

XTAL

CLK OSC

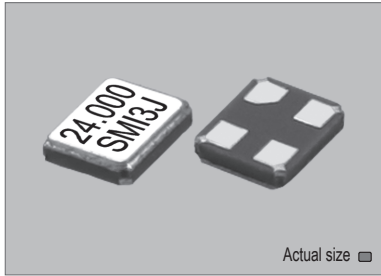
VCXO

TCXO

OCXO

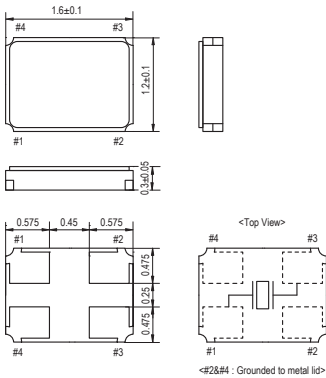
MCF

11SMX

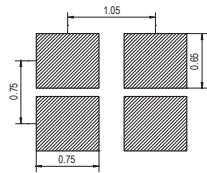


Actual size
0.0018 gm (wt.)

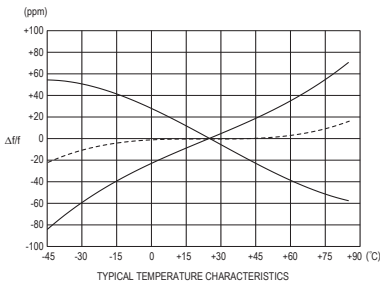
11SMX



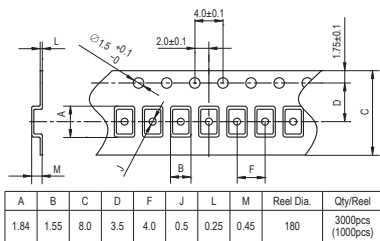
SOLDERING PATTERN



AT-CUT



TAPE SPECIFICATIONS



A	B	C	D	F	J	L	M	Reel Dia.	Qty/Reel
1.84	1.55	8.0	3.5	4.0	0.5	0.25	0.45	180	3000pcs (10000pcs)

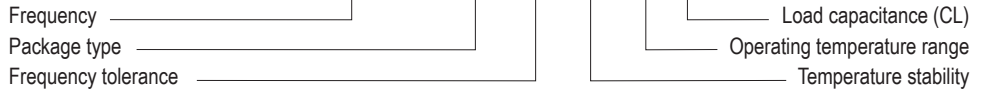
CUSTOM SPECIFICATIONS

Item	Specifications																																																																																																																																																																																																																																						
Package type	11SMX																																																																																																																																																																																																																																						
Frequency range	24.000 MHz to 80.000 MHz																																																																																																																																																																																																																																						
Frequency tolerance (at +25°C ±3°C)	O : ±10 ppm Q : ±15 ppm R : ±20 ppm																																																																																																																																																																																																																																						
Temperature stability (referred to +25°C)	<table border="1"> <thead> <tr> <th>Temp. Stability(ppm)</th> <th>±3.0</th> <th>±5.0</th> <th>±7.5</th> <th>±10.0</th> <th>±15.0</th> <th>±20.0</th> <th>±30.0</th> <th>±50.0</th> <th>±100.0</th> <th>±150.0</th> </tr> <tr> <th>Open Temperature Range</th> <th>FF</th> <th>JJ</th> <th>LL</th> <th>OO</th> <th>QQ</th> <th>RR</th> <th>TT</th> <th>XX</th> <th>CC1</th> <th>GG1</th> </tr> </thead> <tbody> <tr><td>0°C to +45°C (edd)</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>0°C to +50°C (eee)</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>0°C to +60°C (egg)</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>0°C to +70°C (eii)</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>-10°C to +50°C (gee)</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>-10°C to +60°C (ggg)</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>-10°C to +70°C (gii)</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>-10°C to +75°C (gjj)</td><td></td><td></td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>-20°C to +70°C (iii)</td><td></td><td></td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>-20°C to +75°C (ijj)</td><td></td><td></td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>-30°C to +75°C (kjj)</td><td></td><td></td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>-30°C to +80°C (kkk)</td><td></td><td></td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>-30°C to +85°C (kll)</td><td></td><td></td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>-35°C to +80°C (lkk)</td><td></td><td></td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>-40°C to +85°C (mll)</td><td></td><td></td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>-40°C to +90°C (mmm)</td><td></td><td></td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>-40°C to +105°C (mpp)</td><td></td><td></td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>-40°C to +125°C (mtt)</td><td></td><td></td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td></tr> </tbody> </table>											Temp. Stability(ppm)	±3.0	±5.0	±7.5	±10.0	±15.0	±20.0	±30.0	±50.0	±100.0	±150.0	Open Temperature Range	FF	JJ	LL	OO	QQ	RR	TT	XX	CC1	GG1	0°C to +45°C (edd)	○	○	○	○	○	○	○	○	○	○	0°C to +50°C (eee)	○	○	○	○	○	○	○	○	○	○	0°C to +60°C (egg)	○	○	○	○	○	○	○	○	○	○	0°C to +70°C (eii)	○	○	○	○	○	○	○	○	○	○	-10°C to +50°C (gee)	○	○	○	○	○	○	○	○	○	○	-10°C to +60°C (ggg)	○	○	○	○	○	○	○	○	○	○	-10°C to +70°C (gii)	○	○	○	○	○	○	○	○	○	○	-10°C to +75°C (gjj)			○	○	○	○	○	○	○	○	-20°C to +70°C (iii)			○	○	○	○	○	○	○	○	-20°C to +75°C (ijj)			○	○	○	○	○	○	○	○	-30°C to +75°C (kjj)			○	○	○	○	○	○	○	○	-30°C to +80°C (kkk)			○	○	○	○	○	○	○	○	-30°C to +85°C (kll)			○	○	○	○	○	○	○	○	-35°C to +80°C (lkk)			○	○	○	○	○	○	○	○	-40°C to +85°C (mll)			○	○	○	○	○	○	○	○	-40°C to +90°C (mmm)			○	○	○	○	○	○	○	○	-40°C to +105°C (mpp)			○	○	○	○	○	○	○	○	-40°C to +125°C (mtt)			○	○	○	○	○	○	○	○
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Equivalent series resistance (ESR)	150 Ω max. / 24.000 MHz to 32.000 MHz 100 Ω max. / 32.000 MHz to 38.000 MHz 80 Ω max. / 38.000 MHz to 80.000 MHz																																																																																																																																																																																																																																						
Shunt capacitance (C0)	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																																																																																																																																																																																																																																						
Reflow condition	10 seconds max. at +250°C ±10°C																																																																																																																																																																																																																																						

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

PART NUMBERING GUIDE

38.400MHz 11SMX O / OO / iii / 7



Example

SMI Part No.	Frequency	Package	Frequency Tolerance	Temperature Stability	Operating Temperature Range	Load Capacitance
38.400MHz 11SMX O/OO/iii/7	38.400 MHz	11SMX	O = ±10 ppm	OO = ±10 ppm	iii = -20°C to +70°C	CL = 7 pF

PACKAGE DATA

Item	Package	11SMX
Lid		Metal
Base		Ceramic
Sealing		Seam
Terminal		Tungsten (metallized)
Terminal plating		Gold / Nickel (surface) / (under)
RoHS		Compliant (Pb-free)