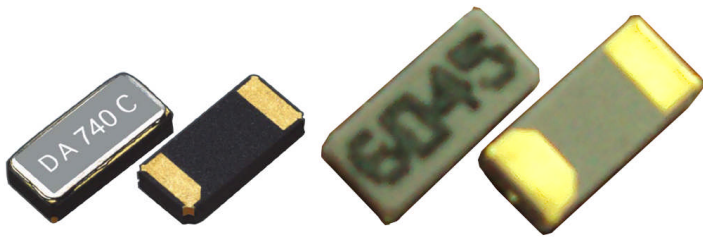


Quartz Crystal Series	Features ◆ RoHS Compliant ◆ Ceramic	
SMD3215A(35A) SMD2012A(22A)		

Electrical Specifications

Item	Specifications		Remarks
Series	SMD3215A	SMD2012A	
Nominal Frequency Range	32.768KHz		Standard
	30KHz to 100KHz		Available
Frequency Tolerance	±20ppm(Standard)		Others are offered
Temperature Coefficient	-0.034±0.006ppm/°C ²		
Turn Over Temperature	25°C±5°C		
Operating Temperature Range	-20°C to +70°C; -40°C to +85°C		
Storage Temperature Range	-55°C to +125°C		
Series Resistance	80KΩ		32.768KHz
Shunt Capacitance	1.5pF		Typical
Capacitance Ratio	518		Typical
Load Capacitance	12.5pF(Standard)		6pF to 12.5pF
Drive Level	0.5μW		Maximum
Insulated Resistance	500MΩ		Minimum at 100Vdc
Aging	±2ppm/year		Maximum

ESR(Series Resistance)

Frequency(KHz)	Mode	K Ω Max	Frequency(KHz)	Mode	K Ω Max
30.0~40.0	Fund	80	80.1~100.0	Fund	50
40.1~60.0	Fund	70			
60.1~80.0	Fund	60			

Stability vs. Temperature

◆ Standard		1	2	3	5	8	7	Remarks
◇ Please specify		±10ppm	±20ppm	±30ppm	±50ppm	±80ppm	±160ppm	
C	-20°C to +70°C	◇	◆	◇	◇	◇	◇	Standard
D	-40°C to +85°C		◇	◇	◆	◇	◇	

Ordering Information

Q	R	Type	XX.XXXX	K	Mode	CL pF	Freq.Tolerance at 25°C	Operating Temp.	Stability Vs.Temp.	Option
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Q: Quartz 35A: SMD3215A Center frequency 30 to 100KHz K: KHz F:Fund.;AT See Table ±20ppm to ±50ppm See Table See Table F:Lead Free T:T&R Blank:Bulk

Example:QR35A32.7680KFS2C2F (Crystal,SMD 3215A,32.768KHz,12.5pF,+/-20ppm,-20 to +70deg,+/-20ppm.T&R,Lead free)

Quartz Crystal Series

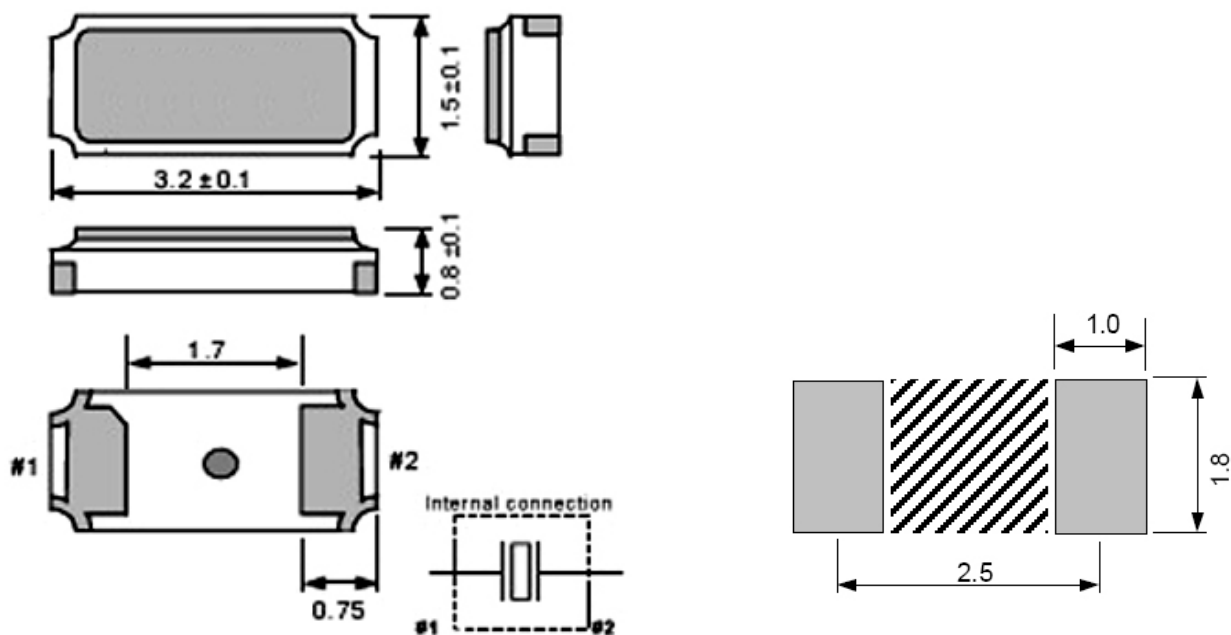
SMD3215A(35A)
SMD2012A(22A)

Load Capacitance Codes

6pF:	A	7pF:	E	8pF:	F	9pF:	B
10pF:	R	12pF:	T	12.5pF:	S		

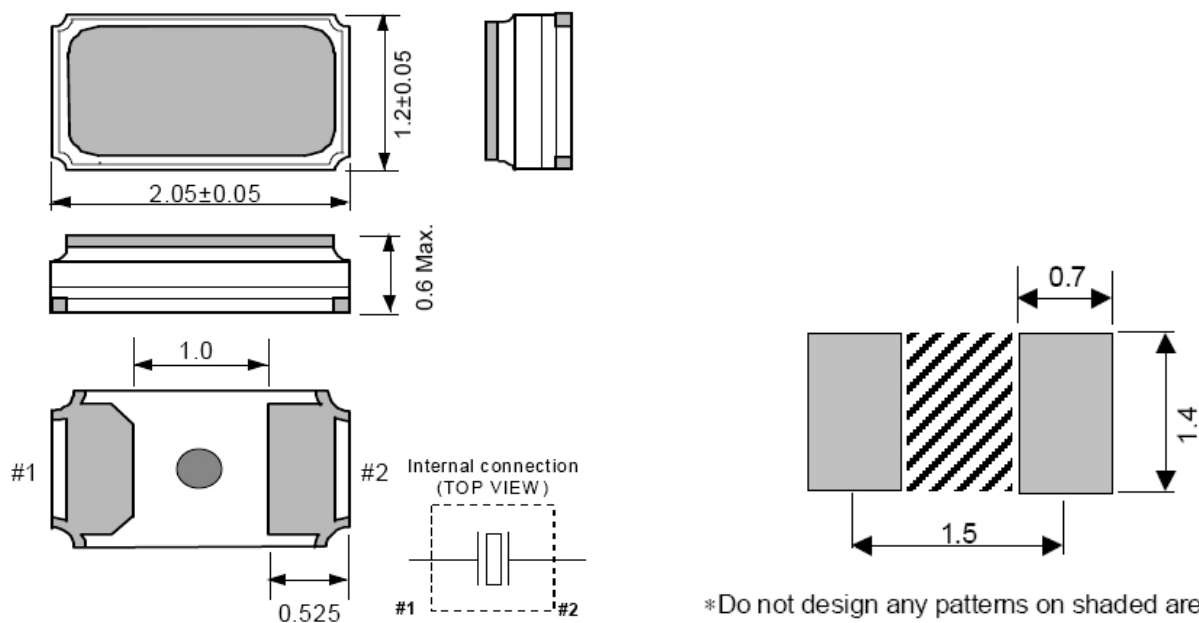
Dimensions

SMD3215A(35A)



UNIT:mm

SMD2012A(22A)



*Do not design any patterns on shaded area.

UNIT:mm

Quartz Crystal Series

SMD3215A(35A)

SMD2012A(22A)

Reflow Soldering Profile

