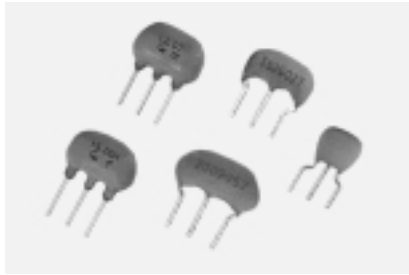


CERAMIC RESONATORS

2.0MHz to 70.00MHz

WITH BUILT-IN LOAD CAPACITORS

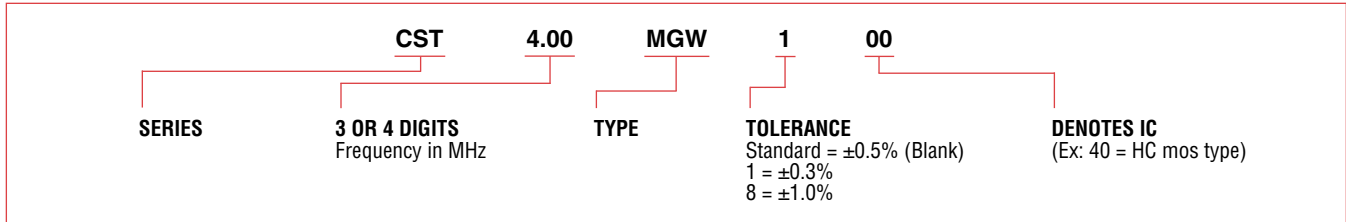
CSTLS/CSTS/CST Series



The CST Series of ceramic resonators feature a built-in load capacitance. This feature eliminates any need for external loading capacitors and reduces component count, increases reliability

and reduces size. These units are offered in the frequency range from 1.80MHz to 60.00MHz with an initial frequency tolerance of $\pm 0.5\%$.

PART NUMBERING SYSTEM



DIMENSIONS: mm

Frequency	2.00 to 3.39MHz	3.40 to 10.00MHz	10.01 to 13.00MHz	13.01 to 15.99MHz	16.00 to 70.00MHz
Part Number	CSTLS□M□□G	CSTS□□□□MG	CST□□.□MTW	CST□□.□□MXW	CSTLS□M□□X
Washability	Washable	Washable	Washable	Washable	Washable
Dimensions					

* : EIA-J Date Code

*Terminals have directionality. ① Input ② Ground ③ Output

SPECIFICATIONS

Part Number	CSTLS□M□□G	CSTS□□□□MG	CST□□.□MTW	CST□□.□□MXW	CSTLS□M□□X
Frequency Range	2.00 to 3.39MHz	3.40 to 10.00MHz	10.01 to 13.00MHz	13.01 to 15.99MHz	16.00 to 70.00MHz
Tolerance	$\pm 0.5\%$	$\pm 0.5\%$	$\pm 0.5\%$	$\pm 0.5\%$	$\pm 0.5\%$
Temperature Stability (-20°C to +80°C)	$\pm 0.2\%$	$\pm 0.2\%$	$\pm 0.4\%$	$\pm 0.3\%$	$\pm 0.3\%$
Aging (at room temperature, 10 years)	$\pm 0.2\%$	$\pm 0.2\%$	$\pm 0.3\%$	$\pm 0.3\%$	$\pm 0.3\%$
Standard Measuring Circuit					

IC : 1/6 TC4069UBPx2
X : Ceramic Resonator
C₁, C₂ : 47pF $\pm 20\%$

IC : 1/6 TC4069UBPx2
X : CSTS□□□□MG03
C₁, C₂ : 15pF $\pm 20\%$

IC : CD4069UBE
X : Ceramic Resonator
C₁, C₂ : 30pF $\pm 20\%$ (MTW Series : +12V)

IC : 1/6TC74HCU04 x2
X : Ceramic Resonator
C₁, C₂ : 30pF $\pm 20\%$

IC : 1/6 TC74HCU04 x2
X : Ceramic Resonator
C₁, C₂ : 33pF $\pm 20\%$

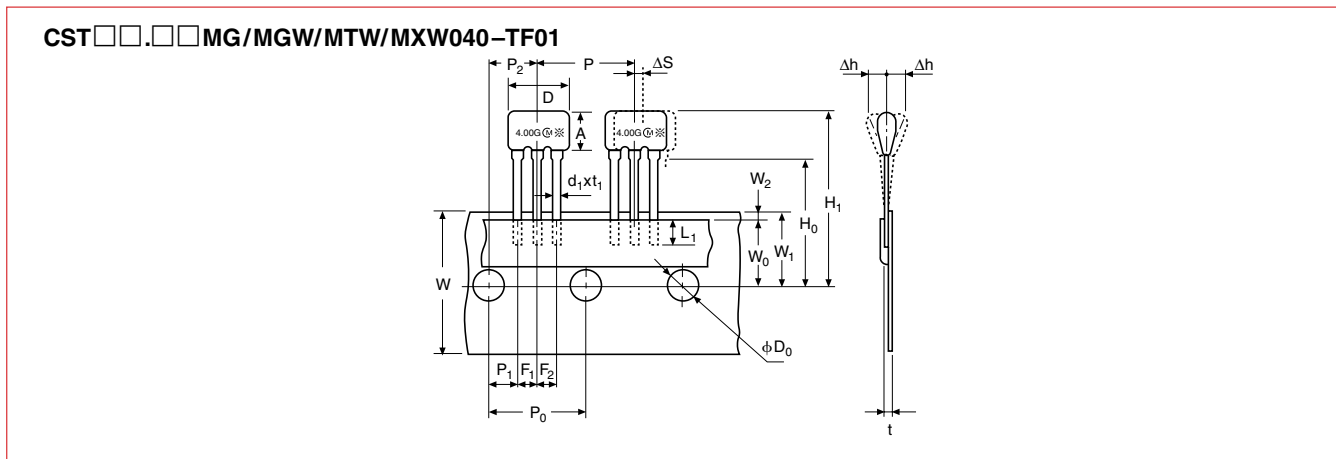
The load capacitor of the MHz band 3-terminal CST Series is built-in. For this reason, the electrical characteristics of the CST Series are identical to those

of the 2-terminal CSA Series. However, due to the characteristics of the built-in capacitor, the frequency temperature stability for the CST □□ MTW type

is slightly improved over that of the CSA □□ MTZ type.

CERAMIC RESONATORS

TAPE AND AMMO PACK

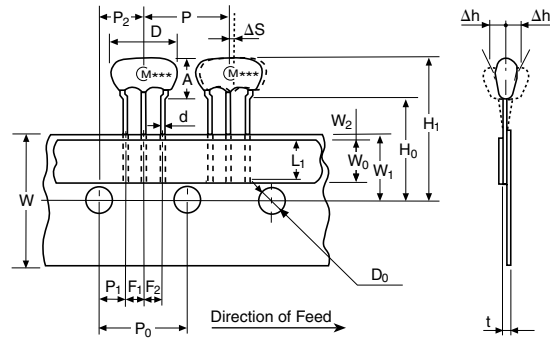


PACKAGING DIMENSIONS: mm

Item	Code	MG	MGW	MTW/MXW	Note
Body Diameter	D	12.0 max.	10.0 max	10.0 max.	
Body Height	A	10.0 max	6.0 max.	9.0 max	
Lead Dimensions	$d_1 \times t_1$	$0.5 \times 0.3 (\pm 0.1)$	$0.5 \times 0.3 (\pm 0.1)$	$0.5 \times 0.3 (\pm 0.1)$	
Adhered Terminal Length	L_1	3.0 min.	3.0 min.	3.0 min.	
Pitch of Component	P	12.7 ± 0.5	12.7 ± 0.5	12.7 ± 0.5	$10 \times P_0 = 127 \pm 1$
Pitch of Sprocket Hole	P_0	12.7 ± 0.2	12.7 ± 0.2	12.7 ± 0.2	
Length from Hole Center to Lead	P_1	3.85 ± 0.5	3.85 ± 0.5	3.85 ± 0.5	
Length from Hole Center to Component Center	P_2	6.35 ± 0.5	6.35 ± 0.5	6.35 ± 0.5	
Lead Spacing	F_1	2.5 ± 0.2	2.5 ± 0.2	2.5 ± 0.2	
	F_2	2.5 ± 0.2	2.5 ± 0.2	2.5 ± 0.2	
Deviation across Tape	Δh	0 ± 1.0	0 ± 1.0	0 ± 1.0	
Carrier Tape Width	W	18.0 ± 0.5	18.0 ± 0.5	18.0 ± 0.5	
Hold-down Tape Width	W_0	6.0 min.	6.0 min.	6.0 min.	Adhesive tape shall not exceed base type.
Position of Sprocket Hole	W_1	9.0 ± 0.5	9.0 ± 0.5	9.0 ± 0.5	
Margin between Both Tapes	W_2	$0^{+0.5}_{-0}$	$0^{+0.5}_{-0}$	$0^{+0.5}_{-0}$	
Lead Distance between Reference and Bottom Planes	H_0	18.0 ± 0.5	18.0 ± 0.5	18.0 ± 0.5	
Distance between Reference and Top	H_1	28.5 max.	24.5 max.	27.5 max.	
Diameter of Sprocket Hole	D_0	$\phi 4.0 \pm 0.2$	$\phi 4.0 \pm 0.2$	$\phi 4.0 \pm 0.2$	
Total Tape Thickness	t	0.6 ± 0.2	0.6 ± 0.2	0.6 ± 0.2	
Deviation across Body Center	ΔS	—	0 ± 0.1	—	

TAPE AND AMMO PACK

CSTS□□□□MG03-T2



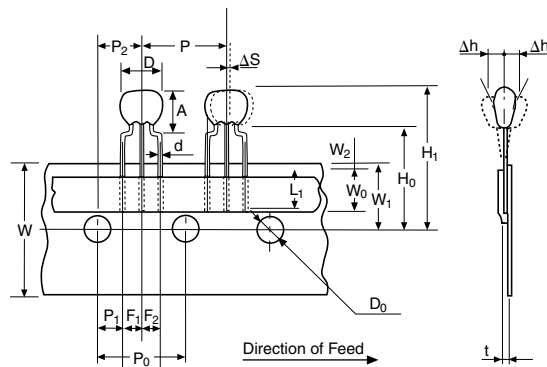
PACKAGING DIMENSIONS: mm

Item	Code	Dimensions	Tolerance	Remarks
Width of Diameter	D	8.0	±1.0	
Height of Resonator	A	5.5	±0.5	
Dimensions of Terminal	d	φ0.48	±0.05	
Lead Length under Hold Down Tape	L ₁	5.0 min.	—	
Pitch of Component	P	12.7	±0.5	Tolerance for pitches 10 x P ₀ = 127 ± 1
Pitch of Sprocket Hole	P ₀	12.7	±0.2	
Length from Sprocket Hole Center to Lead	P ₁	3.85	±0.5	
Length from Sprocket Hole Center to Component Center	P ₂	6.35	±0.5	
Lead Spacing	F ₁	2.5	±0.2	
	F ₂	2.5	±0.2	
Slant to Forward or Backward	Δh	0	±1.0	1mm max. (360°)
Width of Carrier Tape	W	18.0	±0.5	
Width of Hold Down Tape	W ₀	6.0 min.	—	Hold down tape does not exceed carrier tape.
Position of Sprocket Hole	W ₁	9.0	±0.5	
Gap of Hold Down Tape and Carrier Tape	W ₂	0	+0.5 -0	
Distance between Center of Sprocket Hole and Lead Stopper	H ₀	18.0	±0.5	
Total Height of Resonator	H ₁	23.5	±1.0	
Diameter of Sprocket Hole	D ₀	φ4.0	±0.2	
Total Tape Thickness	t	0.6	±0.2	
Body Tilt	ΔS	0	±1.0	

CERAMIC RESONATORS

TAPE AND AMMO PACK

CSTLS□M□□G-AO



PACKAGING DIMENSIONS: mm

Item	Code	Dimensions	Tolerance	Remarks
Width of Diameter	D	5.5	±1.0	
Height of Resonator	A	6.5	±0.5	
Dimensions of Terminal	d	φ0.48	±0.05	
Lead Length under Hold Down Tape	L ₁	5.0 min.	—	
Pitch of Component	P	12.7	±0.5	Tolerance for pitches 10 x P ₀ = 127 ± 1
Pitch of Sprocket Hole	P ₀	12.7	±0.2	
Length from Sprocket Hole Center to Lead	P ₁	3.85	±0.5	
Length from Sprocket Hole Center to Component Center	P ₂	6.35	±0.5	
Lead Spacing	F ₁	2.5	±0.2	
	F ₂	2.5	±0.2	
Slant to Forward or Backward	Δh	0	±1.0	1mm max. (360°)
Width of Carrier Tape	W	18.0	±0.5	
Width of Hold Down Tape	W ₀	6.0 min.	—	Hold down tape does not exceed carrier tape.
Position of Sprocket Hole	W ₁	9.0	±0.5	
Gap of Hold Down Tape and Carrier Tape	W ₂	0	+0.5 -0	
Distance between Center of Sprocket Hole and Lead Stopper	H ₀	18.0	±0.5	
Total Height of Resonator	H ₁	24.5	±1.0	
Diameter of Sprocket Hole	D ₀	φ4.0	±0.2	
Total Tape Thickness	t	0.6	±0.2	
Body Tilt	ΔS	0	±1.0	