

RoHS Compliant  
Pb - Lead Free

Ltr	Revisions	Date	Appr

**Electrical Specifications:**

<b>Frequency Range</b>		<b>8.000 to 133.000</b>	<b>MHz</b>
<b>Mode of Oscillation</b>	<b>Fundamental</b>	<b>10.000 to 52.000</b>	<b>MHz</b>
	<b>Third Overtone</b>	<b>52.100 to 133.000</b>	
<b>Frequency Tolerance at 25°C</b>	<b>Standard</b>	<b>±30</b>	<b>PPM Max</b>
	<b>Optional</b>	<b>±25</b>	
		<b>±20</b>	
		<b>±15</b>	
		<b>±10</b>	
<b>Frequency Stability over Temperature Range</b>	<b>Standard</b>	<b>±50</b>	<b>PPM Max</b>
	<b>Optional</b>	<b>±30</b>	
		<b>±25</b>	
		<b>±20</b>	
		<b>±15</b>	
		<b>±10*</b>	
<b>Operating Temperature Range</b>	<b>Standard</b>	<b>-10 to +70</b>	<b>° C</b>
	<b>Extended</b>	<b>-40 to +85</b>	
<b>Storage Temperature Range</b>		<b>-55 to +125</b>	
<b>Aging</b>		<b>±3</b>	<b>PPM Max/Year</b>
<b>Load Capacitance</b>		<b>10 to 32 and Series Resonance</b>	<b>pF</b>
<b>Shunt Capacitance</b>		<b>7.0</b>	
<b>Equivalent Series Resistance (ESR)</b>		<b>See ESR Table</b>	<b>Ohms</b>
<b>Drive Level</b>		<b>100</b>	<b>uW Typ</b>
<b>Insulation Resistance</b>		<b>500 at 100 Vdc ± 15 Vdc</b>	<b>M Ohms</b>

**Frequency Range and ESR Values:**

Frequency Range in MHz	ESR Ohm Max	Mode of Operation
8.000 to 10.000	150	Fundamental
10.100 to 12.000	80	Fundamental
12.100 to 20.000	50	Fundamental
20.100 to 40.000	40	Fundamental
40.100 to 52.000	20	Fundamental
52.100 to 133.000	70	Third Overtone



11-3 Chien-Kuo Rd T.E.P.Z. 4027 Taiwan, ROC

All dimensions are millimeters.

CAD: TCR

Review: EG

Appr: JL

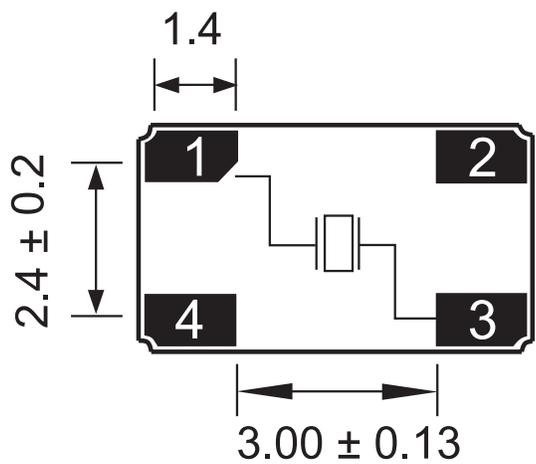
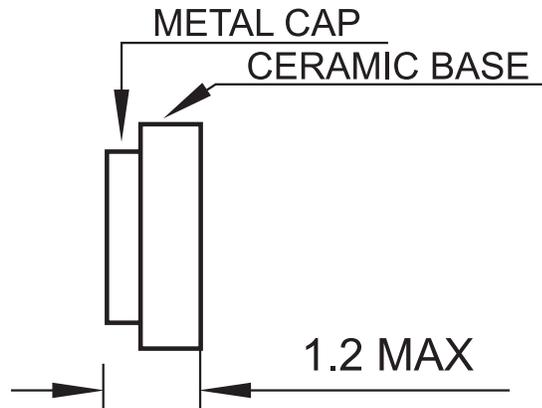
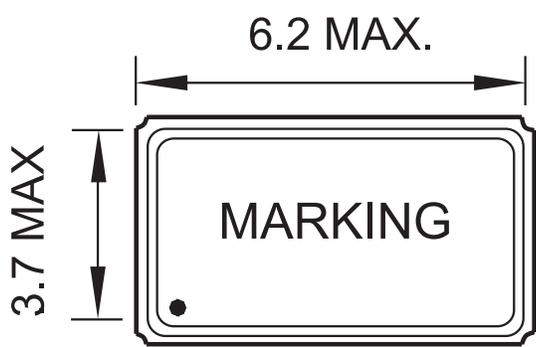
Page: 1/4 Date: May 1, 2013

Specification Title:

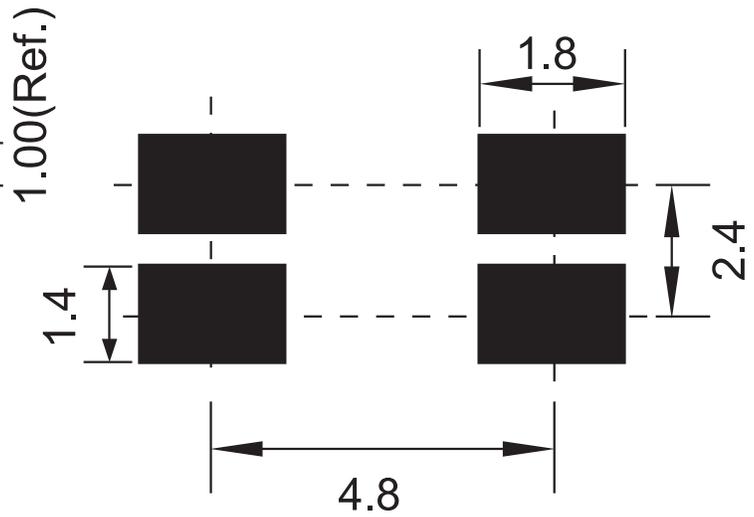
**Microprocessor Crystal Unit  
Low Profile  
6.0 x 3.5 millimeter Surface Mount - 4 Pad  
General Product Specification**

Part Number: **C6S Series**

**Mechanical Outline:**



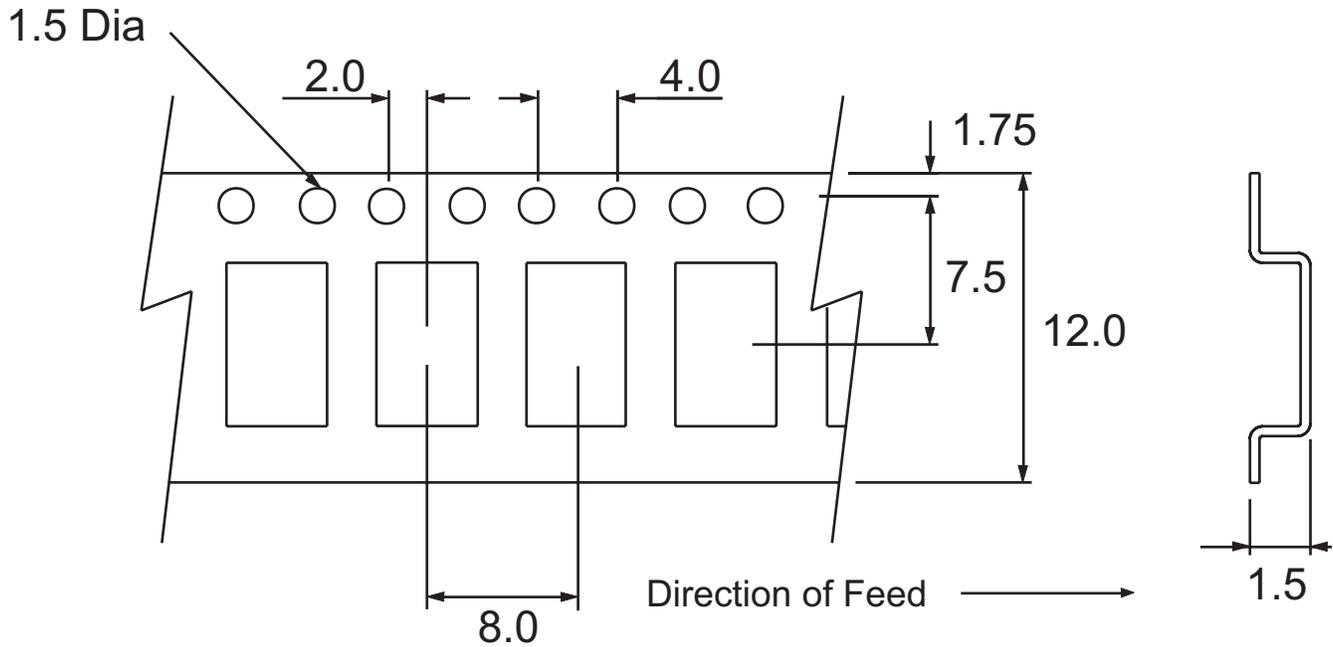
#2 and #4 : GND  
Bottom



(Recommended Land Pattern)

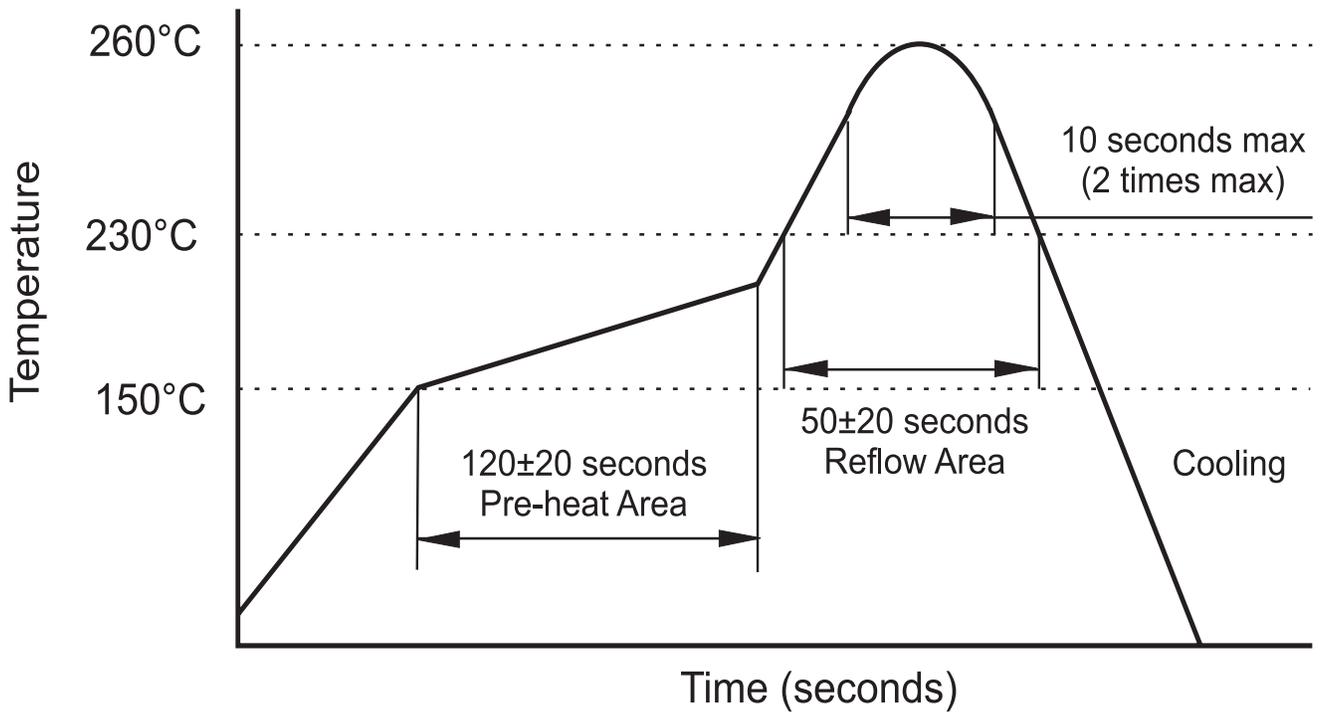
Package is Seam Sealed Ceramic-Metal.  
Dimensions are millimeters.

**Carrier Tape Dimensions:**



Dimensions are millimeters.

**Solder Reflow Characteristics:**



### How to build a Part Number:

Series	C	Parameter
Package	6S	6.0 x 3.5 mm
	-	
Frequency	8.000 to 133.000	MHz
	-	
Frequency Tolerance	30	±30 PPM
	25	±25 PPM
	20	±20 PPM
	15	± 15 PPM
	10	±10 PPM
Frequency Stability	50	±50 PPM
	30	±30 PPM
	25	±25 PPM
	20	±20 PPM
	15	±15 PPM
	10	±10 PPM*
	-	
Load Capacitance	10	10 pF
	12	12pF
	16	16 pF
	18	18 pF
	20	20 pF
	32	32 pF
	S	Series
	-	
Mode of Oscillation	See Notes	Fundamental
	3	Third Overtone
	-	
Temperature Range	See Notes	-10 to +70 °C
	X	-40 to +85 °C
	-	
Packaging	R	Tape and Reel

### Part Number Example:

**C6S-80.000-S-3030-3-R**

**C6S:** 3.5 x 6.0 mm SMD Seam Seal Package - 4 Pad

**80.000** MHz Nominal Frequency

**S:** Series Resonance

**3030:** ±30 PPM Frequency Tolerance and ±30 PPM Frequency Stability

**3:** Third Overtone Mode

**-10 to +70° C** Temperature Range

**R:** Tape and Reel Packaging

### Notes:

1- Fundamental mode does not need to be included in Part Number description.

\* ±10 PPM Temperature Stability is only available from -30 to +85° C.

2- Standard Temperature Range does not need to be included in Part Number description.

3- Product is shipped in Tape and Reel configuration. Each reel contains 1000 pieces.

4- Quantities less than 1000 are shipped bulk in ESD pouches.

5- Specification subject to change without notice.