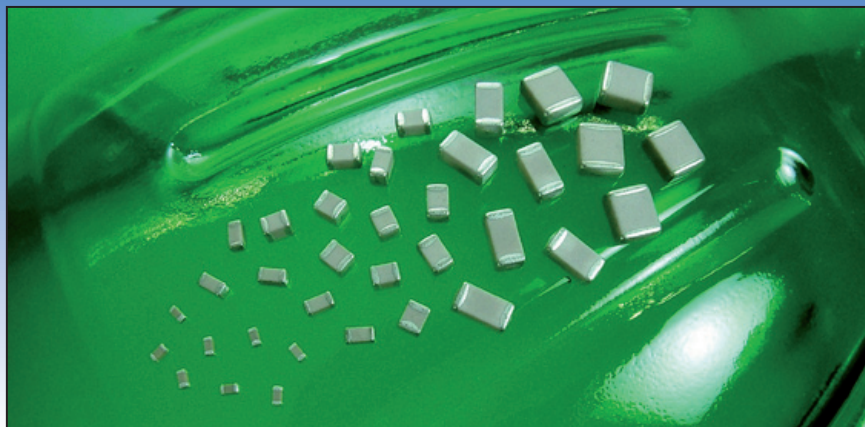


# High Q Capacitors

## MS Range

The Syfer MS range offers a very stable, High Q material system that provides excellent, low loss performance in systems below 3GHz. The range is available in 0402 to 3640 case sizes with various termination options including FlexiCap™. This range of high frequency capacitors is suitable for many applications where economical, high performance is required.



## Specification

### Capacitance Values

See Capacitance table overleaf

### Electrical

#### Operating Temperature

-55°C to +125°C

#### Temperature Coefficient (Typical)

0 ± 30 ppm/°C

#### Insulation resistance at +25°C

>100GΩ

#### Insulation resistance at +125°C

>10GΩ

#### Ageing rate

None

#### Piezoelectric Effects

None

#### Dielectric Absorption

None

### Mechanical

#### Termination Material

See Ordering Information overleaf

#### Solderability

IEC 60068-2-58

#### Printing

Consult sales office

#### Lead Free Soldering

Termination codes J and Y ranges are fully compliant with the RoHS and WEEE directives and parts are compatible with lead free solders.

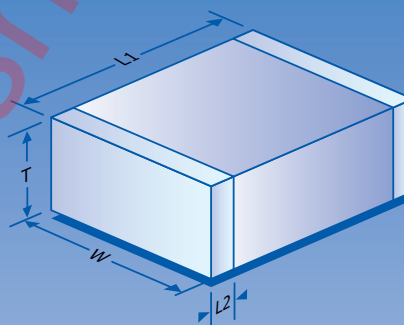
#### Climatic Category

55/125/56

#### Reeled Quantities

See Capacitance table overleaf

## Dimensions



**SAMPLE KITS ARE AVAILABLE REFER TO SALES OR SYFER.COM FOR DETAILS**

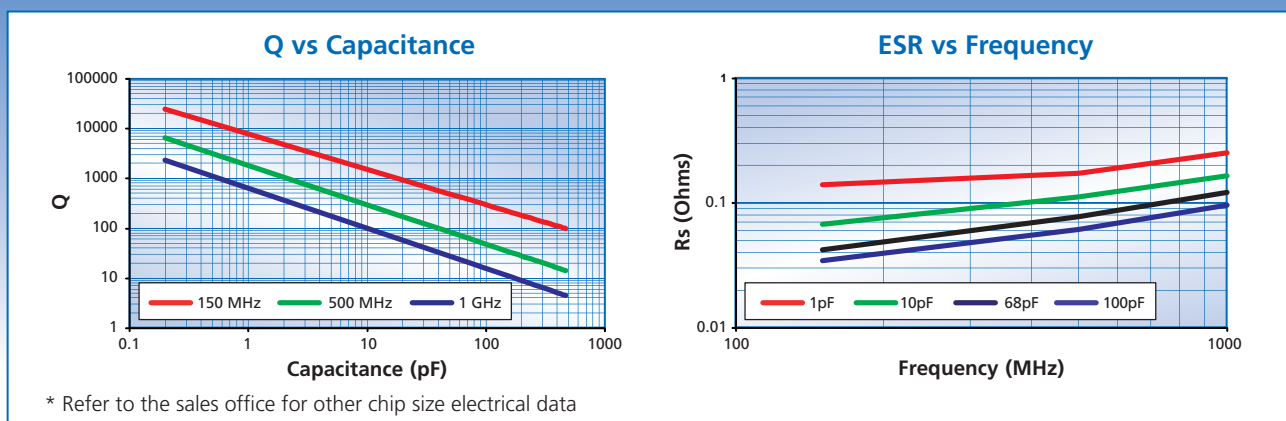
Size	Length (L1) mm (inches)	Width (W) mm (inches)	Thickness (T) mm (inches)	Termination Band (L2) mm (inches)	
				min	max
<b>0402</b>	1.00 ± 0.10 (0.039 ± 0.004)	0.50 ± 0.10 (0.020 ± 0.004)	0.60 max (0.024 max)	0.10 (0.004)	0.40 (0.016)
<b>0505</b>	1.40 ± 0.38 (0.055 ± 0.015)	1.40 ± 0.25 (0.055 ± 0.010)	1.27 max (0.050 max)	0.13 (0.005)	0.50 (0.020)
<b>0603</b>	1.60 ± 0.20 (0.063 ± 0.008)	0.80 ± 0.20 (0.031 ± 0.008)	0.80 max (0.031 max)	0.10 (0.004)	0.40 (0.016)
<b>0805</b>	2.00 ± 0.30 (0.080 ± 0.012)	1.27 ± 0.20 (0.050 ± 0.008)	1.30 max (0.051 max)	0.13 (0.005)	0.75 (0.030)
<b>1206</b>	3.20 ± 0.30 (0.126 ± 0.012)	1.60 ± 0.20 (0.063 ± 0.008)	1.70 max (0.067 max)	0.25 (0.010)	0.75 (0.030)
<b>1111</b>	2.79 +0.51 -0.25 (0.11 +0.02 -0.01)	2.79 ± 0.38 (0.110 ± 0.015)	2.54 max (0.100 max)	0.13 (0.005)	0.63 (0.025)
<b>1210</b>	3.20 ± 0.30 (0.126 ± 0.012)	2.50 ± 0.30 (0.100 ± 0.012)	2.00 max (0.079 max)	0.25 (0.010)	0.75 (0.030)
<b>1812</b>	4.50 ± 0.35 (0.180 ± 0.014)	3.20 ± 0.30 (0.126 ± 0.012)	2.50 max (0.098 max)	0.25 (0.010)	1.00 (0.039)
<b>2220</b>	5.70 ± 0.40 (0.225 ± 0.016)	5.00 ± 0.40 (0.197 ± 0.016)	2.50 max (0.098 max)	0.25 (0.010)	1.00 (0.039)
<b>2225</b>	5.70 ± 0.40 (0.225 ± 0.016)	6.30 ± 0.40 (0.250 ± 0.016)	2.50 max (0.098 max)	0.25 (0.010)	1.00 (0.039)
<b>3640</b>	9.15 ± 0.50 (0.360 ± 0.020)	10.16 ± 0.50 (0.400 ± 0.020)	2.50 max (0.098 max)	0.50 (0.020)	1.50 (0.059)

## Capacitance Values (capacitance F)

Chip Size	0402	0603	0505	0805	1206	1111	1210	1812	2220	2225	3640
<b>50V</b> <b>63V</b>	0.1p-33p	0.1p-220p	0.2p-330p	0.2p-680p	0.5p-2.2n						
<b>100V</b>	0.1p-22p	0.1p-150p	0.2p-220p	0.2p-470p	0.5p-1.5n	0.3p-3.3n	0.3p-3.3n	1.0p-6.8n	2.0p-15n	2.0p-18n	
<b>150V</b>	0.1p-18p	0.1p-120p	0.2p-180p	0.2p-390p	0.5p-1.2n	0.3p-2.7n	0.3p-2.7n	1.0p-4.7n	2.0p-12n	2.0p-15n	
<b>200V</b> <b>250V</b>	0.1p-15p	0.1p-100p	0.2p-150p	0.2p-330p	0.5p-1.0n	0.3p-2.2n	0.3p-2.2n	1.0p-3.9n	2.0p-10n	2.0p-10n	
<b>300V</b>		0.1p-56p	0.2p-100p	0.2p-220p	0.5p-680p	0.3p-1.5n	0.3p-1.5n	1.0p-3.3n	2.0p-6.8n	2.0p-8.2n	
<b>500V</b>				0.2p-100p	0.5p-330p	0.3p-820p	0.3p-820p	1.0p-2.2n	2.0p-4.7n	2.0p-5.6n	4.0p-15n
<b>630V</b>					0.5p-150p	0.3p-390p	0.3p-390p	1.0p-1.0n	2.0p-2.2n	2.0p-3.3n	4.0p-6.8n
<b>1000V</b>					0.5p-82p	0.3p-220p	0.3p-220p	1.0p-680p	2.0p-1.5n	2.0p-2.2n	4.0p-4.7n
<b>2000V</b>					0.5p-18p	0.3p-68p	0.3p-68p	1.0p-150p	2.0p-470p	2.0p-560p	4.0p-1.5n
<b>3000V</b>								1.0p-68p	2.0p-150p	2.0p-220p	4.0p-470p
Tape quantities	7" reel 5000	7" reel 4000	7" reel 2500	7" reel 3000	7" reel 2500	7" reel 1000	7" reel 2000	7" reel 500	7" reel 500	7" reel 500	7" reel n/a
	13" reel quantities available on request							13" reel 2000	13" reel 2000	13" reel 2000	13" reel n/a

Below 1pF capacitance values are available in 0.1pF steps.  
Above 1pF capacitance values are available in E24 series values.  
Other values and taping quantities may be available on request, consult the sales office for details.

## Typical Performance Data (0805 chip size\*)



## Ordering Information

0805	J	250	0101	J	Q	T
Chip size	Termination	Voltage	Capacitance in picofarads (pF)	Capacitance tolerance	Dielectric	Packaging
0402 0603 0505 0805 1206 1111 1210 1812 2220 2225 3640	<b>Y</b> = FlexiCap™ termination base with nickel barrier (100% matte tin plating). RoHS compliant. Lead free. <b>H</b> = FlexiCap™ termination base with nickel barrier (Tin/lead plating with min. 10% lead). <b>J</b> = Silver base with nickel barrier (100% matte tin plating). RoHS compliant. Lead free. <b>A</b> = Silver base with nickel barrier (Tin/lead plating with min. 10% lead).	050 = 50V 063 = 63V 100 = 100V 150 = 150V 200 = 200V 250 = 250V 300 = 300V 500 = 500V 630 = 630V 1K0 = 1000V 2K0 = 2000V 3K0 = 3000V	<1.0pF Insert a P for the decimal point as the first character. eg. P300 = 0.3pF Values in 0.1pF steps ≥1.0pF & <10pF Insert a P for the decimal point as the second character. eg. 8P20 = 8.2pF Values are E24 series ≥10pF First digit is 0. Second and third digits are significant figures of capacitance code. Fourth digit is number of zeros eg. 0101 = 100pF Values are E24 series	<4.7pF H = ±0.05pF B = ±0.1pF C = ±0.25pF D = ±0.5pF <10pF B = ±0.1pF C = ±0.25pF D = ±0.5pF ≥10pF F = ±1% G = ±2% J = ±5% K = ±10%	<b>Q</b> = High Q Ceramic	<b>T</b> = 178mm (7") reel <b>R</b> = 330mm (13") reel <b>B</b> = Bulk pack - tubs



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