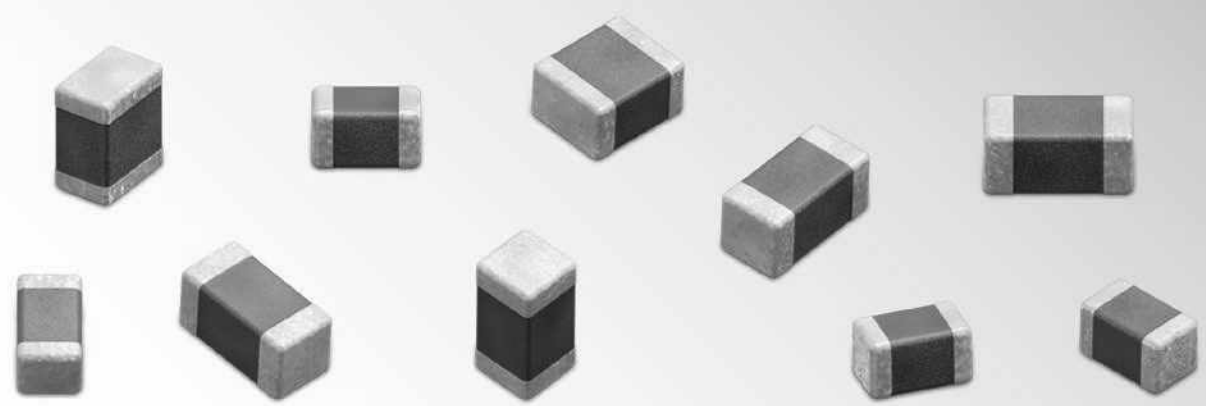




# DESIGN KIT

## WCAP-CSGP Multilayer Ceramic Chip Capacitors 0402



**SIZE:**  
0402

**TECHNICAL DATA:**

Capacitance Range: 1pF ~ 4.7µF  
Rated Voltages: 6.3V, 10V, 16V, 25V, 50V  
Dielectrics: NPO, X7R, X5R  
Termination: Cu / Ni / Sn

**Order Code 885 050**  
**Version 1.0**

# WCAP-CSGP

## Multilayer Ceramic Chip Capacitors 0402

NPO		X7R		X5R	
<b>885 012 005 017</b> 10V	<b>885 012 005 040</b> 25V	<b>885 012 005 048</b> 25V	<b>885 012 005 056</b> 50V	<b>885 012 205 036</b> 16V	<b>885 012 205 044</b> 25V
NP00402471J010DFCT10000	NP00402100J025DFCT10000	NP00402221J025DFCT10000	NP00402150J050DFCT10000	X7R0402683K016DFCT10000	X7R0402102K025DFCT10000
470pF, +/-5%, T=0.50mm Q>=1000, IR>=10G Ohm	10pF, +/-5%, T=0.50mm Q>=400+20C, IR>=10G Ohm	200pF, +/-5%, T=0.50mm Q>=1000, IR>=10G Ohm	15pF, +/-5%, T=0.50mm Q>=400+20C, IR>=10G Ohm	68,000pF, +/-10%, T=0.50mm DF<=3.5%, IR>= 10G Ohm	1,000pF, +/-10%, T=0.5mm DF<=3.5%, IR>= 10G Ohm
<b>885 012 005 018</b> 10V	<b>885 012 005 041</b> 25V	<b>885 012 005 049</b> 50V	<b>885 012 005 057</b> 50V	<b>885 012 205 037</b> 16V	<b>885 012 205 045</b> 25V
NP00402102J010DFCT10000	NP00402150J025DFCT10000	NP004021R0D050DFCT10000	NP00402220J050DFCT10000	X7R0402104K016DFCT10000	X7R0402152K025DFCT10000
1,000pF, +/-5%, T=0.50mm Q>=400+20C, IR>=10G Ohm	15pF, +/-5%, T=0.50mm Q>=400+20C, IR>=10G Ohm	1.0pF, +/-0.5pF, T=0.50mm Q>=400+20C, IR>=10G Ohm	22pF, +/-5%, T=0.50mm Q>=400+20C, IR>=10G Ohm	100,000pF, +/-10%, T=0.50mm DF<=3.5%, IR>= 5G Ohm	1,500pF, +/-10%, T=0.50mm DF<=3.5%, IR>= 10G Ohm
<b>885 012 005 034</b> 25V	<b>885 012 005 042</b> 25V	<b>885 012 005 050</b> 50V	<b>885 012 005 058</b> 50V	<b>885 012 205 038</b> 25V	<b>885 012 205 046</b> 25V
NP004021R0D025DFCT10000	NP00402220J025DFCT10000	NP004021R5D050DFCT10000	NP00402330J050DFCT10000	X7R0402101K025DFCT10000	X7R0402222K025DFCT10000
1.0pF, +/-0.5pF, T=0.50mm Q>=400+20C, IR>=10G Ohm	22pF, +/-5%, T=0.50mm Q>=400+20C, IR>=10G Ohm	1.5pF, +/-0.5pF, T=0.50mm Q>=400+20C, IR>=10G Ohm	33pF, +/-5%, T=0.50mm Q>=1000, IR>=10G Ohm	100pF, +/-10%, T=0.50mm DF<=3.5%, IR>= 10G Ohm	2,200pF, +/-10%, T=0.50mm DF<=3.5%, IR>= 10G Ohm
<b>885 012 005 035</b> 25V	<b>885 012 005 043</b> 25V	<b>885 012 005 051</b> 50V	<b>885 012 005 059</b> 50V	<b>885 012 205 039</b> 25V	<b>885 012 205 047</b> 25V
NP004021R5D025DFCT10000	NP00402330J025DFCT10000	NP004022R2D050DFCT10000	NP00402470J050DFCT10000	X7R0402151K025DFCT10000	X7R0402332K025DFCT10000
1.5pF, +/-0.5pF, T=0.50mm Q>=400+20C, IR>=10G Ohm	33pF, +/-5%, T=0.50mm Q>=1000, IR>=10G Ohm	2.2pF, +/-0.5pF, T=0.50mm Q>=400+20C, IR>=10G Ohm	47pF, +/-5%, T=0.50mm Q>=1000, IR>=10G Ohm	150pF, +/-10%, T=0.50mm DF<=3.5%, IR>= 10G Ohm	3,300pF, +/-10%, T=0.50mm DF<=3.5%, IR>= 10G Ohm
<b>885 012 005 036</b> 25V	<b>885 012 005 044</b> 25V	<b>885 012 005 052</b> 50V	<b>885 012 005 060</b> 50V	<b>885 012 205 040</b> 25V	<b>885 012 205 048</b> 25V
NP004022R2D025DFCT10000	NP00402470J025DFCT10000	NP004023R3D050DFCT10000	NP00402680J050DFCT10000	X7R0402221K025DFCT10000	X7R0402472K025DFCT10000
2.2pF, +/-0.5pF, T=0.50mm Q>=400+20C, IR>=10G Ohm	47pF, +/-5%, T=0.50mm Q>=1000, IR>=10G Ohm	3.3pF, +/-0.5pF, T=0.50mm Q>=400+20C, IR>=10G Ohm	68pF, +/-5%, T=0.50mm Q>=1000, IR>=10G Ohm	220pF, +/-10%, T=0.50mm DF<=3.5%, IR>= 10G Ohm	4,700pF, +/-10%, T=0.50mm DF<=3.5%, IR>= 10G Ohm
<b>885 012 005 037</b> 25V	<b>885 012 005 045</b> 25V	<b>885 012 005 053</b> 50V	<b>885 012 005 061</b> 50V	<b>885 012 205 041</b> 25V	<b>885 012 205 049</b> 25V
NP004023R3D025DFCT10000	NP00402680J025DFCT10000	NP004024R7D050DFCT10000	NP00402101J050DFCT10000	X7R0402331K025DFCT10000	X7R0402682K025DFCT10000
3.3pF, +/-0.5pF, T=0.50mm Q>=400+20C, IR>=10G Ohm	68pF, +/-5%, T=0.50mm Q>=1000, IR>=10G Ohm	4.7pF, +/-0.5pF, T=0.50mm Q>=400+20C, IR>=10G Ohm	100pF, +/-5%, T=0.50mm Q>=1000, IR>=10G Ohm	330pF, +/-10%, T=0.50mm DF<=3.5%, IR>= 10G Ohm	6,800pF, +/-10%, T=0.50mm DF<=3.5%, IR>= 10G Ohm
<b>885 012 005 038</b> 25V	<b>885 012 005 046</b> 25V	<b>885 012 005 054</b> 50V	<b>885 012 005 062</b> 50V	<b>885 012 205 042</b> 25V	<b>885 012 205 050</b> 25V
NP004024R7D025DFCT10000	NP00402101J025DFCT10000	NP004026R8D050DFCT10000	NP00402151J050DFCT10000	X7R0402471K025DFCT10000	X7R0402103K025DFCT10000
4.7pF, +/-0.5pF, T=0.50mm Q>=400+20C, IR>=10G Ohm	100pF, +/-5%, T=0.50mm Q>=1000, IR>=10G Ohm	6.8pF, +/-0.5pF, T=0.50mm Q>=400+20C, IR>=10G Ohm	150pF, +/-5%, T=0.50mm Q>=1000, IR>=10G Ohm	470pF, +/-10%, T=0.50mm DF<=3.5%, IR>= 10G Ohm	10,000pF, +/-10%, T=0.50mm DF<=3.5%, IR>= 10G Ohm
<b>885 012 200 503</b> 25V	<b>885 012 005 047</b> 25V	<b>885 012 005 055</b> 50V	<b>885 012 005 063</b> 50V	<b>885 012 205 043</b> 25V	<b>885 012 205 051</b> 25V
NP004026R8D025DFCT10000	NP00402151J025DFCT10000	NP00402100J050DFCT10000	NP00402221J050DFCT10000	X7R0402681K025DFCT10000	X7R0402153K025DFCT10000
6.8pF, +/-0.5pF, T=0.50mm Q>=400+20C, IR>=10G Ohm	150pF, +/-5%, T=0.50mm Q>=1000, IR>=10G Ohm	10pF, +/-5%, T=0.50mm Q>=400+20C, IR>=10G Ohm	220pF, +/-5%, T=0.50mm Q>=1000, IR>=10G Ohm	680pF, +/-10%, T=0.50mm DF<=3.5%, IR>= 10G Ohm	15,000pF, +/-10%, T=0.50mm DF<=3.5%, IR>= 10G Ohm
<b>885 012 205 044</b> 25V	<b>885 012 205 052</b> 25V	<b>885 012 205 060</b> 50V	<b>885 012 205 068</b> 50V	<b>885 012 205 045</b> 25V	<b>885 012 205 053</b> 25V
X7R0402681K050DFCT10000	X7R0402223K025DFCT10000	X7R0402681K050DFCT10000	X7R0402681K050DFCT10000	X7R0402333K025DFCT10000	X7R0402102K050DFCT10000
22,000pF, +/-10%, T=0.50mm DF<=3.5%, IR>= 10G Ohm	680pF, +/-10%, T=0.50mm DF<=2.5%, IR>= 10G Ohm	680pF, +/-10%, T=0.50mm DF<=2.5%, IR>= 10G Ohm	680pF, +/-10%, T=0.50mm DF<=2.5%, IR>= 10G Ohm	33,000pF, +/-10%, T=0.50mm DF<=2.5%, IR>= 10G Ohm	1,000pF, +/-10%, T=0.50mm DF<=2.5%, IR>= 10G Ohm
<b>885 012 105 008</b> 6.3V	<b>885 012 105 012</b> 10V	<b>885 012 105 013</b> 10V	<b>885 012 105 014</b> 16V	<b>885 012 105 015</b> 16V	<b>885 012 105 016</b> 16V
X5R0402475M6R3DFCT10000	X5R0402105M010DFCT10000	X5R0402225M010DFCT10000	X5R0402333M016DFCT10000	X5R0402473M016DFCT10000	X5R0402104M016DFCT10000
4.7µF, +/-20%, T=0.50mm DF<=20%, IR>= 0.02G Ohm	1µF, +/-20%, T=0.50mm DF<=15%, IR>= 0.10G Ohm	2.2µF, +/-20%, T=0.50mm DF<=15%, IR>= 0.05G Ohm	3.3µF, +/-20%, T=0.50mm DF<=15%, IR>= 0.05G Ohm	47,000pF, +/-20%, T=0.50mm DF<=5%, IR>= 10G Ohm	47,000pF, +/-20%, T=0.50mm DF<=5%, IR>= 10G Ohm

Dielectric	Operating Temperature
NPO	-55°C to +125°C
X7R	-55°C to +125°C
X5R	-55°C to +85°C

Dielectric	Capacitance Characteristics*
NPO	± 30ppm/°C; ± 0.54%/°C
X7R	± 15%
X5R	± 15%

\*within Operating Temperature Range

6.3V
10V
16V
25V
50V



EMC COMPONENTS | INDUCTORS | TRANSFORMERS | RF COMPONENTS | CIRCUIT PROTECTION | EMC SHIELDING MATERIAL | CAPACITORS | CONNECTORS | SWITCHES | ASSEMBLY TECHNIQUE | POWER ELEMENTS

**Important information:** Würth Elektronik's design kits contain reference components. These components correspond with the current product development status on the day of supply. Exchange of the reference components to components with up-to-date product development status is not carried out automatically. No liability is taken for the use of these reference components. Therefore, please request new samples prior to releases for series production and product release.

Please check datasheets on [www.we-online.com](http://www.we-online.com) for specifications. Würth Elektronik eiSos GmbH & Co. KG, EMC & Inductive Solutions. © 2014

[www.we-online.com](http://www.we-online.com)

All products  
ex stock!