## BENEFITS OF USING CAPACITOR ARRAYS

AVX capacitor arrays offer designers the opportunity to lower placement costs, increase assembly line output through lower component count per board and to reduce real estate requirements.

### Reduced Costs

Placement costs are greatly reduced by effectively placing one device instead of four or two. This results in increased throughput and translates into savings on machine time. Inventory levels are lowered and further savings are made on solder materials, etc.

### Space Saving

Space savings can be quite dramatic when compared to the use of discrete chip capacitors. As an example, the 0508 4-element array offers a space reduction of >40% vs. 4 x 0402 discrete capacitors and of >70% vs. 4 x 0603 discrete capacitors. (This calculation is dependent on the spacing of the discrete components.)

### Increased Throughput

Assuming that there are 220 passive components placed in a mobile phone:

A reduction in the passive count to 200 (by replacing discrete components with arrays) results in an increase in throughput of approximately 9%.

A reduction of 40 placements increases throughput by 18%.

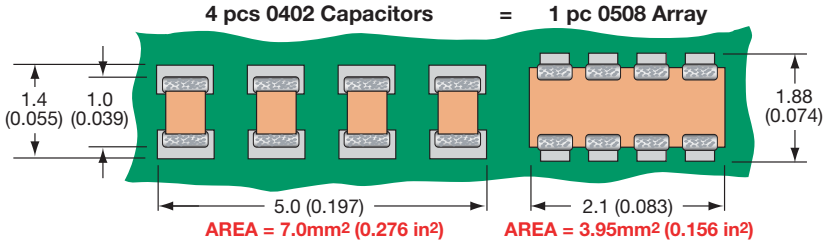
For high volume users of cap arrays using the very latest placement equipment capable of placing 10 components per second, the increase in throughput can be very significant and can have the overall effect of reducing the number of placement machines required to mount components:

If 120 million 2-element arrays or 40 million 4-element arrays were placed in a year, the requirement for placement equipment would be reduced by one machine.

During a 20Hr operational day a machine places 720K components. Over a working year of 167 days the machine can place approximately 120 million. If 2-element arrays are mounted instead of discrete components, then the number of placements is reduced by a factor of two and in the scenario where 120 million 2-element arrays are placed there is a saving of one pick and place machine.

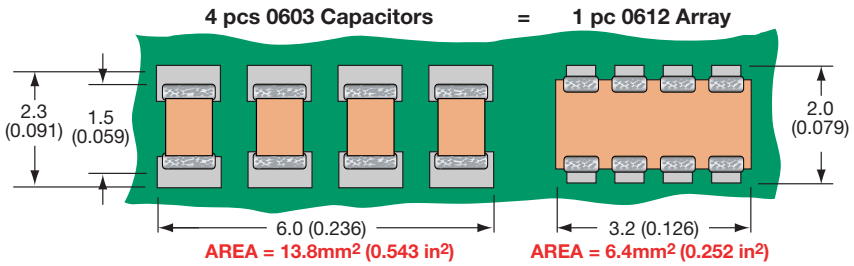
Smaller volume users can also benefit from replacing discrete components with arrays. The total number of placements is reduced thus creating spare capacity on placement machines. This in turn generates the opportunity to increase overall production output without further investment in new equipment.

**W2A (0508) Capacitor Arrays**




The 0508 4-element capacitor array gives a PCB space saving of over 40% vs four 0402 discretes and over 70% vs four 0603 discrete capacitors.

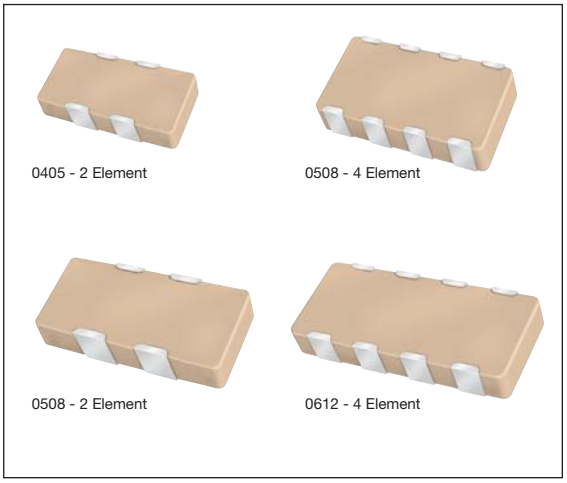
**W3A (0612) Capacitor Arrays**




The 0612 4-element capacitor array gives a PCB space saving of over 50% vs four 0603 discretes and over 70% vs four 0805 discrete capacitors.

# Capacitor Array

## Capacitor Array (IPC)



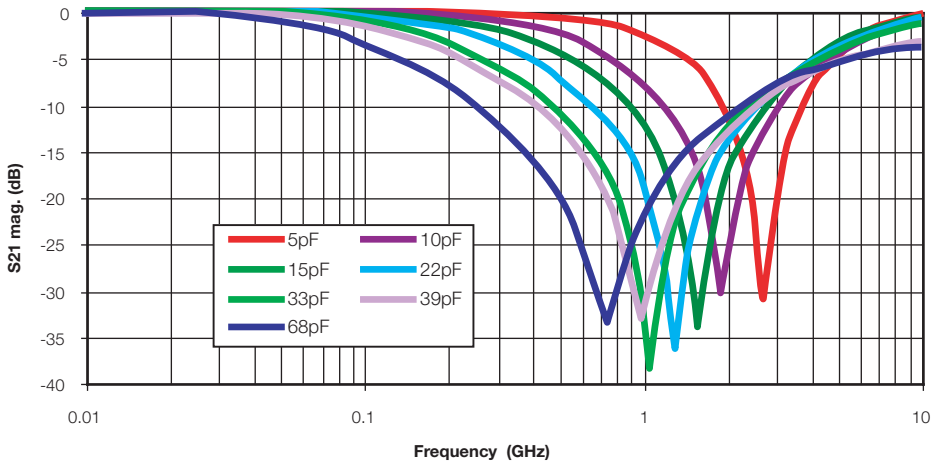

## GENERAL DESCRIPTION

AVX is the market leader in the development and manufacture of capacitor arrays. The smallest array option available from AVX, the 0405 2-element device, has been an enormous success in the Telecommunications market. The array family of products also includes the 0612 4-element device as well as 0508 2-element and 4-element series, all of which have received widespread acceptance in the marketplace.

AVX capacitor arrays are available in X5R, X7R and NP0 (C0G) ceramic dielectrics to cover a broad range of capacitance values. Voltage ratings from 6.3 Volts up to 100 Volts are offered. AVX also now offers a range of automotive capacitor arrays qualified to AEC-Q200 (see separate table).

Key markets for capacitor arrays are Mobile and Cordless Phones, Digital Set Top Boxes, Computer Motherboards and Peripherals as well as Automotive applications, RF Modems, Networking Products, etc.

**AVX Capacitor Array - W2A41A***K**
**S21 Magnitude**




## HOW TO ORDER

| W | 2 | A | 4 | 3 | C | 103 | M | A | T | 2A |
|---|---|---|---|---|---|---|---|---|---|---|
| **Style** W = RoHS L = SnPb | **Case Size** 1 = 0405 2 = 0508 3 = 0612 5 = 0306 | **Array** | **Number of Caps** | **Voltage** 6 = 6V Z = 10V Y = 16V 3 = 25V 5 = 50V 1 = 100V | **Dielectric** A = NP0 C = X7R D = X5R | **Capacitance Code** 2 Sig Digits + Number of Zeros | **Capacitance Tolerance** J = ±5% K = ±10% M = ±20% | **Failure Rate** A = Commercial 4 = Automotive | **Termination Code** T = Plated Ni and Sn** Z = FLEXITERM®** B = 5% min lead X = FLEXITERM® with 5% min lead | **Packaging & Quantity Code** 2A = 7" Reel (4000) 4A = 13" Reel (10000) 2F = 7" Reel (1000) |

**Not RoHS Compliant**

****RoHS compliant**

LEAD-FREE
**LEAD-FREE COMPATIBLE COMPONENT**

RoHS COMPLIANT

*For RoHS compliant products, please select correct termination style*

NOTE: Contact factory for availability of Termination and Tolerance Options for Specific Part Numbers.

# Capacitor Array

## Capacitance Range – NP0/C0G

| SIZE | | 0405 | | | 0508 | | | | 0508 | | | | 0612 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| # Elements | | 2 | | | 2 | | | | 4 | | | | 4 | | | |
| Soldering | | Reflow Only | | | Reflow/Wave | | | | Reflow/Wave | | | | Reflow/Wave | | | |
| Packaging | | All Paper | | | All Paper | | | | Paper/Embossed | | | | Paper/Embossed | | | |
| Length | mm | 1.00 ± 0.15 | | | 1.30 ± 0.15 | | | | 1.30 ± 0.15 | | | | 1.60 ± 0.150 | | | |
| | (in.) | (0.039 ± 0.006) | | | (0.051 ± 0.006) | | | | (0.051 ± 0.006) | | | | (0.063 ± 0.006) | | | |
| Width | mm | 1.37 ± 0.15 | | | 2.10 ± 0.15 | | | | 2.10 ± 0.15 | | | | 3.20 ± 0.20 | | | |
| | (in.) | (0.054 ± 0.006) | | | (0.083 ± 0.006) | | | | (0.083 ± 0.006) | | | | (0.126 ± 0.008) | | | |
| Max. Thickness | mm | 0.66 | | | 0.94 | | | | 0.94 | | | | 1.35 | | | |
| | (in.) | (0.026) | | | (0.037) | | | | (0.037) | | | | (0.053) | | | |
| WVDC | | 16 | 25 | 50 | 16 | 25 | 50 | 100 | 16 | 25 | 50 | 100 | 16 | 25 | 50 | 100 |
| 1R0 | 1.0 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 1R2 | 1.2 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 1R5 | 1.5 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 1R8 | 1.8 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 2R2 | 2.2 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 2R7 | 2.7 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 3R3 | 3.3 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 3R9 | 3.9 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 4R7 | 4.7 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 5R6 | 5.6 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 6R8 | 6.8 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 8R2 | 8.2 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 100 | 10 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 120 | 12 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 150 | 15 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 180 | 18 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 220 | 22 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 270 | 27 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 330 | 33 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 390 | 39 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 470 | 47 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 560 | 56 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 680 | 68 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 820 | 82 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 101 | 100 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 121 | 120 | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 151 | 150 | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 181 | 180 | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 221 | 220 | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 271 | 270 | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | ■ |
| 331 | 330 | | | | ■ | ■ | ■ | ■ | | | | | ■ | ■ | ■ | ■ |
| 391 | 390 | | | | ■ | ■ | ■ | ■ | | | | | ■ | ■ | ■ | ■ |
| 471 | 470 | | | | ■ | ■ | ■ | ■ | | | | | ■ | ■ | ■ | |
| 561 | 560 | | | | | | | | | | | | | | | |
| 681 | 680 | | | | | | | | | | | | | | | |
| 821 | 820 | | | | | | | | | | | | | | | |
| 102 | 1000 | | | | | | | | | | | | | | | |
| 122 | 1200 | | | | | | | | | | | | | | | |
| 152 | 1500 | | | | | | | | | | | | | | | |
| 182 | 1800 | | | | | | | | | | | | | | | |
| 222 | 2200 | | | | | | | | | | | | | | | |
| 272 | 2700 | | | | | | | | | | | | | | | |
| 332 | 3300 | | | | | | | | | | | | | | | |
| 392 | 3900 | | | | | | | | | | | | | | | |
| 472 | 4700 | | | | | | | | | | | | | | | |
| 562 | 5600 | | | | | | | | | | | | | | | |
| 682 | 6800 | | | | | | | | | | | | | | | |
| 822 | 8200 | | | | | | | | | | | | | | | |

# Capacitor Array

## Capacitance Range – X7R/X5R

| SIZE | | 0306 | | | | 0405 | | | | | 0508 | | | | | | 0508 | | | | | | 0612 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| # Elements | | 4 | | | | 2 | | | | | 2 | | | | | | 4 | | | | | | 4 | | | | | |
| Soldering | | Reflow Only | | | | Reflow Only | | | | | Reflow/Wave | | | | | | Reflow/Wave | | | | | | Reflow/Wave | | | | | |
| Packaging | | All Paper | | | | All Paper | | | | | All Paper | | | | | | Paper/Embossed | | | | | | Paper/Embossed | | | | | |
| Length | mm (in.) | 1.60 ± 0.15 (0.063 ± 0.006) | | | | 1.00 ± 0.15 (0.039 ± 0.006) | | | | | 1.30 ± 0.15 (0.051 ± 0.006) | | | | | | 1.30 ± 0.15 (0.051 ± 0.006) | | | | | | 1.60 ± 0.150 (0.063 ± 0.006) | | | | | |
| Width | mm (in.) | 0.81 ± 0.15 (0.032 ± 0.006) | | | | 1.37 ± 0.15 (0.054 ± 0.006) | | | | | 2.10 ± 0.15 (0.083 ± 0.006) | | | | | | 2.10 ± 0.15 (0.083 ± 0.006) | | | | | | 3.20 ± 0.20 (0.126 ± 0.008) | | | | | |
| Max. Thickness | mm (in.) | 0.50 (0.020) | | | | 0.66 (0.026) | | | | | 0.94 (0.037) | | | | | | 0.94 (0.037) | | | | | | 1.35 (0.053) | | | | | |
| WVDC | | 6 | 10 | 16 | 25 | 6 | 10 | 16 | 25 | 50 | 6 | 10 | 16 | 25 | 50 | 100 | 6 | 10 | 16 | 25 | 50 | 100 | 6 | 10 | 16 | 25 | 50 | 100 |
| 101 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 121 Cap | 120 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 151 (pF) | 150 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 181 | 180 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 221 | 220 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 271 | 270 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 331 | 330 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 391 | 390 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 471 | 470 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 561 | 560 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 681 | 680 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 821 | 820 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 102 | 1000 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 122 | 1200 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 152 | 1500 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 182 | 1800 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 222 | 2200 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 272 | 2700 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 332 | 3300 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 392 | 3900 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 472 | 4700 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 562 | 5600 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 682 | 6800 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 822 | 8200 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 103 | 0.010 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 123 Cap | 0.012 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 153 (µF) | 0.015 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 183 | 0.018 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 223 | 0.022 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 273 | 0.027 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 333 | 0.033 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 393 | 0.039 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 473 | 0.047 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 563 | 0.056 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 683 | 0.068 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 823 | 0.082 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 104 | 0.10 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 124 | 0.12 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 154 | 0.15 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 184 | 0.18 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 224 | 0.22 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 274 | 0.27 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 334 | 0.33 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 474 | 0.47 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 564 | 0.56 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 684 | 0.68 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 824 | 0.82 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 105 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 125 | 1.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 155 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 185 | 1.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 225 | 2.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 335 | 3.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 475 | 4.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 106 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 226 | 22 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 476 | 47 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 107 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

= Currently available X7R

= Currently available X5R

= Under development X7R, contact factory for advance samples

= Under development X5R, contact factory for advance samples

# Automotive Capacitor Array (IPC)

0508 - 4 Element

0612 - 4 Element

As the market leader in the development and manufacture of capacitor arrays AVX is pleased to offer a range of AEC-Q200 qualified arrays to compliment our product offering to the Automotive industry. Both the AVX 0612 and 0508 4-element capacitor array styles are qualified to the AEC-Q200 automotive specifications.

AEC-Q200 is the Automotive Industry qualification standard and a detailed qualification package is available on request.

All AVX automotive capacitor array production facilities are certified to ISO/TS 16949:2002.

## HOW TO ORDER

| W | 3 | A | 4 | Y | C | 104 | K | 4 | T | 2A |
|---|---|---|---|---|---|---|---|---|---|---|
| **Style**<br>W = RoHS<br>L = SnPb | **Case Size**<br>1 = 0405<br>2 = 0508<br>3 = 0612 | **Array** | **Number of Caps** | **Voltage**<br>Z = 10V<br>Y = 16V<br>3 = 25V<br>5 = 50V<br>1 = 100V | **Dielectric**<br>A = NP0<br>C = X7R<br>F = X8R | **Capacitance Code (In pF)**<br>Significant Digits + Number of Zeros<br>e.g. 10µF=106 | **Capacitance Tolerance**<br>*J = ±5%<br>*K = ±10%<br>M = ±20% | **Failure Rate**<br>4 = Automotive | **Terminations**<br>T = Plated Ni and Sn**<br>Z = FLEXITERM®**<br>B = 5% min lead<br>X = FLEXITERM® with 5% min lead<br>**RoHS compliant | **Packaging & Quantity Code**<br>2A = 7" Reel (4000)<br>4A = 13" Reel (10000)<br>2F = 7" Reel (1000) |

*Contact factory for availability by part number for K = ±10% and J = ±5% tolerance.

### NP0/C0G

| SIZE | | 0405 | 0508 | 0508 | | | | 0612 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. of Elements | | 2 | 2 | 4 | | | | 4 | | | |
| | WVDC | 50 | 50 | 16 | 25 | 50 | 100 | 16 | 25 | 50 | 100 |
| 1R0 1R2 1R5 | Cap 1.0 (pF) 1.2 1.5 | | | | | | | | | | |
| 1R8 2R2 2R7 | 1.8 2.2 2.7 | | | | | | | | | | |
| 3R3 3R9 4R7 | 3.3 3.9 4.7 | | | | | | | | | | |
| 5R6 6R8 8R2 | 5.6 6.8 8.2 | | | | | | | | | | |
| 100 120 150 | 10 12 15 | | | | | | | | | | |
| 180 220 270 | 18 22 27 | | | | | | | | | | |
| 330 390 470 | 33 39 47 | | | | | | | | | | |
| 560 680 820 | 56 68 82 | | | | | | | | | | |
| 101 121 151 | 100 120 150 | | | | | | | | | | |
| 181 221 271 | 180 220 270 | | | | | | | | | | |
| 331 391 471 | 330 390 470 | | | | | | | | | | |
| 561 681 821 | 560 680 820 | | | | | | | | | | |
| 102 122 152 | 1000 1200 1500 | | | | | | | | | | |
| 182 222 272 | 1800 2200 2700 | | | | | | | | | | |
| 332 392 472 | 3300 3900 4700 | | | | | | | | | | |
| 562 682 822 | 5600 6800 8200 | | | | | | | | | | |

= NPO/COG

= Under development

### X7R

| SIZE | | 0508 | | | | 0508 | | | | 0612 | | | | | X8R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. of Elements | | 2 | | | | 4 | | | | 4 | | | | | 2 |
| | WVDC | 16 | 25 | 50 | 100 | 16 | 25 | 50 | 100 | 10 | 16 | 25 | 50 | 100 | 16 |
| 101 121 151 | Cap 100 (pF) 120 150 | | | | | | | | | | | | | | |
| 181 221 271 | 180 220 270 | | | | | | | | | | | | | | |
| 331 391 471 | 330 390 470 | | | | | | | | | | | | | | |
| 561 681 821 | 560 680 820 | | | | | | | | | | | | | | |
| 102 122 152 | 1000 1200 1500 | | | | | | | | | | | | | | |
| 182 222 272 | 1800 2200 2700 | | | | | | | | | | | | | | |
| 332 392 472 | 3300 3900 4700 | | | | | | | | | | | | | | |
| 562 682 822 | 5600 6800 8200 | | | | | | | | | | | | | | |
| 103 123 153 | Cap 0.010 (µF) 0.012 0.015 | | | | | | | | | | | | | | |
| 183 223 273 | 0.018 0.022 0.027 | | | | | | | | | | | | | | |
| 333 393 473 | 0.033 0.039 0.047 | | | | | | | | | | | | | | |
| 563 683 823 | 0.056 0.068 0.082 | | | | | | | | | | | | | | |
| 104 124 154 | 0.10 0.12 0.15 | | | | | | | | | | | | | | |
| 224 | 0.22 | | | | | | | | | | | | | | |

= X7R

= X8R

= Under development

**Not RoHS Compliant**

LEAD-FREE

**LEAD-FREE COMPATIBLE COMPONENT**

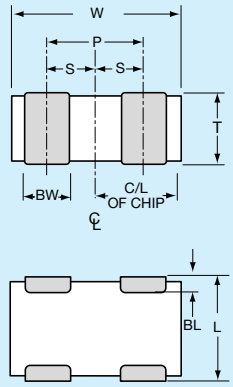
RoHS COMPLIANT

*For RoHS compliant products, please select correct termination style.*

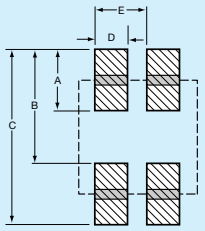
## PART & PAD LAYOUT DIMENSIONS

millimeters (inches)

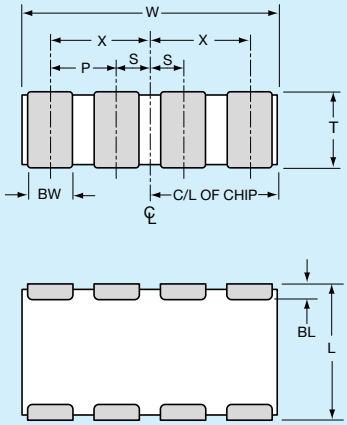
### 0405 - 2 Element



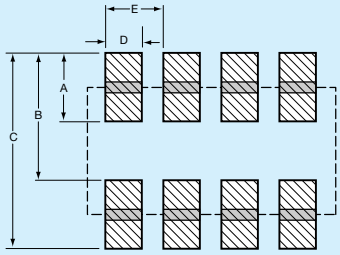

### PAD LAYOUT



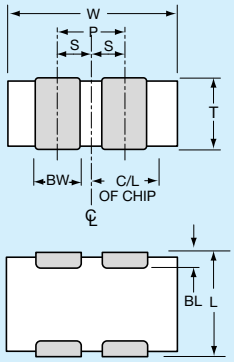

### 0612 - 4 Element



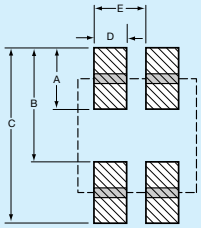

### PAD LAYOUT



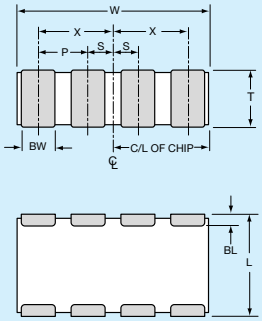

### 0508 - 2 Element



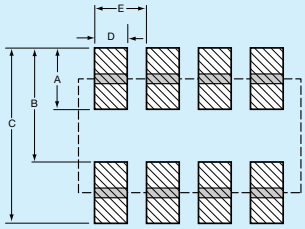

### PAD LAYOUT




### 0508 - 4 Element




### PAD LAYOUT




## PART DIMENSIONS

### 0405 - 2 Element

| L | W | T | BW | BL | P | S |
|---|---|---|---|---|---|---|
| 1.00 ± 0.15 (0.039 ± 0.006) | 1.37 ± 0.15 (0.054 ± 0.006) | 0.66 MAX (0.026 MAX) | 0.36 ± 0.10 (0.014 ± 0.004) | 0.20 ± 0.10 (0.008 ± 0.004) | 0.64 REF (0.025 REF) | 0.32 ± 0.10 (0.013 ± 0.004) |

### 0508 - 2 Element

| L | W | T | BW | BL | P | S |
|---|---|---|---|---|---|---|
| 1.30 ± 0.15 (0.051 ± 0.006) | 2.10 ± 0.15 (0.083 ± 0.006) | 0.94 MAX (0.037 MAX) | 0.43 ± 0.10 (0.017 ± 0.004) | 0.33 ± 0.08 (0.013 ± 0.003) | 1.00 REF (0.039 REF) | 0.50 ± 0.10 (0.020 ± 0.004) |

### 0508 - 4 Element

| L | W | T | BW | BL | P | X | S |
|---|---|---|---|---|---|---|---|
| 1.30 ± 0.15 (0.051 ± 0.006) | 2.10 ± 0.15 (0.083 ± 0.006) | 0.94 MAX (0.037 MAX) | 0.25 ± 0.06 (0.010 ± 0.003) | 0.20 ± 0.08 (0.008 ± 0.003) | 0.50 REF (0.020 REF) | 0.75 ± 0.10 (0.030 ± 0.004) | 0.25 ± 0.10 (0.010 ± 0.004) |

### 0612 - 4 Element

| L | W | T | BW | BL | P | X | S |
|---|---|---|---|---|---|---|---|
| 1.60 ± 0.20 (0.063 ± 0.008) | 3.20 ± 0.20 (0.126 ± 0.008) | 1.35 MAX (0.053 MAX) | 0.41 ± 0.10 (0.016 ± 0.004) | $0.18^{+0.25}_{-0.08}$ ($0.007^{+0.010}_{-0.003}$) | 0.76 REF (0.030 REF) | 1.14 ± 0.10 (0.045 ± 0.004) | 0.38 ± 0.10 (0.015 ± 0.004) |

## PAD LAYOUT DIMENSIONS

### 0405 - 2 Element

| A | B | C | D | E |
|---|---|---|---|---|
| 0.46 (0.018) | 0.74 (0.029) | 1.20 (0.047) | 0.30 (0.012) | 0.64 (0.025) |

### 0508 - 2 Element

| A | B | C | D | E |
|---|---|---|---|---|
| 0.68 (0.027) | 1.32 (0.052) | 2.00 (0.079) | 0.46 (0.018) | 1.00 (0.039) |

### 0508 - 4 Element

| A | B | C | D | E |
|---|---|---|---|---|
| 0.56 (0.022) | 1.32 (0.052) | 1.88 (0.074) | 0.30 (0.012) | 0.50 (0.020) |

### 0612 - 4 Element

| A | B | C | D | E |
|---|---|---|---|---|
| 0.89 (0.035) | 1.65 (0.065) | 2.54 (0.100) | 0.46 (0.018) | 0.76 (0.030) |

LifeElectronics
Живое партнерство

**ООО «ЛайфЭлектроникс»** **“LifeElectronics” LLC**

*ИНН 7805602321 КПП 780501001 Р/С 40702810122510004610 ФАКБ "АБСОЛЮТ БАНК" (ЗАО) в г.Санкт-Петербурге К/С 30101810900000000703 БИК 044030703*

*Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.*

*С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров*

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- *Специальные условия для постоянных клиентов.*
- *Подбор аналогов.*
- *Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.*

- *Приемлемые сроки поставки, возможна ускоренная поставка.*
- *Доставку товара в любую точку России и стран СНГ.*
- *Комплексную поставку.*
- *Работу по проектам и поставку образцов.*
- *Формирование склада под заказчика.*

- *Сертификаты соответствия на поставляемую продукцию (по желанию клиента).*
- *Тестирование поставляемой продукции.*
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- *Входной контроль качества.*
- *Наличие сертификата ISO.*

*В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.*

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- *Регистрацию проекта у производителя компонентов.*
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