## Semiconductors – Integrated Circuits Farnell

## **Resonators** — continued

The following 3 lead Ceramic Resonators can make up oscillation circuits without load capacitance. These are Resonators with built-in capacitor. SEM294

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Freq.			_	Lead				Price	Each	
MHz	W	Н	D	Spacing	Mftrs. List No.	Order Code	1+	10+	100+	250+
2.00	7.4	2.0	3.4	2.5	PBRC-2.00BR	SMD 648-140				
3.58	10.0	6.0	5.0	2.5	KBR-3.58MKS	573-966				
3.58	7.4	2.0	3.4	2.5	PBRC-3.58BR	SMD 574-053				
4.00	10.0	6.0	5.0	2.5	KBR-4.00MKS	573-978				
4.00	7.4	2.0	3.4	2.5	PBRC-4.00BR	SMD 574-065				
4.19	10.0	6.0	5.0	2.5	KBR-4.19MKS	573-980				
4.19	7.4	2.0	3.4	2.5	PBRC-4.19BR	SMD 648-152				
6.00	10.0	6.0	5.0	2.5	KBR-6.00MKS	573-991				
6.00	7.4	2.0	3.4	2.5	PBRC-6.00BR	SMD 574-041				
8.00	7.4	2.0	3.4	2.5	PBRC-8.00BR	SMD 574-077				
10.0	7.4	2.0	3.4	2.5	PBRC-10.0BR	SMD 648-164				
12.0	7.4	2.0	3.4	2.5	PBRC-12.0BR	SMD 648-176				
16.0	7.4	2.0	3.4	2.5	PBRC-16.0BR	SMD 648-188				
20.0	7.4	2.0	3.4	2.5	PBRC-20.0BR	SMD 648-190				

## **CSTCC Ceramic Resonators**

- The CSTCC/CR series of SMD Resonators offer an alternative to quartz crystal as a clock source for ICs
- Three terminal design includes built in loading capacitors which reduces external circuitry and cost of design
- Smaller than equivalent quartz crystal
- Rise time for ceramic resonator is approx. 1/100th that for quartz crystal
- Total Tolerance as low as  $\pm 0.5\%$

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CSTCC Series
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ĺ	Freq.				Lead				Price Each	
I	MHz	W	Н	D	Spacing	Mftrs. List No.	Order Code	1+	10+	100+
I	2.00	7.2	1.55	3.0	2.5	CSTCC2.00MG-TC	353-0814			
I	3.58	7.2	1.55	3.0	2.5	CSTCC3.58MG-TC	353-0826			
I	3.64	7.2	1.55	3.0	2.5	CSTCC3.64MG-TC	353-0838			
I	3.68	7.2	1.55	3.0	2.5	CSTCC3.68MG-TC	353-0840			
I	3.84	7.2	1.55	3.0	2.5	CSTCC3.84MG-TC	353-0851			
I	8.00	7.2	1.55	3.0	2.5	CSTCC8.00MG-TC	353-0917			
I	10.00	1.2	1.55	3.0	2.5	CSICC10.0MG-IC	353-0929			

SEM49

**CSTCR Ceramic Resonators** 

**CSTCR** Series

- The CSTCR range are the world's smallest resonators at these frequencies •
  - The gold terminations are compatible with conductive adhesive based Pb free process
  - Three terminal design includes built in loading capacitors which reduces external circuitry and cost of design Smaller than equivalent quartz crystal
- Rise time for ceramic resonator is approx. 1/100th that for quartz crystal
- ŏ Total Tolerance as low as ±0.5%

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From Lond	Price Each	
MHz W H D Spacing Mftrs. List No. <b>Order Code</b> 1+	10+	100+
4.00 4.50 1.15 2.00 1.50 CSTCR4M00G53-R0 353-0863   4.19 4.50 1.15 2.00 1.50 CSTCR4M19G53-R0 353-0875   4.91 4.50 1.15 2.00 1.50 CSTCR4M19G53-R0 353-0875   5.00 4.50 1.15 2.00 1.50 CSTCR5M00G53-R0 353-0887   5.00 4.50 1.15 2.00 1.50 CSTCR5M00G53-R0 353-0899   6.00 4.50 1.15 2.00 1.50 CSTCR6M00G53-R0 353-0899		

**Delay Lines** 

newroo

A range of lumped constant and TTL, compatible delay lines suitable for use in microprocessor, memory and general digital timing applications. Available in SIP (single-in-line), DIL (0.3" leadframe moulding) and DIP (0.3" pin spacing encapsulation) packages

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Lumped Constant Passive unbuffered 14 pin DIL package

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Function: Price Each							
10 Tap delay line	Mftrs. List No.	Order Code	1+	10+	100+		
1ns per tap, 10ns overall	11ACB10012E	.176-532					
2ns per tap, 20ns overall	11ACB20012E	176-533					
5ns per tap, 50ns overall	11ACB50012E	175-212					
10ns per tap, 100ns overall	11ACB10112E	.175-213					
25ns per tap, 250ns overall	11ACB25112E	.176-536					

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