

Appendix 2

Resonator Test Circuit Values

The following charts list the test circuit values for Murata's resonators. The values shaded gray are standard parts that are currently available. Other values of built-in load capacitors are only available if recommended by an IC characterization.

Series	Frequency Range	CL (pf)	15	30	47	100
CSAC-MGC(A) CSAC-MGCM(A)	1.80 to 6.00 MHz	PN Suffix		x00		x40
		Sort IC		CD4069UBE		TC74HCU04
		VDD (V)		5		5
		Rf (ohm)		1M		1M
		Rd (ohm)		0		680
CSTC-MGA	2.00 to 3.49MHz	PN Suffix		x00		
		Sort IC		CD4069UBE		
		VDD (V)		5		
		Rf (ohm)		1M		
		Rd (ohm)		0		
CSTCC-MG(A)	2.00 to 10.0 MHz	PN Suffix	x00		xH6	
		Sort IC	CD4069UBE		TC74HCU04	
		VDD (V)	5		5	
		Rf (ohm)	1M		1M	
		Rd (ohm)	0		680	

Series	Frequency Range	CL (pf)	22	30	100
CSACV-MTJ	8.00 to 13.00 MHz	PN Suffix		x00	x40
		Sort IC		CD4069UBE	TC74HCU04
		VDD (V)		12	5
		Rf (ohm)		1M	1M
		Rd (ohm)		0	220
CSTCV-MTJ	(8.00 to 10.00 MHz) 10.01 to 13.00 MHz	PN Suffix	xC4		
		Sort IC	TC40H004P		
		VDD (V)	5		
		Rf (ohm)	1M		
		Rd (ohm)	0		
CSACS-MT(A)	6.01 to 13.00MHz	PN Suffix		x00	x40
		Sort IC		CD4069UBE	TC74HCU04
		VDD (V)		12	5
		Rf (ohm)		1M	1M
		Rd (ohm)		0	220
CSTCS-MT(A)	6.01 to 13.00MHz	PN Suffix		x00	
		Sort IC		CD4069UBE	
		VDD (V)		12	
		Rf (ohm)		1M	
		Rd (ohm)		0	

Series	Frequency Range	CL (pf)	5	15	22	30
CSACV-MXJ CSTCV-MXJ	13.50 to 15.99 MHz	PN Suffix	xH1	xH3	xH4	x40
		Sort IC	TC74HCU04	TC74HCU04	TC74HCU04	TC74HCU04
		VDD (V)	3	3	3	5
		Rf (ohm)	1M	1M	1M	1M
		Rd (ohm)	100	0	0	0
	16.00 to 17.99 MHz	PN Suffix	xC1	xC3	xC4	x40
		Sort IC	TC40H004P	TC40H004P	TC40H004P	TC74HCU04
		VDD (V)	5	5	5	5
		Rf (ohm)	1M	1M	1M	1M
		Rd (ohm)	0	0	0	0
	18.00 to 19.99 MHz	PN Suffix	xC1	xH3	xH4	x40
		Sort IC	TC40H004P	TC74HCU04	TC74HCU04	TC74HCU04
		VDD (V)	5	5	5	5
		Rf (ohm)	1M	1M	1M	1M
		Rd (ohm)	0	100	100	0
	20.00 to 25.99 MHz	PN Suffix	xH1	x40	xH4	
		Sort IC	TC74HCU04	TC74HCU04	TC74HCU04	
		VDD (V)	5	5	5	
		Rf (ohm)	1M	1M	4.7k	
		Rd (ohm)	100	0	0	
26.00 to 70.00 MHz	PN Suffix	x40	xH3	xH4		
	Sort IC	TC74HCU04	TC74HCU04	TC74HCU04		
	VDD (V)	5	5	5		
	Rf (ohm)	1M	10k	4.7k		
	Rd (ohm)	0	0	0		
CSACV-MXA-Q CSTCV-MXA-Q	14.74 to 17.99 MHz	PN Suffix	xH1	xH3	xH4	x40
		Sort IC	TC74HCU04	TC74HCU04	TC74HCU04	TC74HCU04
		VDD (V)	3	3	3	5
		Rf (ohm)	1M	1M	1M	1M
		Rd (ohm)	470	220	150	0
	18.00 to 19.99 MHz	PN Suffix	xH1	xH3	xH4	x40
		Sort IC	TC74HCU04	TC74HCU04	TC74HCU04	TC74HCU04
		VDD (V)	5	5	5	5
		Rf (ohm)	1M	1M	1M	1M
		Rd (ohm)	0	100	100	0
	20.00 to 25.99 MHz	PN Suffix	xH1	x40	xH4	
		Sort IC	TC74HCU04	TC74HCU04	TC74HCU04	
		VDD (V)	5	5	5	
		Rf (ohm)	1M	1M	4.7k	
		Rd (ohm)	100	0	0	
	26.00 to 70.00 MHz	PN Suffix	x40	xH3	xH4	
		Sort IC	TC74HCU04	TC74HCU04	TC74HCU04	
		VDD (V)	5	5	5	
		Rf (ohm)	1M	10k	4.7k	
		Rd (ohm)	0	0	0	

Series	Frequency Range	CL (pf)		
		5	15	
CSACW-MX CSTCW-MX	16.00 to 24.99 MHz	PN Suffix	x1	x3
		Sort IC	TC74HCU04	TC74HCU04
		VDD (V)	3	5
		Rf (ohm)	33k	1M
		Rd (ohm)	220	0
	25.00 to 39.99 MHz	PN Suffix	x1	x3
		Sort IC	TC74HCU04	TC74HCU04
		VDD (V)	5	5
		Rf (ohm)	1M	22k
		Rd (ohm)	0	0
	40.00 to 70.00 MHz	PN Suffix	x1	x3
		Sort IC	TC74HCU04	TC74HCU04
		VDD (V)	5	5
		Rf (ohm)	1M	4.7k
		Rd (ohm)	0	0

Series	Frequency Range	CL (pf)				
		15	30	47	100	
CSA-MG(A) CST-MG(A) CST-MGW(A)	1.80 to 6.30 MHz	PN Suffix		x00		x40
		Sort IC		CD4069UBE		TC74HCU04
		VDD (V)		5		5
		Rf (ohm)		1M		1M
		Rd (ohm)		0		680
CSTS-MG(A)	3.40 to 10.00 MHz	PN Suffix	x3		x6	
		Sort IC	TC4069UBP		TC74HCU04	
		VDD (V)	5		5	
		Rf (ohm)	1M		1M	
		Rd (ohm)	0		680	

Series	Frequency Range	CL (pf)	5	15	22	30	100
CSA-MTZ(A) CST-MTW(A)	6.31 to 13.0 MHz	PN Suffix				x00	x40
		Sort IC				CD4069UBE	TC74HCU04
		VDD (V)				12	5
		Rf (ohm)				1M	1M
		Rd (ohm)				0	220
CSA-MXZ(A) CST-MXW(A)	12.00 to 17.99 MHz	PN Suffix	xC1	xC3	xC4	x40	
		Sort IC	TC40H004P	TC40H004P	TC40H004P	TC74HCU04	
		VDD (V)	5	5	5	5	
		Rf (ohm)	1M	1M	1M	1M	
		Rd (ohm)	0	0	0	0	
	18.00 to 19.99 MHz	PN Suffix	xC1	xH3	xH4	x40	
		Sort IC	TC40H004P	TC74HCU04	TC74HCU04	TC74HCU04	
		VDD (V)	5	5	5	5	
		Rf (ohm)	1M	1M	1M	1M	
		Rd (ohm)	0	100	100	0	
	20.00 to 25.99 MHz	PN Suffix	xH1	x40	xH4	xH5	
		Sort IC	TC74HCU04	TC74HCU04	TC74HCU04	TC74HCU04	
		VDD (V)	5	5	5	5	
		Rf (ohm)	1M	1M	4.7k	3.3k	
		Rd (ohm)	100	0	0	0	
	26.00 to 60.00 MHz	PN Suffix	x04	xH3	xH4	xH5	
		Sort IC	TC74HCU04	TC74HCU04	TC74HCU04	TC74HCU04	
		VDD (V)	5	5	5	5	
		Rf (ohm)	1M	10k	4.7k	3.3k	
		Rd (ohm)	0	0	0	0	