

DESCRIPTION

The SMD0603(4P) crystal has a ultra small package and wide frequency range.

ELECTRICAL SPECIFICATION

Frequency Range	10.00 to 110.00 MHz
Load Capacitance	10pF to 33 (for parallel)
Frequency Tolerance (at 25 °C)	±50ppM Maximum
Oscillation Mode	Fundamental, Third
Frequency Stability in Temperature	±30ppM Maximum
Operating Temperature Range	-10 °C to +60 °C Standard (or Optional)
Storage Temperature Range	-40 °C to +85 °C
Equivalent Series Resistance (ESR)	See ESR Table
Drive Level	1.0mW Maximum
Shunt Capacitance	7pF Maximum
Aging (at 25 °C)	±3ppM per year
Insulation Resistance	>500 MOhm at DC 100V

ESR TABLE (Ohms)

10.00 to 16.00MHz (F)	16.01 to 30.00MHz (F)	30.01 to 50.00MHz (3OT)	50.01 to 110MHz (3OT)
80	60	80	70

FREQUENCY RANGE AND OSCILLATION MODE

Fundamental (F)	10.0000 to 16.000MHz
Fundamental (F)	16.001 to 30.000MHz
Third Overtone (3OT)	30.001 to 50.000MHz
Third Overtone (3OT)	50.001 to 110MHz

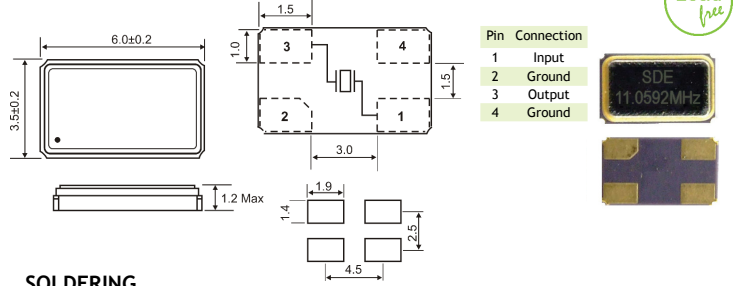
ENVIRONMENTAL SPECIFICATION

Conditions		Results
1. Temperature test		
Temperature cycling test	Steps of cycle	1) at -55 °C, 30 minutes 2) at +25 °C, 10-15 min. 3) at +85 °C, 30 minutes 4) at +25 °C, 10-15 min.
	Number of cycles	3 times
2. Aging test		
Temperature	+85 °C ±20 °C	Deviation of frequency must be less than ±3ppM
Length of test	96 hours	
3. Salt spray test		
Temperature	+35 °C ±2 °C	There should be no stain on surface of products
Length of test	48 hours	
NaCl %	5%	
4. Humidity test		
Temperature	+40 °C ±2 °C	a) Insulation resistance must be 500 MOhms/100 Vac minimum. b) Resistance and wave form must remain within specifications
Relative humidity	90 - 95%	
Length of test	96 hours	

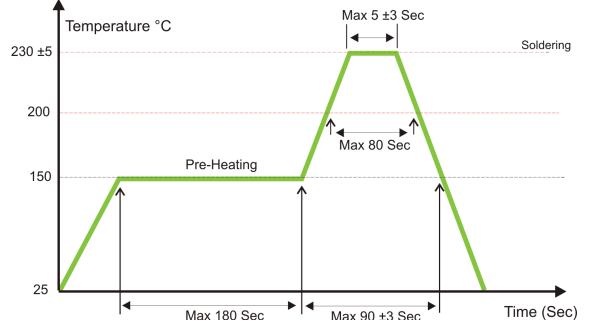
MECHANICAL SPECIFICATION

Conditions		Results
1. Vibration test		
Frequency	10 ~ 55Hz	Frequency and wave form of tested products must remain within specifications
Amplitude	0.762mm	
Sweep	1.0 minute	
Duration	2 hours	
2. Drop test		
Method of drop	Natural drop	Frequency and wave form of tested products must remain within specifications
Dropping floor	Hard wood board	
Height	30 cm	
Number of drops	3 times	

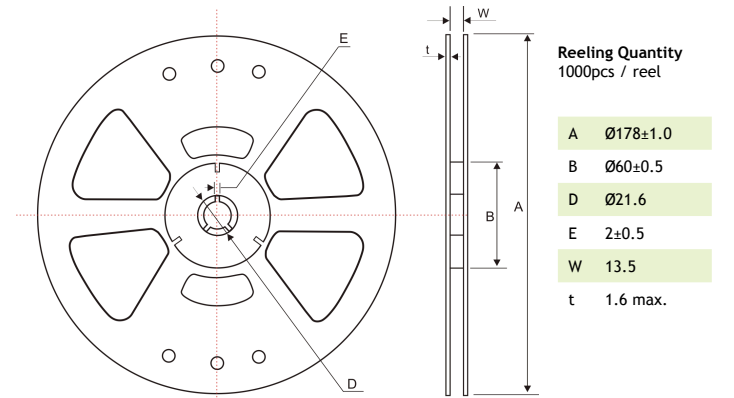
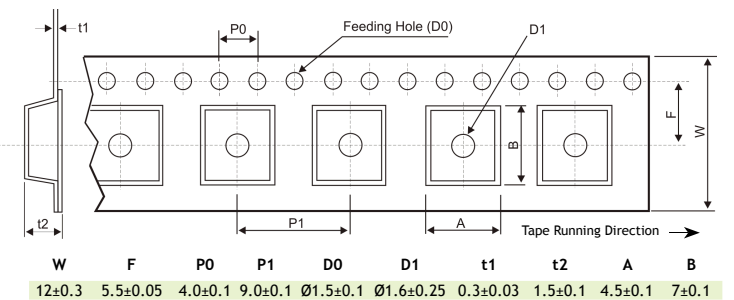
MECHANICAL DIMENSIONS (all in mm)



SOLDERING



TAPE SPECIFICATIONS (all in mm) - Carrier Tape Dimensions



PART NUMBERING SYSTEM (Example)

SMD0603-11.0592-F-20-30-30-A-T-4P

