

SHOULDER

SPECIFICATION

Item:	CRYSTAL
Type:	SMD0503





SMD0503 CRYSTAL

Scope

This specification shall cover the characteristics of SMD 5x3.2 crystal.

Ultra small package

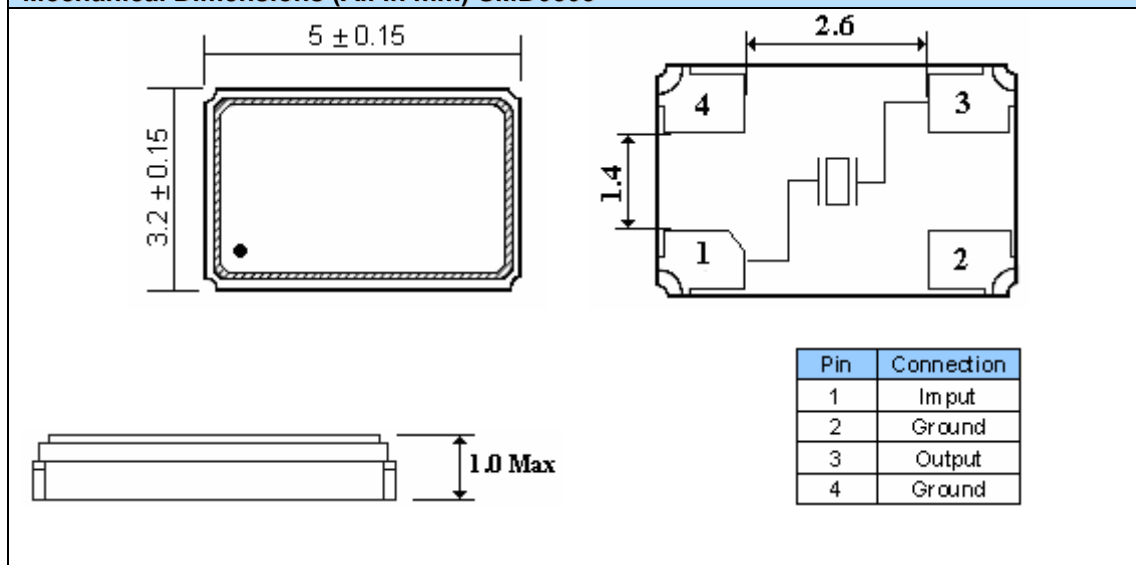
Wide Frequency Range



Electrical Specification

Parameter	Value
Nominal Frequency	10.00 to 80.000 MHz
Frequency Tolerance (at 25°C)	± 30 PPM (Maximum)
Frequency Stability	±30 PPM (Maximum)
Oscillation Mode	Fundamental
Equivalent Series resistance	50Ω
Drive Level	1.0 mW (Maximum)
Operating Temperature Range	-20 to + 70°C Standard (or Optional)
Storage Temperature	-40 to + 85°C
Load Capacitance	10 pF to Series
Shunt Capacitance	< 7 PF
Aging (at 25°C)	± 3 ppM per year
Insulation Resistance	> 500 MΩ at DC 100V

Mechanical Dimensions (All in mm) SMD0503

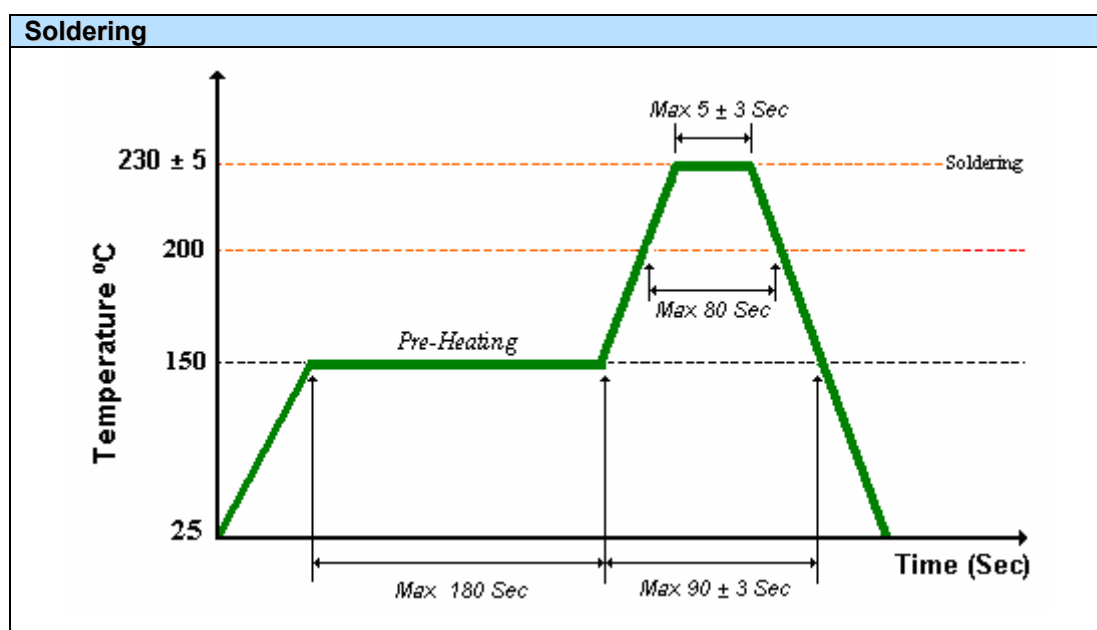




SMD0503 CRYSTAL

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	30cm	
	Number of drops	3 times	

Environmental Specification			
	Conditions		Results
1. Temperature test			
Temperature cycling test	Steps of cycle	1) at -55°C, 30 minutes	Frequency and wave form of tested products must remain within specifications.
		2) at +25°C, 10~15 minutes	
		3) at +85°C, 30 minutes	
		4) at +25°C, 10~15 minutes	
	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 MΩ/100 Vac minimum. b) Resistance and wave form must remain within specifications.
	Relative humidity	90 ~ 95%	
	Length of test	96 hours	



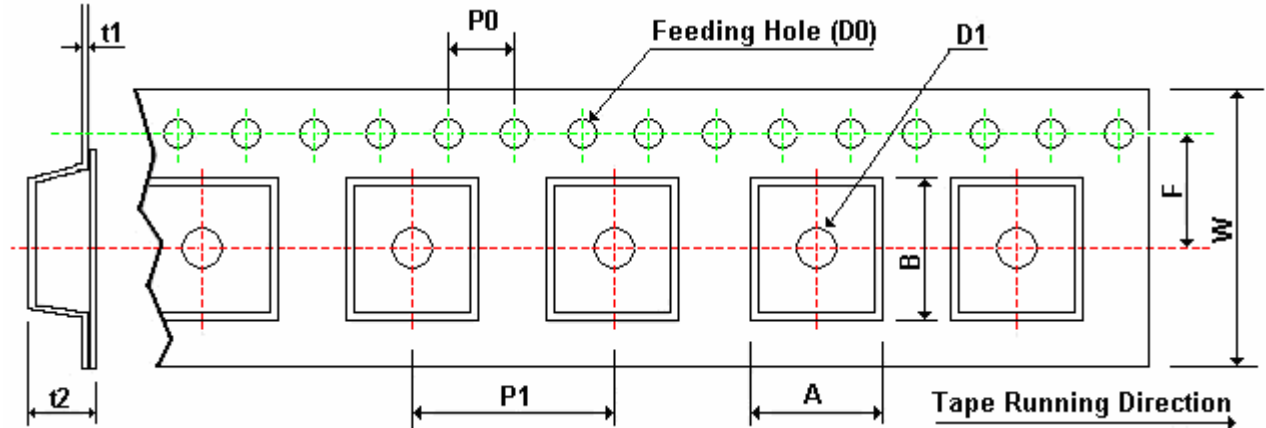


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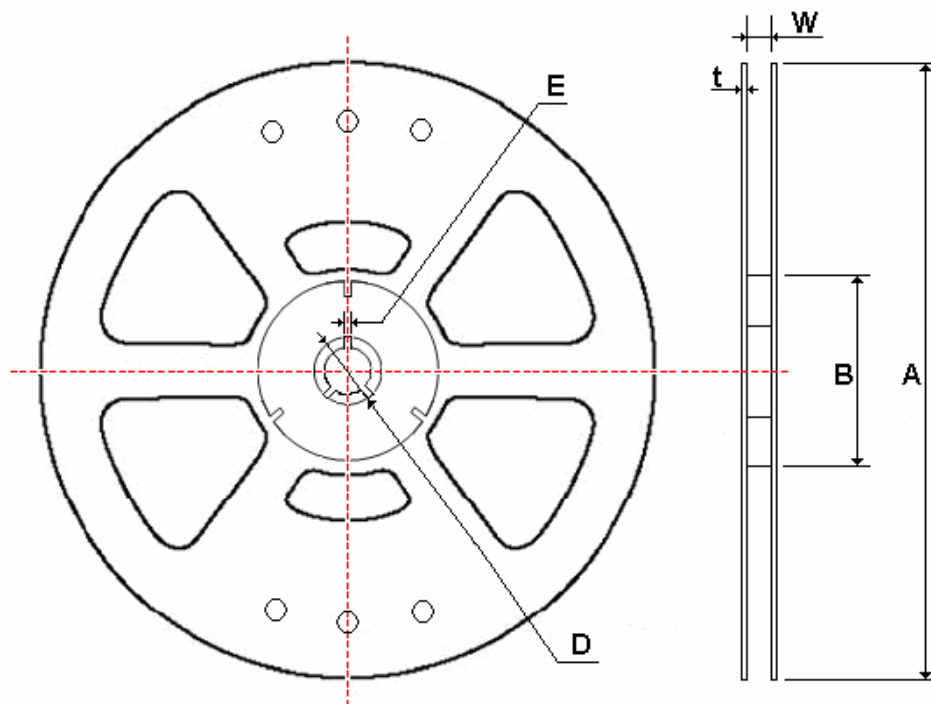
Tape Specifications (All in mm)

Reeling Quantity - 1000pcs / reel

Carrier Tape Dimensions

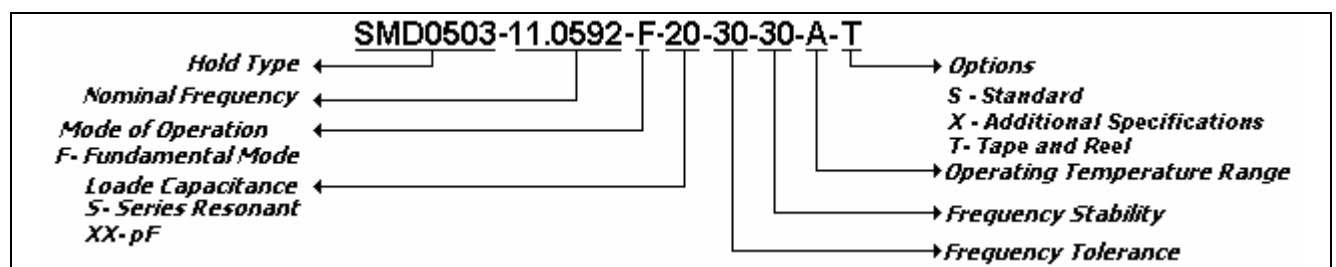


W	F	P0	P1	D0	D1	t1	t2	A	B
16 ± 0.3	5.5 ± 0.05	4.0 ± 0.1	9.0 ± 0.1	$\varnothing 1.5 \pm 0.1$	$\varnothing 1.6 \pm 0.25$	0.3 ± 0.03	1.7 ± 0.1	4.2 ± 0.1	6 ± 0.1



A	$\varnothing 178 \pm 1.0$
B	$\varnothing 60 \pm 0.5$
D	$\varnothing 13.5$
E	2 ± 0.5
W	17.5
t	1.6max.

SMD0503 CRYSTAL Part Numbering System (Example)





SMD0503 CRYSTAL

SMD0503	11.0592	F	20	30	30	A		T
↕	↕	↕	↕	↕	↕	↕		↕
Type	Nominal Frequency (in MHz)	Vibration Mode	Load Capacitance	Frequency Tolerance	Frequency Stability	Operating Temperature Range		Option (can be blank)
SMD0503 49S-SMD 49S2-SMD SMD0804 SMD0705 SMD0603 SMD0402	Enter the nominal frequency (3 digits after dot) or up to last significant digit (different than zero)	F = Fund	S = Series Or enter load capacitance: 10 to 33 for parallel	Indicate the tolerance value in ± PPM	Indicate the stability over temperature range value in ± PPM	A	-20°C to 70°C	S= Standard X= Additional Specifications T= Tape and Reel
						B	-10°C to 60°C	
						C	0°C to 50°C	
						D	-30°C to 80°C	
						E	-40°C to 85°C	