

**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 |



DIMENSIONS – MILLIMETERS (INCHES)

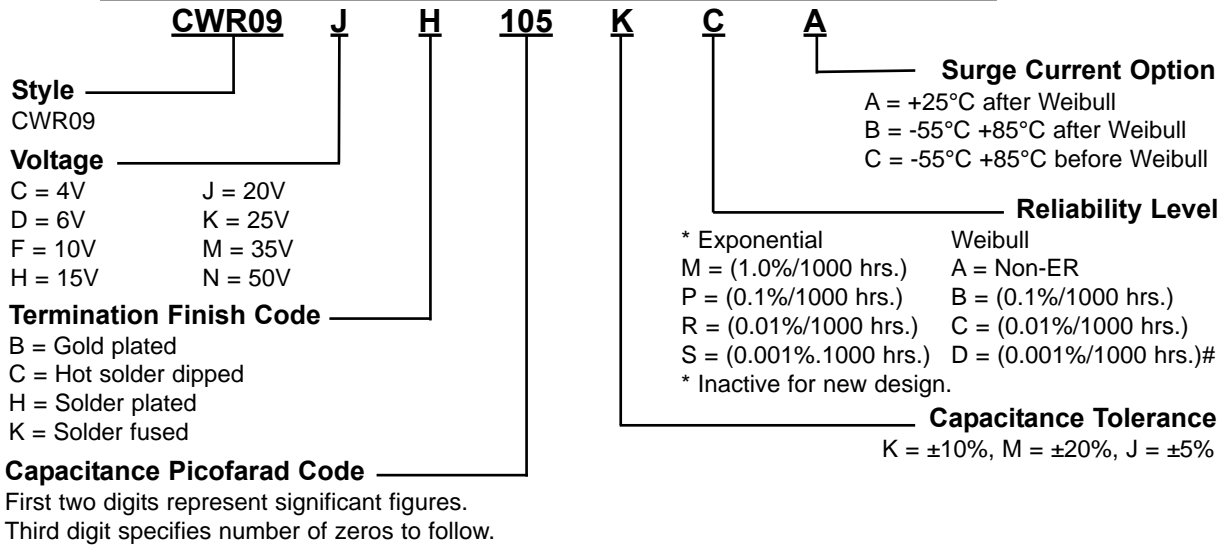
| KEMET Size Code | L Length ± .38 (.015) | W Width ± 0.38 (.015) | H Height ± 0.38 (.015) | P +0.25 (.010) - 0.13 (.005) | W ₂ | H ₂ Minimum |
|-----------------|--------------------------|--------------------------|---------------------------|------------------------------------|---|------------------------|
| 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 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



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



KEMET ORDERING INFORMATION



T409 (CWR09) Ratings & Part Number Reference

| Capacitance µF | Case Size | KEMET Part Number | Mil-C-55365/4F Part Number | DC Leakage µA @ 25°C Max | DF % @ +25°C 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

| Capacitance μF | Case Size | KEMET Part Number | Mil-C-55365/4F Part Number | DC Leakage μA @ 25°C Max | DF % @ +25°C 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 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 @ 25°C Max | DF % @ +25°C 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 @ 25°C Max | DF % @ +25°C 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) | 2.0 | 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) | 4.0 | 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 @ 25°C Max | DF % @ +25°C 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)G(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) | 10.0 | 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 @ 25°C Max | DF % @ +25°C 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 @ 25°C Max | DF % @ +25°C 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(5) | 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(5) | 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 | T429G685(1)035(2)(3)(4) | CWR29M(3)685(1)(2)G(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 |



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