

Features

- Low in height, suitable for thin equipment
- Ceramic package and metal lid assures high reliability
- Tight tolerance and stability available

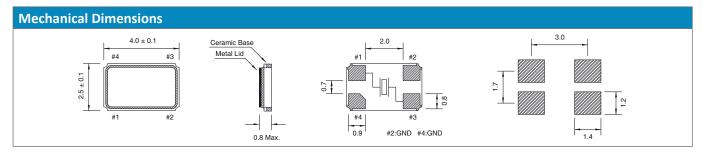
Applications

- High density applications
- Modem, communication and test equipment
- PMCIA, wireless applications

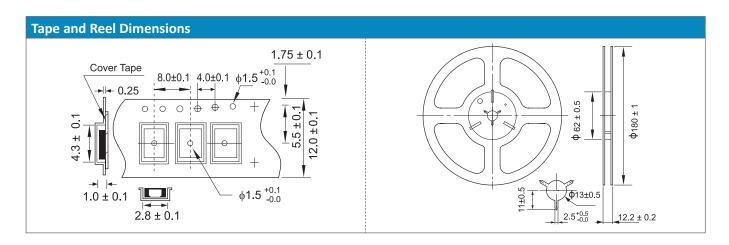
General Specifications					
Frequency Range	12.000 to 52.000MHz				
Mode of Oscillation Fundamental	12.000 to 52.000MHz				
Frenquency Tolerance at 25°C	±10 to ±30ppm (±30ppm standard)				
Frequency Stability over Temperature Range	See Stability vs. Temperature Table				
Storage Temperature	-55 to +125°C				
Aging per Year	±3ppm max.				
Load Capacitance C _L	10 to 32pF and Series Resonance				
Shunt Capacitance C ₀	5.0pF max.				
Equivalent Series Resistance (ESR)	See ESR Table				
Drive Level	100μW max.				
Insulation Resistance (MΩ)	500 at 100Vdc ±15Vdc				

Equivalent Series Resistance (ESR)					
Frequency Range - MHz	Ω max.	Mode of Operation			
12.000 to 15.000	80	Fundamental			
15.100 to 20.000	60				
20.100 to 30.000	40				
30.100 to 52.000	30				

Frequency Stability vs. Temperature					
Operating Temperature	±10ppm	±20ppm	±30ppm	±50ppm	±100ppm
-20 to +70°C	0	0	0	0	0
-40 to +85°C	O*	0	•	0	0
*Operating Temperature -30 to +85°C				•	standard O available



Quarz- technik Code	Package	Nominal Frequency (in MHz)	Vibration Mode	Load Capa- citance	Frequency Tolerance	Operating Temperature Range	Frequency Stability	Automotive Indicator	Packaging
QT = Quarz- technik	C4A = 2.5x4 4-Pad SMD	7 digits including the decimal point (f.ie. 12.0000)	F = AT-Fund	S = Series A = 8pF B = 12pF C = 16pF D = 18pF E = 20 pF	T1 = ±10ppm T2 = ±20ppm T3 = ±30ppm T5 = ±50ppm T0 = ±100ppm	C = -20 - +70°C I = -40 - +85°C	10 = ±10ppm 15 = ±15ppm 20 = ±20ppm 30 = ±30ppm 50 = ±50ppm 00 = ±100ppm	not available	M = 250pcs Tape&Reel R = 1000pcs Tape&Ree B = Bulk



Marking Code Guide

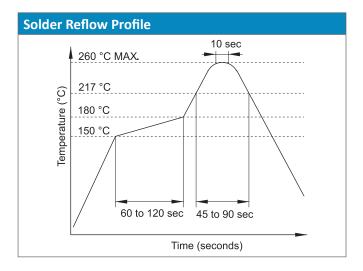
Contains frequency, Quarztechnik manufacturing code, production code (month and year) and load capacitance.

Month (Codes		
January	Α	July	G
February	В	August	Н
March	С	September	I
April	D	October	J
May	Е	November	K
June	F	December	L

Year Codes						
2010	0	2011	1	2012	2	
2013	3	2014	4	2015	5	
2016	6	2017	7	2018	8	
2019	9	2020	0	2021	1	

Load Capacitance Code in pF					
pF	PN Code	pF	PN Code		
12	Α	20	F		
18	В	22	G		
8	С	30	Н		
10	D	32	l I		
16	E	S	S		

Example: First Line: 12.000 (Frequency) Second Line: QA4A (Quarztechnik - January - 2014 - 12 pF)



Environmental Specifications				
Mechanical Shock	MIL-STD-202, Method 213, C			
Vibration	MIL-STD-202, Method 201 & 204			
Thermal Cycle	MIL-STD, Method 1010, B			
Gross Leak	MIL-STD-202, Method 112			
Fine Leak	MIL-STD-202, Method 112			