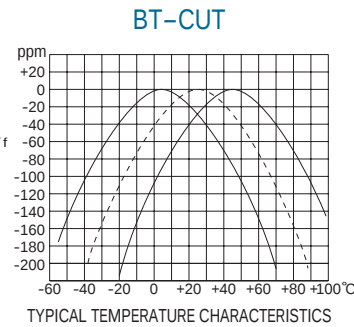
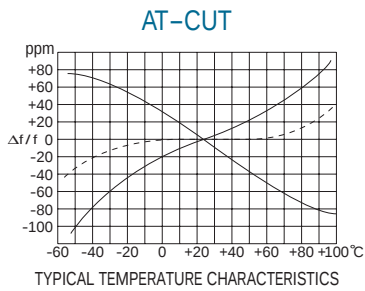
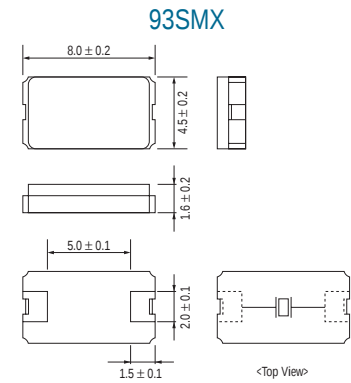
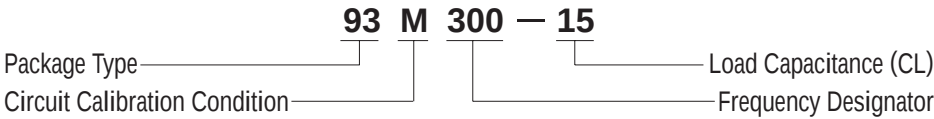




STANDARD SPECIFICATIONS

- 1. Package type 93SMX
- 2. Frequency range12.000 MHz to 90.000 MHz
- 3. Calibration tolerance ±50 ppm at +25°C ±3°C
- 4. Temperature stability (referred to +25°C)..... ±50 ppm over -20°C to +70°C(AT-Cut)
±100 ppm over -10°C to +60°C(BT-Cut)
- 5. Load capacitance 18 pF
- 6. Shunt capacitance (Co) 5 pF max.
- 7. Drive level (P) 100 μW max.
- 8. Aging ±5 ppm max. at +25°C ±3°C per year
- 9. Cut AT-Cut or BT-Cut
- 10. Reflow soldering condition 10 seconds max. at +235°C ±5°C

PART NUMBERING GUIDE



EXAMPLE

CIRCUIT CALIBRATION CONDITION	FREQUENCY	SMI PART NO.
Parallel Resonance = M CL = 15 pF (Optional)	300 = 30.000 MHz	93M300 -15
Series Resonance = S (Optional)	300 = 30.000 MHz	93S300

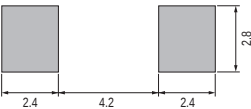
HOW TO ORDER STANDARD SMI CRYSTALS

Order by SMI Part No.

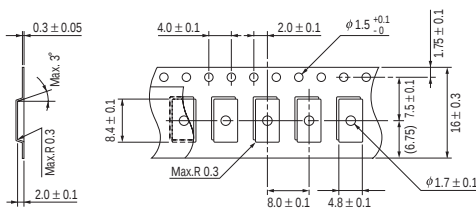
PACKAGE DATA

Item	Package	93SMX
LID		Ceramic
BASE		Ceramic
SEALING		Glass-frit / Resin
TERMINAL PLATING		Gold

SOLDERING PATTERN



TAPE SPECIFICATIONS



1000pcs. per reel (178mm dia.)

93SMX STANDARD FREQUENCIES

FREQUENCY MHz	FREQUENCY DESIGNATOR	MAXIMUM EQUIVALENT SERIES RESISTANCE OHMS	FREQUENCY MHz	FREQUENCY DESIGNATOR	MAXIMUM EQUIVALENT SERIES RESISTANCE OHMS
12.000000	120	50	18.870000	1887	40
12.096000	1209	50	19.200000	192	40
12.288000	122	50	19.660800	196	40
12.296000	1229	50	20.000000	200	40
13.500000	135	40	20.480000	204	40
14.318180	143	40	20.736000	207	40
14.400000	144	40	22.118400	221	40
14.484000	1448	40	24.000000	240	40
14.644000	146	40	24.000140	240001	40
14.745600	147	40	24.576000	245	40
15.000000	150	40	25.000000	250	40
15.360000	153	40	25.175000	251	40
15.500000	155	40	25.312000	253	40
15.728640	157	40	27.000000	270	40
16.000000	160	40	28.000000	280	40
16.000312	160003	40	28.224000	282	40
16.044000	1604	40	28.636363	286	40
16.128000	1612	40	28.800000	288	40
16.147200	1614	40	29.491200	294	40
16.257000	162	40	30.000000	300	40
16.384000	163	40	32.000000	320	40
16.667000	166	40	32.215909	322	40
16.934400	169	40	33.333000	333	40
17.000000	170	40	33.868800	338	40
17.100000	171	40	35.251200	352	40
17.700000	177	40	35.468950	354	40
17.734475	1773	40	36.000000	360	40
18.000000	180	40	40.000000	400	40
18.432000	184	40	40.320000	403	40
18.867000	188	40	44.236800	442	40
18.869000	1886	40			