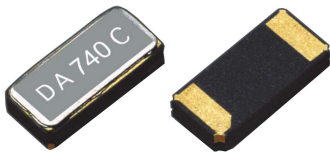


Quartz Crystal Series	Features ◆RoHS Compliant ◆Ceramic	
SMD1610A (32.768K)		

Electrical Specifications

Item	Specifications	Remarks
Series	SMD1610A	
Nominal Frequency Range	32.768KHz	Standard
	30KHz to 100KHz	Available
Frequency Tolerance	±20ppm(Standard)	Others are offered
Temperature Coefficient	(-0.036±10%)ppm/°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	1.2pF	Typical
Capacitance Ratio	518	Typical
Load Capacitance	12.5pF(Standard)	6pF to 12.5pF
Drive Level	0.1μW	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
Q:Quartz R:Resonator		16A: SMD1610A	Center frequency 30 to 100KHz	K: KHz	F:Fund.;AT	See Table	1: ±10ppm 2: ±20ppm 3: ±30ppm 5: ±50ppm	See Table	See Table	F:Lead Free T:T&R Blank:Bulk
Example:QR16A32.7680KFS2C2F (Crystal,SMD1610A,32.768KHz,12.5pF,+/-20ppm,-20 to +70deg,+/-20ppm.T&R,Lead free)										

Quartz Crystal Series

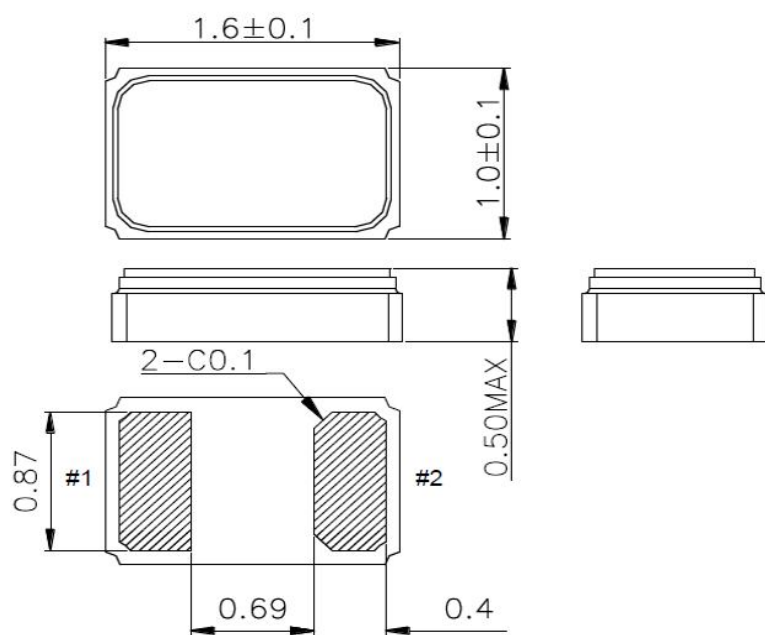
SMD1610A (32.768K)

Load Capacitance Codes

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

Dimensions

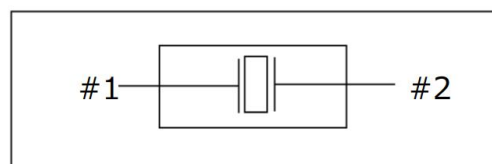
SMD1610A (32.768K)



RECOMMENDED SOLDERING PATTERN



INTERNAL LEAD CONDITIONS



UNIT:mm

Reflow Soldering Profile

