition	10 seconds max. at +250˚C ±10˚C

PART NUMBERING GUIDE

22 M 480 - 8

- 22 — Package type
- M — Circuit calibration condition
- 480 — Frequency designator
- 8 — Load capacitance (CL)

Example

SMI Part No.	Package	Circuit Calibration Condition	Frequency
22M480−8	22 = 22SMX	M = Parallel resonance CL= 8 pF	480 = 48.000 MHz
22S320	22 = 22SMX	S = Series resonance	320 = 32.000 MHz

PACKAGE DATA

Item \ Package	22SMX
Lid	Metal
Base	Ceramic
Sealing	Seam
Terminal	Tungsten (metalized)
Terminal plating	Gold / Nickel (surface) / (under)
RoHS	Compliant (Pb−free)

22SMX STANDARD FREQUENCIES

Frequency MHz	Frequency Designator	Max. Equivalent Series Resistance Ohms (Ω) ESR
16.000000	160	80
16.367660	1636	80
18.000000	180	80
19.200000	192	80
20.000000	200	60
20.250000	2025	60
22.000000	220	60
22.579200	2257	60
24.000000	240	60
24.545400	2454	60
24.576000	245	60
25.000000	250	60
26.000000	260	60
27.000000	270	60
27.120000	271	60
28.636360	2863636	60
30.000000	300	50
32.000000	320	50
33.000000	330	50
33.868800	338	50
36.000000	360	40
38.400000	384	40
40.000000	400	40
44.000000	440	40
45.000000	450	40
48.000000	480	40
52.000000	520	40
54.000000	540	40
74.100000	741	40
80.000000	800	40

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