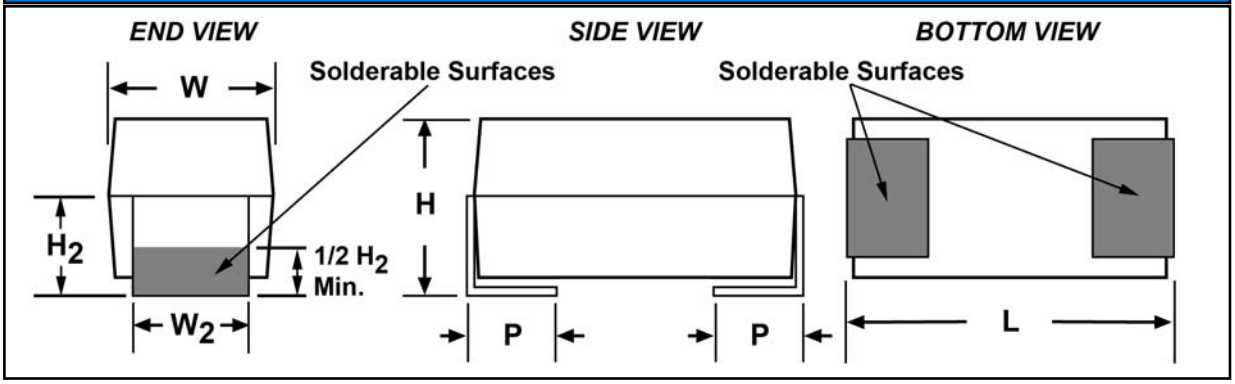
KEMET CHARGED.

Product Bulletin

T409/T419/T429 Series - MIL-PRF-55365/4 & /11
Tantalum Surface Mount Capacitor

FEATURES	
Established Reliability Military Version of T497 Series High Grade COTS	Capacitance Values and Voltages as shown in following part number table.
Qualified to MIL-PRF-55365/4 & 11, Style CWR09, CWR19, CWR29	Termination Options: B (Gold Plated), C (Hot Solder Dipped), H (Solder Plated), K (Solder Fused
100% Surge Current Test available for all sizes	Precision-molded, Laser-marked Case
Operating Temperature -55°C to +125°C	Offered in Nine Case Sizes (A - X)
Weibull Failure Rate Codes, B, C, D# 50V Not Qualified	Tape & Reeled per EIA 481-1

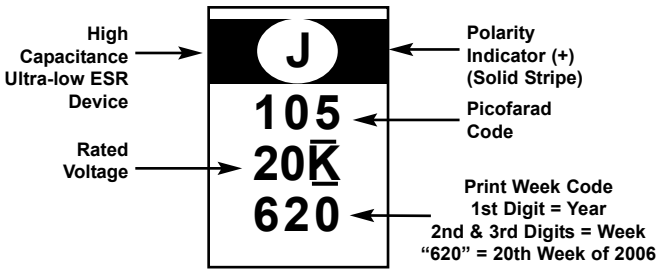
OUTLINE DRAWING



DIMENSIONS – MILLIMETERS (INCHES)

KEMET Size Code	L Length ± .38 (.015)	W Width ± 0.38 (.015)	H Height ± 0.38 (.015)	P +0.25 (.010) - 0.13 (.005)	W_2	H_2 Minimum
A	2.54 (.100)	1.27 (.050)	1.27 (.050	0.76 (.030)	1.27 ± 0.13 (.050 ± .005)	0.76 (.030)
B	3.81 (.150)	1.27 (.050)	1.27 (.050)	0.76 (.030)	1.27 ± 0.13 (.050 ± .005)	0.76 (.030)
C	5.08 (.200)	1.27 (.050)	1.27 (.050)	0.76 (.030)	1.27 ± 0.13 (.050 ± .005)	0.76 (.030)
D	3.81 (.150)	2.54 (.100)	1.27 (.050)	0.76 (.030)	2.41 + .13, -.25 (.095 + .005, -.010)	0.76 (.030)
E	5.08 (.200)	2.54 (.100)	1.27 (.050)	0.76 (.030)	2.41 + .13, -.25 (.095 + .005, -.010)	0.76 (.030)
F	5.59 (.220)	3.43 (.135)	1.78 (.070)	0.76 (.030)	3.30 ± 0.13 (.130 ± .005)	1.02 (.040)
G	6.73 (.265)	2.79 (.110)	2.79 (.110)	1.27 (.050)	2.67 ± 0.13 (.105 ± .005)	1.52 (.060)
H	7.24 (.285)	3.81 (.150)	2.79 (.110)	1.27 (.050)	3.68 + 0.13, -0.51 (.145 + .005 - .020)	1.52 (.060)
X	6.93 (.273)	5.41 (.213)	2.74 (.108)	1.19 (.047)	3.05 ± 0.13 (.120 ± .005)	1.22 (.048)

COMPONENT MARKING



COMPONENT WEIGHT

Case Size	Avg. Weight (gm)	Case Size	Avg. Weight (gm)
A	0.016	F	0.153
B	0.024	G	0.235
C	0.034	H	0.365
D	0.050	X	0.406
E	0.072		

MIL-PRF-55365 (CWR09) ORDERING INFORMATION

CWR09 J H 105 K C A

Style
CWR09

Voltage
C = 4V
D = 6V
F = 10V
H = 15V
J = 20V
K = 25V
M = 35V
N = 50V

Termination Finish Code
B = Gold plated
C = Hot solder dipped
H = Solder plated
K = Solder fused

Capacitance Picofarad Code
First two digits represent significant figures.
Third digit specifies number of zeros to follow.

Capacitance Tolerance
K = ±10%, M = ±20%, J = ±5%

Reliability Level

* Exponential	Weibull
M = (1.0%/1000 hrs.)	A = Non-ER
P = (0.1%/1000 hrs.)	B = (0.1%/1000 hrs.)
R = (0.01%/1000 hrs.)	C = (0.01%/1000 hrs.)
S = (0.001%.1000 hrs.)	D = (0.001%/1000 hrs.)#

* Inactive for new design.

Surge Current Option
A = +25°C after Weibull
B = -55°C +85°C after Weibull
C = -55°C +85°C before Weibull

MIL-PRF-55365 (CWR19/29) ORDERING INFORMATION

CWR19 K H 225 K C D A

Style
CWR19, CWR29

Voltage
C = 4V
D = 6V
F = 10V
H = 15V
J = 20V
K = 25V
M = 35V
N = 50V

Termination Finish Code
B = Gold plated
C = Hot solder dipped
H = Solder plated
K = Solder fused

Capacitance Picofarad Code
First two digits represent significant figures.
Third digit specifies number of zeros to follow.

Capacitance Tolerance
K = ±10%, M = ±20%, J = ±5%

Reliability Level

* Exponential	Weibull
M = (1.0%/1000 hrs.)	A = Non-ER
P = (0.1%/1000 hrs.)	B = (0.1%/1000 hrs.)
R = (0.01%/1000 hrs.)	C = (0.01%/1000 hrs.)
S = (0.001%.1000 hrs.)	D = (0.001%/1000 hrs.)#

* Inactive for new design.

Case Code
A,B,C,D,E,F,G,H,X

Surge Current Option
A = +25°C after Weibull
B = -55°C +85°C after Weibull
C = -55°C +85°C before Weibull
Z = None

KEMET ORDERING INFORMATION

T 409 B 105 K 020 C H 4250

Tantalum

Series
T409 MIL-PRF-55365/4
T419 MIL-PRF-55365/11
T429 MIL-PRF-55365/11

Case Size
A, B, C, D, E, F, G, H, X

Capacitance Picofarad Code
First two digits represent significant figures.
Third digit specifies number of zeros to follow.

Capacitance Tolerances
M = ±10%; K = ±10%; J = ±5%

Voltage
As shown

* Inactive for new design.

Reliability Level

*Exponential	Weibull
M = (1.0%/1000 hrs.)	A = Non-ER
P = (0.1%/1000 hrs.)	B = (0.1%/1000 hrs.)
R = (0.01%/1000 hrs.)	C = (0.01%/1000 hrs.)
S = (0.001%.1000 hrs.)	D = (0.001%/1000 hrs.)#

Termination Finish
B = Gold plated
C = Hot solder dipped
H = Solder plated
K = Solder fused

Surge Designator

4250	Surge = +25°C after Weibull
4251	Surge = -55°C +85°C after Weibull
4252	Surge = -55°C +85°C before Weibull

Note: For order entry purposes the last 4-digits of the part number will be entered in the KEMET Customer Specification (C-Spec)Field.

T409 (CWR09) Ratings & Part Number Reference

Capacitance µF	Case Size	KEMET Part Number	Mil-C-55365/4F Part Number	DC Leakage µA @ 25ºC Max	DF % @ +25ºC 120 Hz Max	ESR Ω @ +25°C 100 kHz Max
4 Volt Rating at +85°C (2.7 Volt Rating at +125°C)						
2.2	A	T409A225(1)004(2)(3)(4)	CWR09C(3)225(1)(2)(5)	1.0	6.0	8.0
4.7	B	T409B475(1)004(2)(3)(4)	CWR09C(3)475(1)(2)(5)	1.0	6.0	8.0
6.8	C	T409C685(1)004(2)(3)(4)	CWR09C(3)685(1)(2)(5)	1.0	6.0	5.5
10.0	D	T409D106(1)004(2)(3)(4)	CWR09C(3)106(1)(2)(5)	1.0	8.0	4.0
15.0	E	T409E156(1)004(2)(3)(4)	CWR09C(3)156(1)(2)(5)	1.0	8.0	3.5
33.0	F	T409F336(1)004(2)(3)(4)	CWR09C(3)336(1)(2)(5)	2.0	8.0	2.2
68.0	G	T409G686(1)004(2)(3)(4)	CWR09C(3)686(1)(2)(5)	3.0	10.0	1.1
100.0	H	T409H107(1)004(2)(3)(4)	CWR09C(3)107(1)(2)(5)	4.0	10.0	0.9
6 Volt Rating at +85°C (4 Volt Rating at +125°C)						
1.5	A	T409A155(1)006(2)(3)(4)	CWR09D(3)155(1)(2)(5)	1.0	6.0	8.0
3.3	B	T409B335(1)006(2)(3)(4)	CWR09D(3)335(1)(2)(5)	1.0	6.0	8.0
4.7	C	T409C475(1)006(2)(3)(4)	CWR09D(3)475(1)(2)(5)	1.0	6.0	5.5
6.8	D	T409D685(1)006(2)(3)(4)	CWR09D(3)685(1)(2)(5)	1.0	6.0	4.5
10.0	E	T409E106(1)006(2)(3)(4)	CWR09D(3)106(1)(2)(5)	1.0	8.0	3.5
22.0	F	T409F226(1)006(2)(3)(4)	CWR09D(3)226(1)(2)(5)	2.0	8.0	2.2
47.0	G	T409G476(1)006(2)(3)(4)	CWR09D(3)476(1)(2)(5)	3.0	10.0	1.1
68.0	H	T409H686(1)006(2)(3)(4)	CWR09D(3)686(1)(2)(5)	4.0	10.0	0.9
10 Volt Rating at +85°C (7 Volt Rating at +125°C)						
1.0	A	T409A105(1)010(2)(3)(4)	CWR09F(3)105(1)(2)(5)	1.0	6.0	10.0
2.2	B	T409B225(1)010(2)(3)(4)	CWR09F(3)225(1)(2)(5)	1.0	6.0	8.0
3.3	C	T409C335(1)010(2)(3)(4)	CWR09F(3)335(1)(2)(5)	1.0	6.0	5.5
4.7	D	T409D475(1)010(2)(3)(4)	CWR09F(3)475(1)(2)(5)	1.0	6.0	4.5
6.8	E	T409E685(1)010(2)(3)(4)	CWR09F(3)685(1)(2)(5)	1.0	6.0	3.5
15.0	F	T409F156(1)010(2)(3)(4)	CWR09F(3)156(1)(2)(5)	2.0	8.0	2.5
33.0	G	T409G336(1)010(2)(3)(4)	CWR09F(3)336(1)(2)(5)	3.0	10.0	1.1
47.0	H	T409H476(1)010(2)(3)(4)	CWR09F(3)476(1)(2)(5)	5.0	10.0	0.9
15 Volt Rating at +85°C (10 Volt Rating at +125°C)						
0.68	A	T409A684(1)015(2)(3)(4)	CWR09H(3)684(1)(2)(5)	1.0	6.0	12.0
1.5	B	T409B155(1)015(2)(3)(4)	CWR09H(3)155(1)(2)(5)	1.0	6.0	8.0
2.2	C	T409C225(1)015(2)(3)(4)	CWR09H(3)225(1)(2)(5)	1.0	6.0	5.5
3.3	D	T409D335(1)015(2)(3)(4)	CWR09H(3)335(1)(2)(5)	1.0	6.0	5.0
4.7	E	T409E475(1)015(2)(3)(4)	CWR09H(3)475(1)(2)(5)	1.0	6.0	4.0
10.0	F	T409F106(1)015(2)(3)(4)	CWR09H(3)106(1)(2)(5)	2.0	6.0	2.5
22.0	G	T409G226(1)015(2)(3)(4)	CWR09H(3)226(1)(2)(5)	4.0	6.0	1.1
33.0	H	T409H336(1)015(2)(3)(4)	CWR09H(3)336(1)(2)(5)	5.0	8.0	0.9
20 Volt Rating at +85°C (13 Volt Rating at +125°C)						
0.47	A	T409A474(1)020(2)(3)(4)	CWR09J(3)474(1)(2)(5)	1.0	8.0	14.0
0.68	B	T409B684(1)020(2)(3)(4)	CWR09J(3)684(1)(2)(5)	1.0	6.0	10.0
1.0	B	T409B105(1)020(2)(3)(4)	CWR09J(3)105(1)(2)(5)	1.0	6.0	12.0
1.5	C	T409C155(1)020(2)(3)(4)	CWR09J(3)155(1)(2)(5)	1.0	6.0	6.0
2.2	D	T409D225(1)020(2)(3)(4)	CWR09J(3)225(1)(2)(5)	1.0	6.0	5.0
3.3	E	T409E335(1)020(2)(3)(4)	CWR09J(3)335(1)(2)(5)	1.0	6.0	4.0
6.8	F	T409F685(1)020(2)(3)(4)	CWR09J(3)685(1)(2)(5)	2.0	6.0	2.4
15.0	G	T409G156(1)020(2)(3)(4)	CWR09J(3)156(1)(2)(5)	3.0	6.0	1.1
22.0	H	T409H226(1)020(2)(3)(4)	CWR09J(3)226(1)(2)(5)	4.0	6.0	0.9
25 Volt Rating at +85°C (17 Volt Rating at +125°C)						
0.33	A	T409A334(1)025(2)(3)(4)	CWR09K(3)334(1)(2)(5)	1.0	6.0	15.0
0.68	B	T409B684(1)025(2)(3)(4)	CWR09K(3)684(1)(2)(5)	1.0	6.0	7.5
1.0	C	T409C105(1)025(2)(3)(4)	CWR09K(3)105(1)(2)(5)	1.0	6.0	6.5
1.5	D	T409D155(1)025(2)(3)(4)	CWR09K(3)155(1)(2)(5)	1.0	6.0	6.5
2.2	E	T409E225(1)025(2)(3)(4)	CWR09K(3)225(1)(2)(5)	1.0	6.0	3.5
4.7	F	T409F475(1)025(2)(3)(4)	CWR09K(3)475(1)(2)(5)	2.0	6.0	2.5
6.8	G	T409G685(1)025(2)(3)(4)	CWR09K(3)685(1)(2)(5)	2.0	6.0	1.2
10.0	G	T409G106(1)025(2)(3)(4)	CWR09K(3)106(1)(2)(5)	3.0	6.0	1.4
15.0	H	T409H156(1)025(2)(3)(4)	CWR09K(3)156(1)(2)(5)	4.0	6.0	1.0
35 Volt Rating at +85°C (23 Volt Rating at +125°C)						
0.22	A	T409A224(1)035(2)(3)(4)	CWR09M(3)224(1)(2)(5)	1.0	6.0	18.0
0.47	B	T409B474(1)035(2)(3)(4)	CWR09M(3)474(1)(2)(5)	1.0	6.0	10.0
0.68	C	T409C684(1)035(2)(3)(4)	CWR09M(3)684(1)(2)(5)	1.0	6.0	8.0
1.0	D	T409D105(1)035(2)(3)(4)	CWR09M(3)105(1)(2)(5)	1.0	6.0	6.5
1.5	E	T409E155(1)035(2)(3)(4)	CWR09M(3)155(1)(2)(5)	1.0	6.0	4.5
3.3	F	T409F335(1)035(2)(3)(4)	CWR09M(3)335(1)(2)(5)	1.0	6.0	2.5
4.7	G	T409G475(1)035(2)(3)(4)	CWR09M(3)475(1)(2)(5)	2.0	6.0	1.5
6.8	H	T409H685(1)035(2)(3)(4)	CWR09M(3)685(1)(2)(5)	3.0	6.0	1.3

(1) To complete KEMET/CWR part number, insert K = ±10%; M = ±20% and J = ±5% Capacitance tolerance.
(2) To complete KEMET/CWR part number, insert A = Non-ER; Weibull: B = 0.1%/1000 Hrs.; C = 0.01%/1000 Hrs or D = 0.001%/1000 Hrs. or Exponential: M = 1.0%/1000 hrs., P = 0.1%/1000 hrs., R = 0.01%/1000 hrs. or S = 0.001%/1000 hrs. Reliability Level.
(3) To complete KEMET part number, insert B = Gold plated; C = Hot solder dipped; H = Solder plated or K = Solder Fused Termination Finish.
(4) To complete KEMET part number, insert 4250 = +25°C after Weibull; 4251 = -55° + 85°C after Weibull; or 4252 = -55, & +85°C before Weibull Surge Current Option.
(5) To complete CWR part number, insert A = +25°C after Weibull; B = -55° + 85°C after Weibull; or C = -55, & +85°C before Weibull Surge Current Option.

T409 (CWR09) Ratings & Part Number Reference

Capaci-tance µF	Case Size	KEMET Part Number	Mil-C-55365/4F Part Number	DC Leakage µA @ 25ºC Max	DF % @ +25ºC 120 Hz Max	ESR Ω @ +25°C 100 kHz Max
50 Volt Rating at +85 C (33 Volt Rating at + 125 C)						
0.10	A	T409A104(1)050(2)(3)(4)	CWR09N(3)104(1)(2)(5)	1.0	6.0	22.0
0.15	A	T409A154(1)050(2)(3)(4)	CWR09N(3)154(1)(2)(5)	1.0	6.0	17.0
0.22	B	T409B224(1)050(2)(3)(4)	CWR09N(3)224(1)(2)(5)	1.0	6.0	14.0
0.33	B	T409B334(1)050(2)(3)(4)	CWR09N(3)334(1)(2)(5)	1.0	6.0	12.0
0.47	C	T409C474(1)050(2)(3)(4)	CWR09N(3)474(1)(2)(5)	1.0	6.0	8.0
0.68	D	T409D684(1)050(2)(3)(4)	CWR09N(3)684(1)(2)(5)	1.0	6.0	7.0
1.0	E	T409E105(1)050(2)(3)(4)	CWR09N(3)105(1)(2)(5)	1.0	6.0	6.0
1.5	F	T409F155(1)050(2)(3)(4)	CWR09N(3)155(1)(2)(5)	1.0	6.0	4.0
2.2	F	T409F225(1)050(2)(3)(4)	CWR09N(3)225(1)(2)(5)	2.0	6.0	2.5
3.3	G	T409G335(1)050(2)(3)(4)	CWR09N(3)335(1)(2)(5)	2.0	6.0	2.0
4.7	H	T409H475(1)050(2)(3)(4)	CWR09N(3)475(1)(2)(5)	3.0	6.0	1.5

(1) To complete KEMET/CWR part number, insert K = ±10%; M = ±20% and J = ±5% Capacitance tolerance.
(2) To complete KEMET/CWR part number, insert A = Non-ER; Weibull: B = 0.1%/1000 Hrs.; C = 0.01%/1000 Hrs or D# = 0.001%/1000 Hrs. or Exponential: M = 1.0%/1000 hrs., P = 0.1%/1000 hrs., R = 0.01%/1000 hrs. or S = 0.001%/1000 hrs. Reliability Level.
Note: D# - 50 Volt Components not Qualified to D Product Level.
(3) To complete KEMET part number, insert B = Gold plated; C = Hot solder dipped; H = Solder plated or K = Solder Fused Termination Finish.
(4) To complete KEMET part number, insert 4250 = +25°C after Weibull; 4251 = -55° + 85°C after Weibull; or 4252 = -55, & +85°C before Weibull Surge Current Option.
(5) To complete CWR part number, insert A = +25°C after Weibull; B = -55° + 85°C after Weibull; or C = -55, & +85°C before Weibull Surge Current Option.

Packaging Information

KEMET Case Codes		Tape and Reel Dimensions				
		Tape Width - mm	Pitch - mm ± 0.1		Reel Quantity	
			Part	Sprocket	180mm (7” diameter)	330mm (13” diameter)
A	1005	8	4	4	2500	9500
B	1505	12	4	4	2500	9500
C	2005	12	4	4	2500	9500
D	1510	12	4	4	2500	9500
E	2010	12	4	4	2500	9500
F	2214	12	8	4	1000	3500
G	2711	12	8	4	500	2500
H	2915	12	8	4	500	2500
X	2824	12	8	4	500	2500

• No c-spec required for 7” reel packaging. C-7280 required for 13” reel packaging
• Standard reel packaging is not mandatory
• Bulk packaging also available using C-7610

T419 (CWR19) Ratings & Part Number Reference

Capacitance µF	Case Size	KEMET Part Number	Mil-C-55365/11A Part Number	DC Leakage µA @ 25ºC Max	DF % @ +25ºC 120 Hz Max	ESR Ω @ +25°C 100 kHz Max
4 Volt Rating at +85°C (2.7 Volt Rating at +125°C)						
3.3	A	T419A335(1)004(2)(3)(4)	CWR19C(3)335(1)(2)A(5)	1.0	6.0	12.0
4.7	A	T419A475(1)004(2)(3)(4)	CWR19C(3)475(1)(2)A(5)	1.0	6.0	12.0
6.8	A	T419A685(1)004(2)(3)(4)	CWR19C(3)685(1)(2)A(5)	1.0	6.0	12.0
10.0	B	T419B106(1)004(2)(3)(4)	CWR19C(3)106(1)(2)B(5)	1.0	8.0	8.0
15.0	B	T419B156(1)004(2)(3)(4)	CWR19C(3)156(1)(2)B(5)	1.0	8.0	8.0
22.0	B	T419B226(1)004(2)(3)(4)	CWR19C(3)226(1)(2)B(5)	1.0	8.0	8.0
22.0	D	T419D226(1)004(2)(3)(4)	CWR19C(3)226(1)(2)D(5)	1.0	8.0	4.0
33.0	D	T419D336(1)004(2)(3)(4)	CWR19C(3)336(1)(2)D(5)	2.0	8.0	4.0
33.0	E	T419E336(1)004(2)(3)(4)	CWR19C(3)336(1)(2)E(5)	2.0	8.0	3.0
47.0	E	T419E476(1)004(2)(3)(4)	CWR19C(3)476(1)(2)E(5)	2.0	8.0	3.0
68.0	E	T419E686(1)004(2)(3)(4)	CWR19C(3)686(1)(2)E(5)	3.0	8.0	3.0
100.0	F	T419F107(1)004(2)(3)(4)	CWR19C(3)107(1)(2)F(5)	4.0	10.0	2.0
150.0	G	T419G157(1)004(2)(3)(4)	CWR19C(3)157(1)(2)G(5)	6.0	10.0	1.0
220.0	H	T419H227(1)004(2)(3)(4)	CWR19C(3)227(1)(2)H(5)	8.0	10.0	1.0
330.0	H	T419H337(1)004(2)(3)(4)	CWR19C(3)337(1)(2)H(5)	10.0	10.0	0.9
6 Volt Rating at +85°C (4 Volt Rating at +125°C)						
3.3	A	T419A335(1)006(2)(3)(4)	CWR19D(3)335(1)(2)A(5)	1.0	6.0	12.0
4.7	A	T419A475(1)006(2)(3)(4)	CWR19D(3)475(1)(2)A(5)	1.0	6.0	12.0
6.8	B	T419B685(1)006(2)(3)(4)	CWR19D(3)685(1)(2)B(5)	1.0	6.0	8.0
10.0	B	T419B106(1)006(2)(3)(4)	CWR19D(3)106(1)(2)B(5)	1.0	6.0	8.0
15.0	B	T419B156(1)006(2)(3)(4)	CWR19D(3)156(1)(2)B(5)	1.0	8.0	8.0
15.0	D	T419D156(1)006(2)(3)(4)	CWR19D(3)156(1)(2)D(5)	1.0	8.0	5.0
15.0	E	T419E156(1)006(2)(3)(4)	CWR19D(3)156(1)(2)E(5)	1.0	8.0	3.0
22.0	D	T419D226(1)006(2)(3)(4)	CWR19D(3)226(1)(2)D(5)	1.0	6.0	5.0
22.0	E	T419E226(1)006(2)(3)(4)	CWR19D(3)226(1)(2)E(5)	2.0	8.0	3.5
33.0	E	T419E336(1)006(2)(3)(4)	CWR19D(3)336(1)(2)E(5)	2.0	6.0	3.5
47.0	F	T419F476(1)006(2)(3)(4)	CWR19D(3)476(1)(2)F(5)	3.0	8.0	3.5
68.0	F	T419F686(1)006(2)(3)(4)	CWR19D(3)686(1)(2)F(5)	4.0	10.0	1.5
68.0	G	T419G686(1)006(2)(3)(4)	CWR19D(3)686(1)(2)G(5)	4.0	10.0	1.0
100.0	G	T419G107(1)006(2)(3)(4)	CWR19D(3)107(1)(2)G(5)	6.0	10.0	1.1
150.0	G	T419G157(1)006(2)(3)(4)	CWR19D(3)157(1)(2)G(5)	10.0	10.0	1.1
220.0	H	T419H227(1)006(2)(3)(4)	CWR19D(3)227(1)(2)H(5)	10.0	10.0	0.9
330.0	H	T419H337(1)006(2)(3)(4)	CWR19D(3)337(1)(2)H(5)	20.0	10.0	0.9
10 Volt Rating at +85°C (7 Volt Rating at +125°C)						
2.2	A	T419A225(1)010(2)(3)(4)	CWR19F(3)225(1)(2)A(5)	1.0	6.0	12.0
3.3	A	T419A335(1)010(2)(3)(4)	CWR19F(3)335(1)(2)A(5)	1.0	6.0	12.0
4.7	B	T419B475(1)010(2)(3)(4)	CWR19F(3)475(1)(2)B(5)	1.0	6.0	8.0
4.7	C	T419C475(1)010(2)(3)(4)	CWR19F(3)475(1)(2)C(5)	1.0	6.0	5.5
6.8	B	T419B685(1)010(2)(3)(4)	CWR19F(3)685(1)(2)B(5)	1.0	6.0	8.0
6.8	C	T419C685(1)010(2)(3)(4)	CWR19F(3)685(1)(2)C(5)	1.0	6.0	5.5
6.8	D	T419D685(1)010(2)(3)(4)	CWR19F(3)685(1)(2)D(5)	1.0	6.0	5.0
10.0	B	T419B106(1)010(2)(3)(4)	CWR19F(3)106(1)(2)B(5)	1.0	8.0	8.0
10.0	C	T419C106(1)010(2)(3)(4)	CWR19F(3)106(1)(2)C(5)	1.0	6.0	5.5
10.0	D	T419D106(1)010(2)(3)(4)	CWR19F(3)106(1)(2)D(5)	1.0	6.0	4.0
10.0	E	T419E106(1)010(2)(3)(4)	CWR19F(3)106(1)(2)E(5)	1.0	6.0	3.5
15.0	D	T419D156(1)010(2)(3)(4)	CWR19F(3)156(1)(2)D(5)	2.0	6.0	5.0
15.0	E	T419E156(1)010(2)(3)(4)	CWR19F(3)156(1)(2)E(5)	2.0	8.0	3.0
22.0	E	T419E226(1)010(2)(3)(4)	CWR19F(3)226(1)(2)E(5)	3.0	8.0	2.0
33.0	F	T419F336(1)010(2)(3)(4)	CWR19F(3)336(1)(2)F(5)	3.0	8.0	1.5
47.0	F	T419F476(1)010(2)(3)(4)	CWR19F(3)476(1)(2)F(5)	4.0	10.0	1.5
47.0	G	T419G476(1)010(2)(3)(4)	CWR19F(3)476(1)(2)G(5)	4.0	10.0	1.0
68.0	G	T419G686(1)010(2)(3)(4)	CWR19F(3)686(1)(2)G(5)	6.0	10.0	1.1
100.0	G	T419G107(1)010(2)(3)(4)	CWR19F(3)107(1)(2)G(5)	10.0	10.0	1.1
100.0	H	T419H107(1)010(2)(3)(4)	CWR19F(3)107(1)(2)H(5)	10.0	10.0	0.9
150.0	H	T419H157(1)010(2)(3)(4)	CWR19F(3)157(1)(2)H(5)	15.0	10.0	0.9
150.0	X	T419X157(1)010(2)(3)(4)	CWR19F(3)157(1)(2)X(5)	15.0	10.0	0.9
220.0	H	T419H227(1)010(2)(3)(4)	CWR19F(3)227(1)(2)H(5)	20.0	10.0	0.9

(1) To complete KEMET/CWR part number, insert K = ±10%; M = ±20% and J = ±5% Capacitance tolerance.
(2) To complete KEMET/CWR part number, insert A = Non-ER; Weibull: B = 0.1%/1000 Hrs.; C = 0.01%/1000 Hrs or D = 0.001%/1000 Hrs. or Exponential: M = 1.0%/1000 hrs., P = 0.1%/1000 hrs., R = 0.01%/1000 hrs. or S = 0.001%/1000 hrs. Reliability Level.
(3) To complete KEMET part number, insert B = Gold plated; C = Hot solder dipped; H = Solder plated or K = Solder Fused Termination Finish.
(4) To complete KEMET part number, insert 4250 = +25°C after Weibull; 4251 = -55° + 85°C after Weibull; or 4252 = -55, & +85°C before Weibull Surge Current Option.
(5) To complete CWR part number, insert A = +25°C after Weibull; B = -55° + 85°C after Weibull; or C = -55, & +85°C before Weibull Surge Current Option.

T419 (CWR19) Ratings & Part Number Reference

Capacitance µF	Case Size	KEMET Part Number	Mil-C-55365/11A Part Number	DC Leakage µA @ 25ºC Max	DF % @ +25ºC 120 Hz Max	ESR Ω @ +25°C 100 kHz Max
15 Volt Rating at +85°C (10 Volt Rating at +125°C)						
1.0	A	T419A105(1)015(2)(3)(4)	CWR19H(3)105(1)(2)A(5)	1.0	6.0	15.0
1.5	A	T419A155(1)015(2)(3)(4)	CWR19H(3)155(1)(2)A(5)	1.0	6.0	15.0
2.2	A	T419A225(1)015(2)(3)(4)	CWR19H(3)225(1)(2)A(5)	1.0	6.0	15.0
3.3	B	T419B335(1)015(2)(3)(4)	CWR19H(3)335(1)(2)B(5)	1.0	6.0	9.0
4.7	B	T419B475(1)015(2)(3)(4)	CWR19H(3)475(1)(2)B(5)	1.0	6.0	5.0
4.7	C	T419C475(1)015(2)(3)(4)	CWR19H(3)475(1)(2)C(5)	1.0	6.0	5.5
4.7	D	T419D475(1)015(2)(3)(4)	CWR19H(3)475(1)(2)D(5)	1.0	6.0	6.0
6.8	D	T419D685(1)015(2)(3)(4)	CWR19H(3)685(1)(2)D(5)	1.0	6.0	6.0
6.8	E	T419E685(1)015(2)(3)(4)	CWR19H(3)685(1)(2)E(5)	1.0	8.0	3.0
10.0	D	T419D106(1)015(2)(3)(4)	CWR19H(3)106(1)(2)D(5)	2.0	6.0	6.0
10.0	E	T419E106(1)015(2)(3)(4)	CWR19H(3)106(1)(2)E(5)	2.0	6.0	4.0
15.0	E	T419E156(1)015(2)(3)(4)	CWR19H(3)156(1)(2)E(5)	2.0	6.0	4.0
15.0	F	T419F156(1)015(2)(3)(4)	CWR19H(3)156(1)(2)F(5)	2.0	8.0	3.0
22.0	F	T419F226(1)015(2)(3)(4)	CWR19H(3)226(1)(2)F(5)	3.0	8.0	3.0
33.0	F	T419F336(1)015(2)(3)(4)	CWR19H(3)336(1)(2)F(5)	5.0	6.0	3.0
33.0	G	T419G336(1)015(2)(3)(4)	CWR19H(3)336(1)(2)G(5)	6.0	8.0	1.1
47.0	G	T419G476(1)015(2)(3)(4)	CWR19H(3)476(1)(2)G(5)	10.0	8.0	1.1
47.0	H	T419H476(1)015(2)(3)(4)	CWR19H(3)476(1)(2)H(5)	10.0	8.0	0.9
68.0	G	T419G686(1)015(2)(3)(4)	CWR19H(3)686(1)(2)G(5)	10.0	8.0	1.1
68.0	H	T419H686(1)015(2)(3)(4)	CWR19H(3)686(1)(2)H(5)	10.0	8.0	0.9
100.0	H	T419H107(1)015(2)(3)(4)	CWR19H(3)107(1)(2)H(5)	15.0	10.0	0.9
20 Volt Rating at +85°C (13 Volt Rating at +125°C)						
0.68	A	T419A684(1)020(2)(3)(4)	CWR19J(3)684(1)(2)A(5)	1.0	6.0	15.0
1.0	A	T419A105(1)020(2)(3)(4)	CWR19J(3)105(1)(2)A(5)	1.0	6.0	15.0
1.5	B	T419B155(1)020(2)(3)(4)	CWR19J(3)155(1)(2)B(5)	1.0	6.0	9.0
2.2	B	T419B225(1)020(2)(3)(4)	CWR19J(3)225(1)(2)B(5)	1.0	6.0	9.0
3.3	D	T419D335(1)020(2)(3)(4)	CWR19J(3)335(1)(2)D(5)	1.0	6.0	6.0
4.7	E	T419E475(1)020(2)(3)(4)	CWR19J(3)475(1)(2)E(5)	1.0	6.0	6.0
6.8	E	T419E685(1)020(2)(3)(4)	CWR19J(3)685(1)(2)E(5)	2.0	6.0	5.0
10.0	E	T419E106(1)020(2)(3)(4)	CWR19J(3)106(1)(2)E(5)	2.0	6.0	5.0
10.0	F	T419F106(1)020(2)(3)(4)	CWR19J(3)106(1)(2)F(5)	20	6.0	3.0
15.0	F	T419F156(1)020(2)(3)(4)	CWR19J(3)156(1)(2)F(5)	3.0	6.0	3.0
22.0	G	T419G226(1)020(2)(3)(4)	CWR19J(3)226(1)(2)G(5)	4.0	6.0	2.5
33.0	H	T419H336(1)020(2)(3)(4)	CWR19J(3)336(1)(2)H(5)	6.0	8.0	0.9
47.0	H	T419H476(1)020(2)(3)(4)	CWR19J(3)476(1)(2)H(5)	10.0	8.0	0.9
47.0	X	T419X476(1)020(2)(3)(4)	CWR19J(3)476(1)(2)X(5)	10.0	8.0	0.9
25 Volt Rating at +85°C (17 Volt Rating at +125°C)						
0.47	A	T419A474(1)025(2)(3)(4)	CWR19K(3)474(1)(2)A(5)	1.0	6.0	15.0
1.0	B	T419B105(1)025(2)(3)(4)	CWR19K(3)105(1)(2)B(5)	1.0	6.0	10.0
2.2	D	T419D225(1)025(2)(3)(4)	CWR19K(3)225(1)(2)D(5)	1.0	6.0	6.0
3.3	E	T419E335(1)025(2)(3)(4)	CWR19K(3)335(1)(2)E(5)	1.0	6.0	4.0
6.8	F	T419F685(1)025(2)(3)(4)	CWR19K(3)685(1)(2)F(5)	2.0	6.0	3.0
15.0	G	T419G156(1)025(2)(3)(4)	CWR19K(3)156(1)(2)G(5)	40	6.0	1.4
22.0	G	T419G226(1)025(2)(3)(4)	CWR19K(3)226(1)(2)G(5)	6.0	6.0	1.4
22.0	H	T419H226(1)025(2)(3)(4)	CWR19K(3)226(1)(2)H(5)	6.0	6.0	0.9
22.0	X	T419X226(1)025(2)(3)(4)	CWR19K(3)226(1)(2)X(5)	6.0	6.0	0.9
33.0	H	T419H336(1)025(2)(3)(4)	CWR19K(3)336(1)(2)H(5)	10.0	8.0	0.9
33.0	X	T419X336(1)025(2)(3)(4)	CWR19K(3)336(1)(2)X(5)	10.0	8.0	0.9
35 Volt Rating at +85°C (23 Volt Rating at +125°C)						
0.33	A	T419A334(1)035(2)(3)(4)	CWR19M(3)334(1)(2)A(5)	1.0	6.0	22.0
6.8	G	T419G685(1)035(2)(3)(4)	CWR19M(3)685(1)(2)G(5)	3.0	6.0	1.5
10.0	H	T419H106(1)035(2)(3)(4)	CWR19M(3)106(1)(2)H(5)	4.0	8.0	0.9
15.0	X	T419X156(1)035(2)(3)(4)	CWR19M(3)156(1)(2)X(5)	6.0	6.0	0.9

(1) To complete KEMET/CWR part number, insert K = ±10%; M = ±20% and J = ±5% Capacitance tolerance.
(2) To complete KEMET/CWR part number, insert A = Non-ER; Weibull: B = 0.1%/1000 Hrs.; C = 0.01%/1000 Hrs or D = 0.001%/1000 Hrs. or Exponential: M = 1.0%/1000 hrs., P = 0.1%/1000 hrs., R = 0.01%/1000 hrs. or S = 0.001%/1000 hrs. Reliability Level.
(3) To complete KEMET part number, insert B = Gold plated; C = Hot solder dipped; H = Solder plated or K = Solder Fused Termination Finish.
(4) To complete KEMET part number, insert 4250 = +25°C after Weibull; 4251 = -55° + 85°C after Weibull; or 4252 = -55, & +85°C before Weibull Surge Current Option.
(5) To complete CWR part number, insert A = +25°C after Weibull; B = -55° + 85°C after Weibull; or C = -55, & +85°C before Weibull Surge Current Option.

T429 (CWR29) Ratings & Part Number Reference

Capacitance µF	Case Size	KEMET Part Number	Mil-C-55365/11A Part Number	DC Leakage µA @ 25ºC Max	DF % @ +25ºC 120 Hz Max	ESR Ω @ +25°C 100 kHz Max
4 Volt Rating at +85°C (2.7 Volt Rating at +125°C)						
2.2	A	T429A225(1)004(2)(3)(4)	CWR29C(3)225(1)(2)A(5)	1.0	6.0	4.0
3.3	A	T429A335(1)004(2)(3)(4)	CWR29C(3)335(1)(2)A(5)	1.0	6.0	6.0
4.7	A	T429A475(1)004(2)(3)(4)	CWR29C(3)475(1)(2)A(5)	1.0	6.0	6.0
4.7	B	T429B475(1)004(2)(3)(4)	CWR29C(3)475(1)(2)B(5)	1.0	6.0	3.2
6.8	A	T429A685(1)004(2)(3)(4)	CWR29C(3)685(1)(2)A(5)	1.0	6.0	6.0
6.8	C	T429C685(1)004(2)(3)(4)	CWR29C(3)685(1)(2)C(5)	1.0	6.0	2.2
10.0	B	T429B106(1)004(2)(3)(4)	CWR29C(3)106(1)(2)B(5)	1.0	8.0	3.2
10.0	D	T429D106(1)004(2)(3)(4)	CWR29C(3)106(1)(2)D(5)	10	8.0	1.3
15.0	B	T429B156(1)004(2)(3)(4)	CWR29C(3)156(1)(2)B(5)	1.0	8.0	3.2
15.0	E	T429E156(1)004(2)(3)(4)	CWR29C(3)156(1)(2)E(5)	1.0	8.0	1
22.0	B	T429B226(1)004(2)(3)(4)	CWR29C(3)226(1)(2)B(5)	1.0	8.0	3.2
22.0	D	T429D226(1)004(2)(3)(4)	CWR29C(3)226(1)(2)D(5)	1.0	8.0	1.3
33.0	D	T429D336(1)004(2)(3)(4)	CWR29C(3)336(1)(2)D(5)	2.0	8.0	1.3
33.0	E	T429E336(1)004(2)(3)(4)	CWR29C(3)336(1)(2)E(5)	2.0	8.0	0.9
33.0	F	T429F336(1)004(2)(3)(4)	CWR29C(3)336(1)(2)F(5)	2.0	8.0	0.6
47.0	E	T429E476(1)004(2)(3)(4)	CWR29C(3)476(1)(2)E(5)	2.0	8.0	0.9
68.0	E	T429E686(1)004(2)(3)(4)	CWR29C(3)686(1)(2)E(5)	3.0	8.0	0.9
68.0	G	T429G686(1)004(2)(3)(4)	CWR29C(3)686(1)(2)G(5)	3.0	10.0	0.275
100.0	F	T429F107(1)004(2)(3)(4)	CWR29C(3)107(1)(2)F(5)	4.0	10.0	0.55
100.0	H	T429H107(1)004(2)(3)(4)	CWR29C(3)107(1)(2)H(5)	4.0	10.0	0.18
150.0	G	T429G157(1)004(2)(3)(4)	CWR29C(3)157(1)(2)H(5)	6.0	10.0	0.25
220.0	H	T429H227(1)004(2)(3)(4)	CWR29C(3)227(1)(2)H(5)	8.0	10.0	0.20
330.0	H	T429H337(1)004(2)(3)(4)	CWR29C(3)337(1)(2)H(5)	10.0	10.0	0.18
6 Volt Rating at +85°C (4 Volt Rating at +125°C)						
1.5	A	T429A155(1)006(2)(3)(4)	CWR29D(3)155(1)(2)A(5)	1.0	6.0	4.0
3.3	A	T429A335(1)006(2)(3)(4)	CWR29D(3)335(1)(2)A(5)	1.0	6.0	6.0
3.3	B	T429B335(1)006(2)(3)(4)	CWR29D(3)335(1)(2)B(5)	1.0	6.0	3.2
4.7	A	T429A475(1)006(2)(3)(4)	CWR29D(3)475(1)(2)A(5)	1.0	6.0	6.0
4.7	C	T429C475(1)006(2)(3)(4)	CWR29D(3)475(1)(2)C(5)	1.0	6.0	2.2
6.8	B	T429B685(1)006(2)(3)(4)	CWR29D(3)685(1)(2)B(5)	1.0	6.0	3.2
6.8	D	T429D685(1)006(2)(3)(4)	CWR29D(3)685(1)(2)D(5)	1.0	6.0	1.5
10.0	B	T429B106(1)006(2)(3)(4)	CWR29D(3)106(1)(2)B(5)	1.0	6.0	3.2
10.0	E	T429E106(1)006(2)(3)(4)	CWR29D(3)106(1)(2)E(5)	1.0	8.0	1.0
15.0	B	T429B156(1)006(2)(3)(4)	CWR29D(3)156(1)(2)B(5)	1.0	8.0	3.2
15.0	D	T429D156(1)006(2)(3)(4)	CWR29D(3)156(1)(2)D(5)	1.0	8.0	1.7
15.0	E	T429E156(1)006(2)(3)(4)	CWR29D(3)156(1)(2)E(5)	1.0	8.0	0.9
22.0	D	T429D226(1)006(2)(3)(4)	CWR29D(3)226(1)(2)D(5)	1.0	6.0	1.7
22.0	E	T429E226(1)006(2)(3)(4)	CWR29D(3)226(1)(2)E(5)	2.0	8.0	1.0
22.0	F	T429F226(1)006(2)(3)(4)	CWR29D(3)226(1)(2)F(5)	2.0	8.0	0.6
33.0	E	T429E336(1)006(2)(3)(4)	CWR29D(3)336(1)(2)E(5)	2.0	6.0	1.0
47.0	F	T429F476(1)006(2)(3)(4)	CWR29D(3)476(1)(2)F(5)	3.0	8.0	1.0
47.0	G	T429G476(1)006(2)(3)(4)	CWR29D(3)476(1)(2)G(5)	3.0	10.0	0.275
68.0	F	T429F686(1)006(2)(3)(4)	CWR29D(3)686(1)(2)F(5)	4.0	10.0	0.4
68.0	G	T429G686(1)006(2)(3)(4)	CWR29D(3)686(1)(2)G(5)	4.0	10.0	0.25
68.0	H	T429H686(1)006(2)(3)(4)	CWR29D(3)686(1)(2)H(5)	4.0	10.0	0.18
100.0	G	T429G107(1)006(2)(3)(4)	CWR29D(3)107(1)(2)G(5)	6.0	10.0	0.275
150.0	G	T429G157(1)006(2)(3)(4)	CWR29D(3)157(1)(2)G(5)	10.0	10.0	0.275
220.0	H	T429H227(1)006(2)(3)(4)	CWR29D(3)227(1)(2)H(5)	100.	10.0	0.18
330.0	H	T429H337(1)006(2)(3)(4)	CWR29D(3)337(1)(2)H(5)	20.0	10.0	0.18
10 Volt Rating at +85°C (7 Volt Rating at +125°C)						
1.0	A	T429A105(1)010(2)(3)(4)	CWR29F(3)105(1)(2)A(5)	1.0	6.0	5.0
2.2	A	T429A225(1)010(2)(3)(4)	CWR29F(3)225(1)(2)A(5)	1.0	6.0	6.0
2.2	B	T429B225(1)010(2)(3)(4)	CWR29F(3)225(1)(2)B(5)	1.0	6.0	3.2
3.3	A	T429A335(1)010(2)(3)(4)	CWR29F(3)335(1)(2)A(5)	1.0	6.0	6.0
3.3	C	T429C335(1)010(2)(3)(4)	CWR29F(3)335(1)(2)C(5)	1.0	6.0	2.2
4.7	B	T429B475(1)010(2)(3)(4)	CWR29F(3)475(1)(2)B(5)	1.0	6.0	3.2
4.7	C	T429C475(1)010(2)(3)(4)	CWR29F(3)475(1)(2)C(5)	1.0	6.0	2.2
4.7	D	T429D475(1)010(2)(3)(4)	CWR29F(3)475(1)(2)D(5)	1.0	6.0	1.5

(1) To complete KEMET/CWR part number, insert K = ±10%; M = ±20% and J = ±5% Capacitance tolerance.
(2) To complete KEMET/CWR part number, insert A = Non-ER; Weibull: B = 0.1%/1000 Hrs.; C = 0.01%/1000 Hrs or D = 0.001%/1000 Hrs. or Exponential: M = 1.0%/1000 hrs., P = 0.1%/1000 hrs., R = 0.01%/1000 hrs. or S = 0.001%/1000 hrs. Reliability Level.
(3) To complete KEMET part number, insert B = Gold plated; C = Hot solder dipped; H = Solder plated or K = Solder Fused Termination Finish.
(4) To complete KEMET part number, insert 4250 = +25°C after Weibull; 4251 = -55° + 85°C after Weibull; or 4252 = -55, & +85°C before Weibull Surge Current Option.
(5) To complete CWR part number, insert A = +25°C after Weibull; B = -55° + 85°C after Weibull; or C = -55, & +85°C before Weibull Surge Current Option.

T429 (CWR29) Ratings & Part Number Reference

Capacitance µF	Case Size	KEMET Part Number	Mil-C-55365/11A Part Number	DC Leakage µA @ 25ºC Max	DF % @ +25ºC 120 Hz Max	ESR Ω @ +25°C 100 kHz Max
10 Volt Rating at +85°C (7 Volt Rating at +125°C) cont.						
6.8	B	T429B685(1)010(2)(3)(4)	CWR29F(3)685(1)(2)B(5)	1.0	6.0	3.2
6.8	C	T429C685(1)010(2)(3)(4)	CWR29F(3)685(1)(2)C(5)	1.0	6.0	2.2
6.8	D	T429D685(1)010(2)(3)(4)	CWR29F(3)685(1)(2)D(5)	1.0	6.0	1.7
6.8	E	T429E685(1)010(2)(3)(4)	CWR29F(3)685(1)(2)E(5)	1.0	6.0	1.0
10.0	B	T429B106(1)010(2)(3)(4)	CWR29F(3)106(1)(2)B(5)	1.0	8.0	3.2
10.0	C	T429C106(1)010(2)(3)(4)	CWR29F(3)106(1)(2)C(5)	1.0	6.0	2.2
10.0	D	T429D106(1)010(2)(3)(4)	CWR29F(3)106(1)(2)D(5)	1.0	6.0	1.3
10.0	E	T429E106(1)010(2)(3)(4)	CWR29F(3)106(1)(2)E(5)	1.0	6.0	1.0
15.0	D	T429D156(1)010(2)(3)(4)	CWR29F(3)156(1)(2)D(5)	2.0	6.0	1.7
15.0	E	T429E156(1)010(2)(3)(4)	CWR29F(3)156(1)(2)E(5)	2.0	8.0	0.9
15.0	F	T429F156(1)010(2)(3)(4)	CWR29F(3)156(1)(2)F(5)	2.0	8.0	0.7
22.0	E	T429E226(1)010(2)(3)(4)	CWR29F(3)226(1)(2)F(5)	3.0	8.0	0.6
33.0	F	T429F336(1)010(2)(3)(4)	CWR29F(3)336(1)(2)F(5)	3.0	8.0	0.4
33.0	G	T429G336(1)010(2)(3)(4)	CWR29F(3)336(1)(2)G(5)	3.0	10.0	0.275
47.0	F	T429F476(1)010(2)(3)(4)	CWR29F(3)476(1)(2)F(5)	4.0	10.0	0.4
47.0	G	T429G476(1)010(2)(3)(4)	CWR29F(3)476(1)(2)G(5)	4.0	10.0	0.25
47.0	H	T429H476(1)010(2)(3)(4)	CWR29F(3)476(1)(2)H(5)	5.0	10.0	0.18
68.0	G	T429G686(1)010(2)(3)(4)	CWR29F(3)686(1)(2)G(5)	6.0	10.0	0.275
100.0	G	T429G107(1)010(2)(3)(4)	CWR29F(3)107(1)(2)G(5)	10.0	10.0	0.275
100.0	H	T429H107(1)010(2)(3)(4)	CWR29F(3)107(1)(2)H(5)	10.0	10.0	0.18
150.0	H	T429H157(1)010(2)(3)(4)	CWR29F(3)157(1)(2)H(5)	15.0	10.0	0.18
150.0	X	T429X157(1)010(2)(3)(4)	CWR29F(3)157(1)(2)X(5)	15.0	10.0	0.065
220.0	H	T429H227(1)010(2)(3)(4)	CWR29F(3)227(1)(2)H(5)	20.0	10.0	0.18
15 Volt Rating at +85°C (10 Volt Rating at +125°C)						
0.68	A	T429A684(1)015(2)(3)(4)	CWR29H(3)684(1)(2)A(5)	1.0	6.0	6.0
1.0	A	T429A105(1)015(2)(3)(4)	CWR29H(3)105(1)(2)A(5)	1.0	6.0	7.5
1.5	A	T429A155(1)015(2)(3)(4)	CWR29H(3)155(1)(2)A(5)	1.0	6.0	7.5
1.5	B	T429B155(1)015(2)(3)(4)	CWR29H(3)155(1)(2)B(5)	1.0	6.0	3.2
2.2	A	T429A225(1)015(2)(3)(4)	CWR29H(3)225(1)(2)A(5)	1.0	6.0	7.5
2.2	C	T429C225(1)015(2)(3)(4)	CWR29H(3)225(1)(2)C(5)	1.0	6.0	2.2
3.3	B	T429B335(1)015(2)(3)(4)	CWR29H(3)335(1)(2)B(5)	1.0	6.0	3.6
3.3	D	T429D335(1)015(2)(3)(4)	CWR29H(3)335(1)(2)D(5)	1.0	6.0	1.7
4.7	B	T429B475(1)015(2)(3)(4)	CWR29H(3)475(1)(2)B(5)	1.0	6.0	2
4.7	C	T429C475(1)015(2)(3)(4)	CWR29H(3)475(1)(2)C(4)	1.0	6.0	2.2
4.7	D	T429D475(1)015(2)(3)(4)	CWR29H(3)475(1)(2)D(5)	1.0	6.0	2
4.7	E	T429E475(1)015(2)(3)(4)	CWR29H(3)475(1)(2)E(5)	1.0	6.0	1.2
6.8	D	T429D685(1)015(2)(3)(4)	CWR29H(3)685(1)(2)D(5)	1.0	6.0	2.0
6.8	E	T429E685(1)015(2)(3)(4)	CWR29H(3)685(1)(2)E(5)	1.0	8.0	0.9
10.0	D	T429D106(1)015(2)(3)(4)	CWR29H(3)106(1)(2)D(5)	2.0	6.0	2.0
10.0	E	T429E106(1)015(2)(3)(4)	CWR29H(3)106(1)(2)E(5)	2.0	6.0	1.2
10.0	F	T429F106(1)015(2)(3)(4)	CWR29H(3)106(1)(2)F(5)	2.0	6.0	0.667
15.0	E	T429E156(1)015(2)(3)(4)	CWR29H(3)156(1)(2)E(5)	2.0	6.0	1.2
15.0	F	T429F156(1)015(2)(3)(4)	CWR29H(3)156(1)(2)F(5)	2.0	8.0	0.8
22.0	F	T429F226(1)015(2)(3)(4)	CWR29H(3)226(1)(2)F(5)	3.0	8.0	0.8
22.0	G	T429G226(1)015(2)(3)(4)	CWR29H(3)226(1)(2)G(5)	4.0	6.0	0.275
33.0	F	T429F336(1)015(2)(3)(4)	CWR29H(3)336(1)(2)F(5)	5.0	6.0	0.8
33.0	G	T429G336(1)015(2)(3)(4)	CWR29H(3)336(1)(2)G(5)	6.0	8.0	0.275
33.0	H	T429H336(1)015(2)(3)(4)	CWR29H(3)336(1)(2)H(5)	5.0	8.0	0.18
47.0	G	T429G476(1)015(2)(3)(4)	CWR29H(3)476(1)(2)G(5)	10.0	8.0	0.275
47.0	H	T429H476(1)015(2)(3)(4)	CWR29H(3)476(1)(2)H(5)	10.0	8.0	0.18
68.0	G	T429G686(1)015(2)(3)(4)	CWR29H(3)686(1)(2)G(5)	10.0	8.0	0.275
68.0	H	T429H686(1)015(2)(3)(4)	CWR29H(3)686(1)(2)H(5)	10.0	8.0	0.18
100.0	H	T429H107(1)015(2)(3)(4)	CWR29H(3)107(1)(2)H(5)	15.0	10.0	0.18
20 Volt Rating at +85°C (13 Volt Rating at +125°C)						
0.47	A	T429A474(1)020(2)(3)(4)	CWR29J(3)474(1)(2)A(5)	1.0	8.0	7.5
0.68	A	T429A684(1)020(2)(3)(4)	CWR29J(3)684(1)(2)A(5)	1.0	6.0	7.5
0.68	B	T429B684(1)020(2)(3)(4)	CWR29J(3)684(1)(2)B(5)	1.0	6.0	5.6
1.0	A	T429A105(1)020(2)(3)(4)	CWR29J(3)105(1)(2)A(5)	1.0	6.0	7.5
1.0	B	T429B105(1)020(2)(3)(4)	CWR29J(3)105(1)(2)B(5)	1.0	6.0	4.8
1.5	B	T429B155(1)020(2)(3)(4)	CWR29J(3)155(1)(2)B(5)	1.0	6.0	3.6
1.5	C	T429C155(1)020(2)(3)(4)	CWR29J(3)155(1)(2)C(5)	1.0	6.0	2.4

(1) To complete KEMET/CWR part number, insert K = ±10%; M = ±20% and J = ±5% Capacitance tolerance.
(2) To complete KEMET/CWR part number, insert A = Non-ER; Weibull: B = 0.1%/1000 Hrs.; C = 0.01%/1000 Hrs or D = 0.001%/1000 Hrs. or Exponential: M = 1.0%/1000 hrs., P = 0.1%/1000 hrs., R = 0.01%/1000 hrs. or S = 0.001%/1000 hrs. Reliability Level.
(3) To complete KEMET part number, insert B = Gold plated; C = Hot solder dipped; H = Solder plated or K = Solder Fused Termination Finish.
(4) To complete KEMET part number, insert 4250 = +25°C after Weibull; 4251 = -55° + 85°C after Weibull; or 4252 = -55, & +85°C before Weibull Surge Current Option.
(5) To complete CWR part number, insert A = +25°C after Weibull; B = -55° + 85°C after Weibull; or C = -55, & +85°C before Weibull Surge Current Option.

T429 (CWR29) Ratings & Part Number Reference

Capacitance µF	Case Size	KEMET Part Number	Mil-C-55365/11A Part Number	DC Leakage µA @ 25ºC Max	DF % @ +25ºC 120 Hz Max	ESR Ω @ +25°C 100 kHz Max
20 Volt Rating at +85°C (13 Volt Rating at +125°C) cont.						
2.2	B	T429B225(1)020(2)(3)(4)	CWR29J(3)225(1)(2)B(5)	1.0	6.0	3.6
2.2	D	T429D225(1)020(2)(3)(4)	CWR29J(3)225(1)(2)D(5)	1.0	6.0	1.7
3.3	D	T429D335(1)020(2)(3)(4)	CWR29J(3)335(1)(2)D(5)	1.0	6.0	2.0
3.3	E	T429E335(1)020(2)(3)(4)	CWR29J(3)335(1)(2)E(5)	1.0	6.0	1.2
4.7	E	T429E475(1)020(2)(3)(4)	CWR29J(3)475(1)(2)E(5)	1.0	6.0	1.7
6.8	E	T429E685(1)020(2)(3)(4)	CWR29J(3)685(1)(2)E(5)	2.0	6.0	1.5
6.8	F	T429F685(1)020(2)(3)(4)	CWR29J(3)685(1)(2)F(5)	2.0	6.0	0.7
10.0	E	T429E106(1)020(2)(3)(4)	CWR29J(3)106(1)(2)E(5)	2.0	6.0	1.5
100	F	T429F106(1)020(2)(3)(4)	CWR29J(3)106(1)(2)F(5)	2.0	6.0	0.8
15.0	F	T429F156(1)020(2)(3)(4)	CWR29J(3)156(1)(2)F(5)	3.0	6.0	0.8
15.0	G	T429G156(1)020(2)(3)(4)	CWR29J(3)156(1)(2)G(5)	3.0	6.0	0.275
22.0	G	T429G226(1)020(2)(3)(4)	CWR29J(3)226(1)(2)G(5)	4.0	6.0	0.625
22.0	H	T429H226(1)020(2)(3)(4)	CWR29J(3)226(1)(2)H(5)	4.0	6.0	0.18
33.0	H	T429H336(1)020(2)(3)(4)	CWR29J(3)336(1)(2)H(5)	6.0	8.0	0.18
47.0	H	T429H476(1)020(2)(3)(4)	CWR29J(3)476(1)(2)H(5)	10.0	8.0	0.18
47.0	X	T429X476(1)020(2)(3)(4)	CWR29J(3)476(1)(2)X(5)	10.0	8.0	0.11
25 Volt Rating at +85°C (17 Volt Rating at +125°C)						
0.33	A	T429A334(1)025(2)(3)(4)	CWR29K(3)334(1)(2)A(5)	1.0	6.0	7.5
0.47	A	T429A474(1)025(2)(3)(4)	CWR29K(3)474(1)(2)A(5)	1.0	6.0	7.5
0.68	B	T429B684(1)025(2)(3)(4)	CWR29K(3)684(1)(2)B(5)	1.0	6.0	4.0
1.0	B	T429B105(1)025(2)(3)(4)	CWR29K(3)105(1)(2)B(5)	1.0	6.0	4.0
1.0	C	T429C105(1)025(2)(3)(4)	CWR29K(3)105(1)(2)C(5)	1.0	6.0	2.6
1.5	D	T429D155(1)025(2)(3)(4)	CWR29K(3)155(1)(2)D(5)	1.0	6.0	1.7
2.2	D	T429D225(1)025(2)(3)(4)	CWR29K(3)225(1)(2)D(5)	1.0	6.0	2.0
2.2	E	T429E225(1)025(2)(3)(4)	CWR29K(3)225(1)(2)E(5)	1.0	6.0	1.0
3.3	E	T429E335(1)025(2)(3)(4)	CWR29K(3)335(1)(2)E(5)	1.0	6.0	1.2
4.7	F	T429F475(1)025(2)(3)(4)	CWR29K(3)475(1)(2)F(5)	2.0	6.0	0.7
6.8	F	T429F685(1)025(2)(3)(4)	CWR29K(3)685(1)(2)F(5)	2.0	6.0	0.8
6.8	G	T429G685(1)025(2)(3)(4)	CWR29K(3)685(1)(2)G(5)	2.0	6.0	0.3
10.0	G	T429G106(1)025(2)(3)(4)	CWR29K(3)106(1)(2)G(5)	3.0	6.0	0.35
15.0	G	T429G156(1)025(2)(3)(4)	CWR29K(3)156(1)(2)G(5)	4.0	6.0	0.35
15.0	H	T429H156(1)025(2)(3)(4)	CWR29K(3)156(1)(2)H(5)	4.0	6.0	0.2
22.0	G	T429G226(1)025(2)(3)(4)	CWR29K(3)226(1)(2)G(5)	6.0	6.0	0.35
22.0	H	T429H226(1)025(2)(3)(4)	CWR29K(3)226(1)(2)H(5)	6.0	6.0	0.18
22.0	X	T429X226(1)025(2)(3)(4)	CWR29K(3)226(1)(2)X(5)	6.0	6.0	0.16
33.0	H	T429H336(1)025(2)(3)(4)	CWR29K(3)336(1)(2)H(4)	10.0	8.0	0.18
33.0	X	T429X336(1)025(2)(3)(4)	CWR29K(3)336(1)(2)X(5)	10.0	8.0	0.13
35 Volt Rating at +85°C (23 Volt Rating at +125°C)						
0.22	A	T429A224(1)035(2)(3)(4)	CWR29M(3)224(1)(2)A(5)	1.0	6.0	12.0
0.33	A	T429A334(1)035(2)(3)(4)	CWR29M(3)334(1)(2)A(5)	1.0	6.0	12.0
0.47	B	T429B474(1)035(2)(3)(4)	CWR29M(3)474(1)(2)B(5)	1.0	6.0	6.8
0.68	C	T429C684(1)035(2)(3)(4)	CWR29M(3)684(1)(2)C(5)	1.0	6.0	4.0
1.0	D	T429D105(1)035(2)(3)(4)	CWR29M(3)105(1)(2)D(5)	1.0	6.0	2.2
1.5	E	T429E155(1)035(2)(3)(4)	CWR29M(3)155(1)(2)E(5)	1.0	6.0	1.3
3.3	F	T429F335(1)035(2)(3)(4)	CWR29M(3)335(1)(2)F(4)	1.0	6.0	0.7
4.7	G	T429G475(1)035(2)(3)(4)	CWR29M(3)475(1)(2)G(5)	2.0	6.0	0.375
6.8	G	T429F685(1)035(2)(3)(4)	CWR29M(3)685(1)(2)F(5)	3.0	6.0	0.375
6.8	H	T429H685(1)035(2)(3)(4)	CWR29M(3)685(1)(2)H(5)	3.0	6.0	0.5
10.0	H	T429H106(1)035(2)(3)(4)	CWR29M(3)106(1)(2)H(5)	4.0	8.0	0.5
15.0	X	T429X156(1)035(2)(3)(4)	CWR29M(3)156(1)(2)X(5)	6.0	6.0	0.19
50 Volt Rating at +85 C (33 Volt Rating at + 125 C)						
0.10	A	T429A104(1)050(2)(3)(4)	CWR29N(3)104(1)(2)A(5)	1.0	6.0	12.0
0.15	A	T429A154(1)050(2)(3)(4)	CWR29N(3)154(1)(2)A(5)	1.0	6.0	12.0
0.22	B	T429B224(1)050(2)(3)(4)	CWR29N(3)224(1)(2)B(5)	1.0	6.0	6.8
0.33	B	T429B334(1)050(2)(3)(4)	CWR29N(3)334(1)(2)B(5)	1.0	6.0	4.8
0.47	C	T429C474(1)050(2)(3)(4)	CWR29N(3)474(1)(2)C(5)	1.0	6.0	3.2
0.68	D	T429D684(1)050(2)(3)(4)	CWR29N(3)684(1)(2)D(5)	1.0	6.0	2.3
1.0	E	T429E105(1)050(2)(3)(4)	CWR29N(3)105(1)(2)E(5)	1.0	6.0	1.7
1.5	F	T429F155(1)050(2)(3)(4)	CWR29N(3)155(1)(2)F(5)	1.0	6.0	1.1
2.2	F	T429F225(1)050(2)(3)(4)	CWR29N(3)225(1)(2)F(5)	2.0	6.0	0.7
3.3	G	T429G335(1)050(2)(3)(4)	CWR29N(3)335(1)(2)G(5)	2.0	6.0	0.5
4.7	H	T429H475(1)050(2)(3)(4)	CWR29N(3)475(1)(2)H(5)	3.0	6.0	0.5

(1) To complete KEMET/CWR part number, insert K = ±10%; M = ±20% and J = ±5% Capacitance tolerance.
(2) To complete KEMET/CWR part number, insert A = Non-ER; Weibull: B = 0.1%/1000 Hrs.; C = 0.01%/1000 Hrs or D# = 0.001%/1000 Hrs. or Exponential: M = 1.0%/1000 hrs., P = 0.1%/1000 hrs., R = 0.01%/1000 hrs. or S = 0.001%/1000 hrs. Reliability Level.
Note: D# - 50 Volt Components not Qualified to D Product Level.
(3) To complete KEMET part number, insert B = Gold plated; C = Hot solder dipped; H = Solder plated or K = Solder Fused Termination Finish.
(4) To complete KEMET part number, insert 4250 = +25°C after Weibull; 4251 = -55° + 85°C after Weibull; or 4252 = -55, & +85°C before Weibull Surge Current Option.
(5) To complete CWR part number, insert A = +25°C after Weibull; B = -55° + 85°C after Weibull; or C = -55, & +85°C before Weibull SurgeCurrent Option.

Land Pattern Dimensions for Reflow Solder

Size Code		Pad Dimensions (mm)				
KEMET	EIA	Z	G	X	Y (Ref)	C (ref)
A	1005	3.42	0.18	1.85	1.73	1.78
B	1505	4.65	1.45	1.85	1.73	3.05
C	2005	5.72	2.72	1.85	1.73	4.32
D	1510	4.65	1.45	2.87	1.73	3.05
E	2010	5.72	2.72	2.87	1.73	4.32
F	2214	6.43	3.23	3.89	1.73	4.83
G	2711	7.57	3.35	3.25	2.24	5.46
H	2915	8.08	3.86	3.89	2.24	5.97
X	2824	8.08	3.28	3.07	2.54	5.66