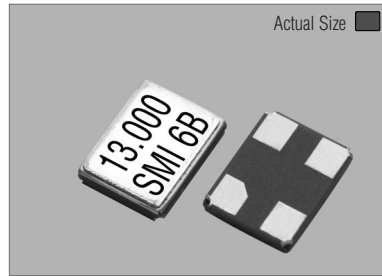
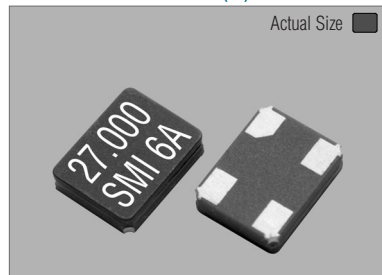


32SMX(A)



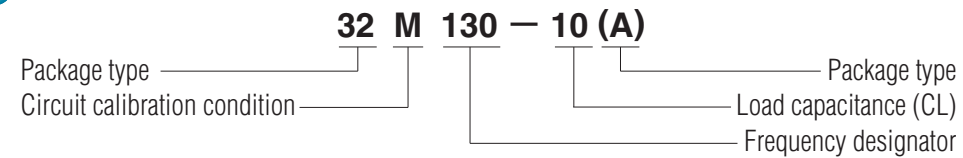
32SMX(B)



**STANDARD SPECIFICATIONS**

1. Package type ..... 32SMX(A) & 32SMX(B)
2. Frequency range ..... 32SMX(A) : 12.000 MHz to 67.500 MHz  
32SMX(B) : 13.000 MHz to 50.000 MHz
3. Frequency tolerance .....  $\pm 50$  ppm at  $+25^{\circ}\text{C} \pm 3^{\circ}\text{C}$
4. Temperature stability (referred to  $+25^{\circ}\text{C}$ ) .....  $\pm 50$  ppm over  $-20^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$
5. Load capacitance (CL) ..... 10 pF, Typical
6. Shunt capacitance (Co) ..... 5 pF max.
7. Drive level (P) ..... 100  $\mu\text{W}$  max. (10  $\mu\text{W}$  for testing)
8. Aging .....  $\pm 5$  ppm max. at  $+25^{\circ}\text{C} \pm 3^{\circ}\text{C}$  per year
9. Cut/Oscillation mode ..... AT-Cut/Fundamental
10. Reflow condition ..... 10 seconds max. at  $+250^{\circ}\text{C} \pm 10^{\circ}\text{C}$

**PART NUMBERING GUIDE**



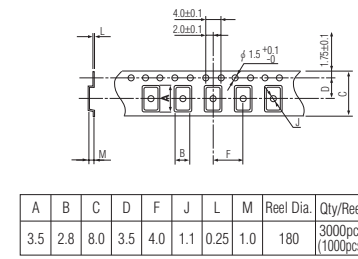
**EXAMPLE**

SMI PART NO.	Package	Circuit Calibration Condition	Frequency
<b>32M130-10(A)</b>	32(A) = 32SMX(A)	M = Parallel resonance CL = 10 pF	130 = 13.000 MHz
<b>32S270(B)</b>	32(B) = 32SMX(B)	S = Series resonance	270 = 27.000 MHz

**PACKAGE DATA**

Item	Package	32SMX(A)	32SMX(B)
<b>Lid</b>		Metal	Ceramic
<b>Base</b>		Ceramic	Ceramic
<b>Sealing</b>		Seam / EB	Glass
<b>Terminal</b>		Tungsten (metalized)	Tungsten (metalized)
<b>Terminal plating</b>		Gold / Nickel (surface) / (under)	Gold / Nickel (surface) / (under)
<b>RoHS</b>		Compliant (Pb-free)	Compliant

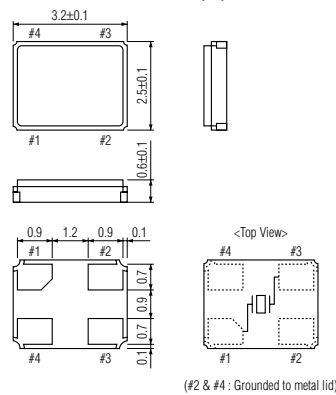
**TAPE SPECIFICATIONS**



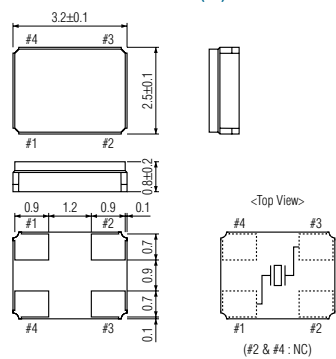
**32SMX STANDARD FREQUENCIES**

FREQUENCY MHz	FREQUENCY DESIGNATOR	MAX EQUIVALENT SERIES RESISTANCE OHMS( $\Omega$ ) ESR
12.000000	120	120
12.288000	122	120
13.000000	130	120
14.318180	143	100
14.745600	147	100
16.000000	160	80
16.384000	163	80
16.756990	1675	80
16.934400	1693	80
18.432000	184	80
18.870000	188	80
19.069928	1906	80
19.200000	192	80
19.660800	196	80
19.800000	198	80
20.000000	200	70
22.000000	220	70
22.118400	221	70
22.579200	2257	70
23.104000	23104	70
24.000000	240	70
24.576000	245	70
25.000000	250	70
25.804800	258	70
26.000000	260	70
27.000000	270	70
27.120000	271	70
28.375000	283	70
28.636360	2863	70
30.000000	300	50
32.000000	320	50
32.256000	3225	50
32.768000	32768	50
33.000000	330	50
33.333300	3333	50
33.750000	337	50
36.000000	360	50
39.000000	390	50
40.000000	400	50
44.000000	440	50
48.000000	480	50
49.152000	491	50
50.000000	500	50
54.000000	540	50
67.500000	675	50

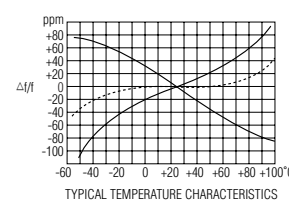
32SMX(A)



32SMX(B)



**AT-CUT**



**SOLDERING PATTERN for 32SMX(A) & 32SMX(B)**

