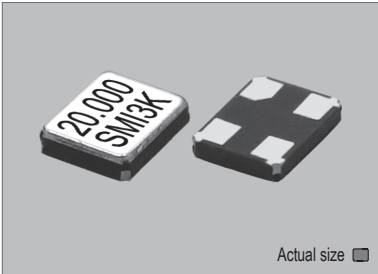
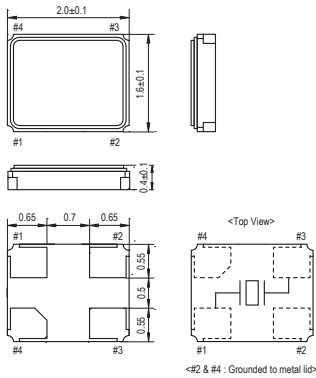


21SMX

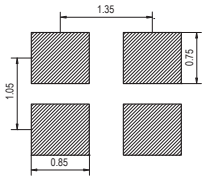


Actual size
0.00568 gm (wt.)

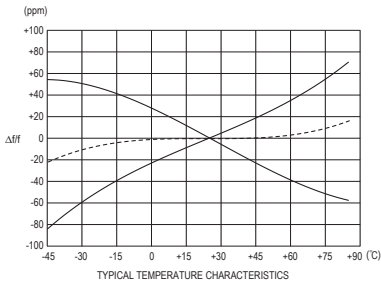
21SMX



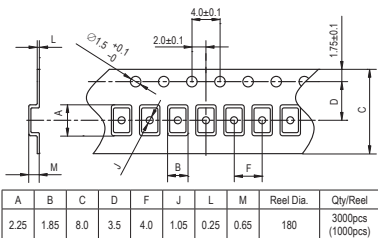
SOLDERING PATTERN



AT-CUT



TAPE SPECIFICATIONS



CUSTOM SPECIFICATIONS

Item	Specifications																																																																																																																																																																																																																																					
Package type	21SMX																																																																																																																																																																																																																																					
Frequency range	20.000 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>Opn. 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 (gij)</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 (iji)</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 (kij)</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	Opn. 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 (gij)			○	○	○	○	○	○	○	○	-20°C to +70°C (iii)			○	○	○	○	○	○	○	○	-20°C to +75°C (iji)			○	○	○	○	○	○	○	○	-30°C to +75°C (kij)				○	○	○	○	○	○	○	-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)	100 Ω max. / 20.000 MHz to 24.000 MHz 80 Ω max. / 24.000 MHz to 26.000 MHz 60 Ω max. / 26.000 MHz to 40.000 MHz 50 Ω max. / 40.000 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

27.000MHz 21SMX R / TT / iii / 8



Example

SMI Part No.	Frequency	Package	Frequency Tolerance	Temperature Stability	Operating Temperature Range	Load Capacitance
27.000MHz 21SMX R/TT/iii/8	27.000 MHz	21SMX	R = ±20 ppm	TT = ±30 ppm	iii = -20°C to +70°C	CL = 8 pF

PACKAGE DATA

Item	Package	21SMX
Lid		Metal
Base		Ceramic
Sealing		Seam
Terminal		Tungsten (metalized)
Terminal plating		Gold / Nickel (surface) / (under)
RoHS		Compliant (Pb-free)

XTAL

CLK OSC

VCXO

TCXO

OCXO

MCF