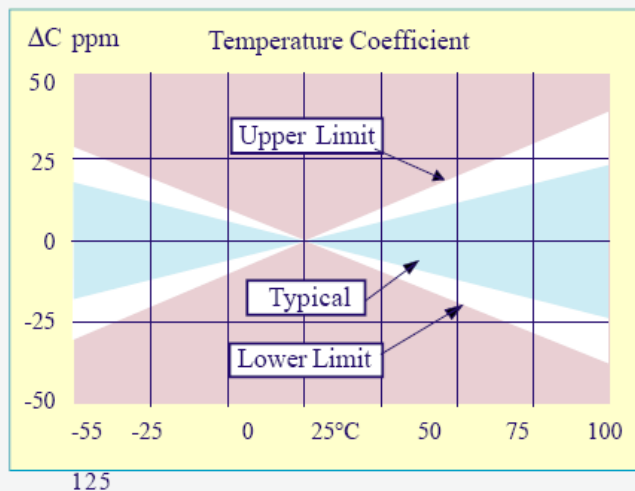


* 陶瓷电容介质

类别: COG/NPO, X7R, X5R, BX, Z5U, Y5V.

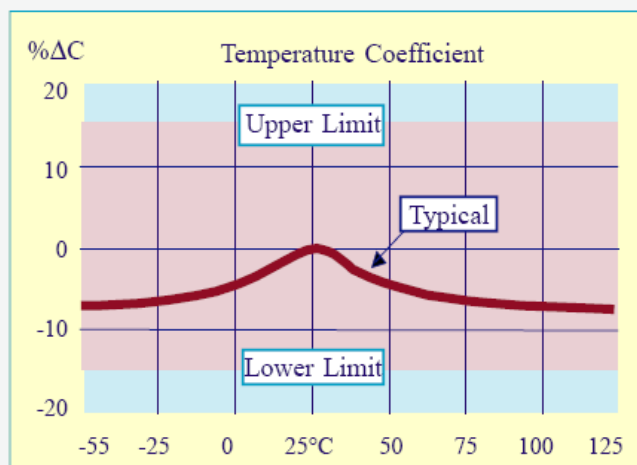
DIELECTRIC CHARACTERISTICS - COG

Operating Temperature Range: -55°C to 125°C
 Temperature Coefficient: 0 +/- 30 ppm/°C
 Dissipation Factor: .001 (0.1%) max @ 25°C
 Insulation Resistance, 25°C: >100GΩ or >1000ΩF
 125°C: >10GΩ or >100ΩF
 Dielectric Withstanding Voltage: <200V, 250%
 * Whichever is greater: 201-500V,150% or 500V*
 >500V, 120%, or 750V*
 Aging Rate: 0% per decade
 Test Parameters: 1KHz, 1.0 +/- 0.2 Vrms, 25°C
 1MHz for Capacitance <100pF



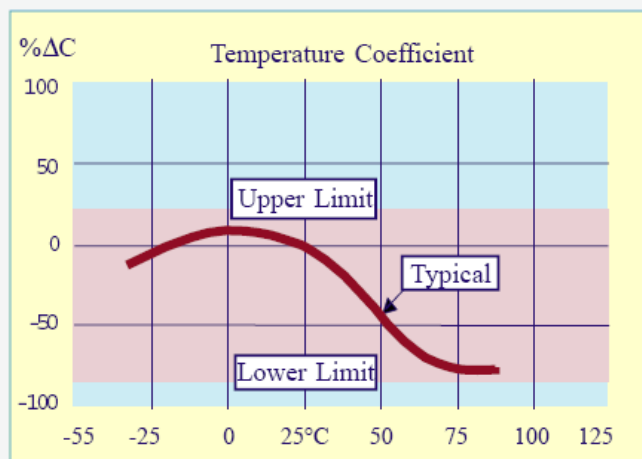
DIELECTRIC CHARACTERISTICS - X7R

Operating Temperature Range: -55°C to 125°C
 Temperature Coefficient: +/-15% ΔC Max.
 Dissipation Factor: .025 (2.5%) max @ 25°C
 Insulation Resistance, 25°C: >100GΩ or >1000Ω F
 125°C: >10GΩ or >100Ω F
 Dielectric Withstanding Voltage: <200V, 250%
 * Whichever is greater: 201-500V,150% or 500V*
 >500V, 120%, or 750V*
 Aging Rate: < 2.0% per decade
 Test Parameters: 1KHz, 1.0 +/- 0.2 Vrms, 25°C



DIELECTRIC CHARACTERISTICS - Y5V

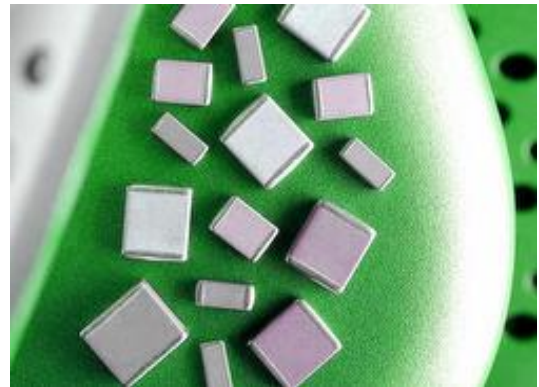
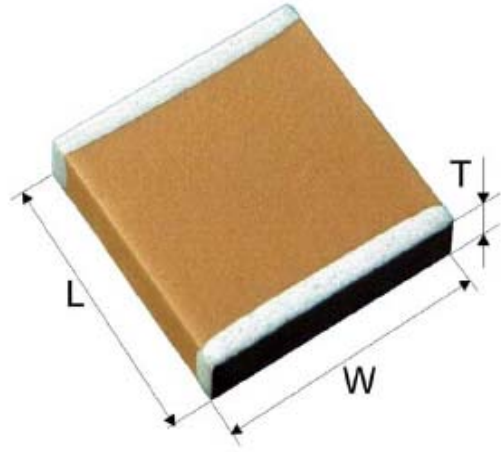
Operating Temperature Range: -30°C to 85°C
 Temperature Coefficient: +22%-82% ΔC Max.
 Dissipation Factor: .050 (5.0%) max @ 25°C
 Insulation Resistance, 25°C: >10GΩ or >100ΩF
 Dielectric Withstanding Voltage: <200V, 250%
 250V, 150%
 Aging Rate: ~ 2.0% per decade
 Test Parameters: 1KHz, 0.5 +/- 0.2 Vrms, 25°C



* 贴片陶瓷电容 Chip Size (10Vdc to 10kVdc)

Unit:mm

| Size | L | W | Tmax |
|------|-------------|-------------|------|
| 0402 | 1.02 ± 0.1 | 0.51 ± 0.1 | 0.61 |
| 0504 | 1.27 ± 0.15 | 1.02 ± 0.15 | 1.12 |
| 0603 | 1.6 ± 0.15 | 1.6 ± 0.15 | 0.95 |
| 0805 | 2.0 ± 0.2 | 1.25 ± 0.2 | 1.2 |
| 1206 | 3.2 ± 0.3 | 1.6 ± 0.2 | 1.5 |
| 1210 | 3.2 ± 0.4 | 2.5 ± 0.3 | 2.5 |
| 1515 | 3.8 ± 0.4 | 3.8 ± 0.4 | 3.5 |
| 1808 | 4.5 ± 0.4 | 2.0 ± 0.3 | 2.0 |
| 1812 | 4.5 ± 0.5 | 3.2 ± 0.4 | 3.0 |
| 1825 | 4.5 ± 0.5 | 6.3 ± 0.5 | 3.0 |
| 2220 | 5.7 ± 0.5 | 5.0 ± 0.5 | 3.0 |
| 2221 | 5.59 ± 0.38 | 5.33 ± 0.38 | 2.03 |
| 2225 | 5.7 ± 0.5 | 6.3 ± 0.5 | 3.0 |
| 2520 | 6.3 ± 0.5 | 5.0 ± 0.5 | 4.5 |
| 3333 | 8.38 ± 0.43 | 8.38 ± 0.43 | 6.35 |
| 3530 | 8.89 ± 0.45 | 0.76 ± 0.38 | 6.35 |
| 4032 | 10.2 ± 1.0 | 8.1 ± 0.8 | 5.1 |
| 4040 | 10.2 ± 0.6 | 10.2 ± 0.6 | 7.62 |
| 4540 | 11.4 ± 0.6 | 10.2 ± 0.6 | 7.62 |
| 5440 | 13.7 ± 0.7 | 10.2 ± 0.6 | 7.62 |
| 5550 | 14.0 ± 1.4 | 12.7 ± 1.3 | 7.62 |
| 6560 | 16.5 ± 0.84 | 15.2 ± 0.84 | 7.62 |
| 6660 | 16.7 ± 1.7 | 15.2 ± 1.6 | 6.4 |
| 7565 | 19.1 ± 1.9 | 16.5 ± 1.6 | 7.0 |
| 9080 | 22.9 ± 2.3 | 20.3 ± 2.0 | 8.0 |



* 产品定货号 (Part Number)

| TC | 1210 | C | 101 | K | 101 | N | T |
|---------|------|-------|-----------|--------|----------|------|--------|
| TechCap | SIZE | 介质 | 容值 | 公差 | 电压 | 端头 | 包装 |
| | 0402 | C=COG | 100=10pF | F= ±1% | 500=50V | N=镍锡 | T=Reel |
| | : | B=X7R | 101=100pF | G= ±2% | 101=100V | P=钯银 | B=bulk |
| | 1210 | W=X5R | 102=1.0nF | COG | 251=250V | Y=镍铅 | |
| | 1808 | Z=Z5U | 103=10nF | Only | 501=500V | C=镀金 | |
| | 1812 | Y=Y5V | 104=100nF | J= ±5% | 102=1KV | | |
| | 1825 | BX | 105=1.0μF | K=±10% | 202=2KV | | |
| | : | | 106=10μF | M=±20% | : | | |
| | : | | 107=100μF | | : | | |
| | 9080 | | | | 103=10KV | | |

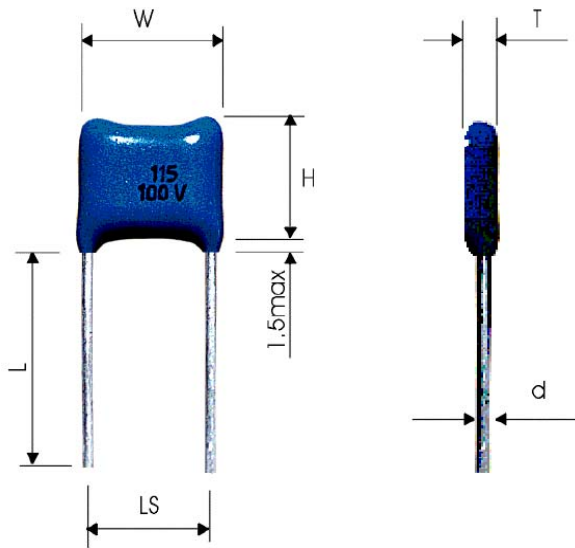
* 中低压贴片陶瓷电容 (10Vdc to 630Vdc)

| Size | Max Cap | 10 V | 16 V | 25 V | 50 V | 63 V | 100V | 200V | 250V | 500V | 630V |
|------|---------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
| 0603 | COG | 3.9nF | 1.5nF | 1.0nF | 470pF | 470pF | 330pF | 100pF | 100pF | 68pF | - |
| | X7R | 100nF | 100nF | 56nF | 47nF | 47nF | 12nF | 5.6nF | 5.6nF | 1.5nF | - |
| | X5R | 150nF | 120nF | 100nF | 68nF | 68nF | - | - | - | - | - |
| 0805 | COG | 15nF | 6.8nF | 4.7nF | 2.7nF | 2.7nF | 1.8nF | 680pF | 680pF | 330pF | 180pF |
| | X7R | 300nF | 330nF | 220nF | 220nF | 220nF | 56nF | 33nF | 33nF | 10nF | 6.8nF |
| | X5R | 680nF | 470nF | 390nF | 330nF | 330nF | - | - | - | - | - |
| 1206 | COG | 47nF | 22nF | 15nF | 10nF | 10nF | 6.8nF | 2.2nF | 2.2nF | 1.5nF | 1.0nF |
| | X7R | 1.0μF | 1.0μF | 820nF | 470nF | 470nF | 180nF | 120nF | 120nF | 47nF | 33nF |
| | X5R | 1.5μF | 1.2μF | 1.0μF | 680nF | 680nF | - | - | - | - | - |
| 1210 | COG | 100nF | 33nF | 22nF | 18nF | 18nF | 12nF | 4.7nF | 4.7nF | 3.9nF | 1.8nF |
| | X7R | 1.5μF | 1.5μF | 1.2μF | 1.0μF | 1.0μF | 470nF | 220nF | 220nF | 120nF | 47nF |
| | X5R | 3.3μF | 2.7μF | 2.2μF | 1.5μF | 1.5μF | - | - | - | - | - |
| 1515 | COG | 47nF | 47nF | 39nF | 33nF | 33nF | 33nF | 22nF | 22nF | 8.2nF | 6.8nF |
| | X7R | 1.2μF | 1.2μF | 1.0μF | 0.82μF | 0.82μF | 0.68μF | 0.56μF | 0.39μF | 0.15μF | 0.12μF |
| 1808 | COG | 100nF | 33nF | 27nF | 18nF | 18nF | 12nF | 4.7nF | 4.7nF | 3.3nF | 2.2nF |
| | X7R | 1.5μF | 1.5μF | 1.2μF | 680nF | 680nF | 390nF | 220nF | 220nF | 120nF | 68nF |
| | X5R | 2.7μF | 2.2μF | 1.5μF | 1.0μF | 1.0μF | - | - | - | - | - |
| 1812 | COG | 220nF | 100nF | 68nF | 47nF | 47nF | 27nF | 12nF | 12nF | 10nF | 5.6nF |
| | X7R | 3.3μF | 3.3μF | 2.2μF | 2.2μF | 2.2μF | 1.0μF | 560nF | 560nF | 330nF | 180nF |
| | X5R | 10μF | 6.8μF | 4.7μF | 3.3μF | 3.3μF | - | - | - | - | - |
| 1825 | COG | 470nF | 150nF | 100nF | 68nF | 68nF | 47nF | 22nF | 22nF | 15nF | 8.2nF |
| | X7R | 4.7μF | 4.7μF | 3.9μF | 1.8μF | 1.8μF | 1.2μF | 1.0μF | 1.0μF | 560nF | 180nF |
| | X5R | 15μF | 12μF | 10μF | 6.8μF | 6.8μF | - | - | - | - | - |
| 2220 | COG | 470nF | 150nF | 100nF | 68nF | 68nF | 47nF | 22nF | 22nF | 15nF | 10nF |
| | X7R | 5.6μF | 5.6μF | 4.7μF | 3.3μF | 3.3μF | 1.8μF | 1.0μF | 1.0μF | 560nF | 330nF |
| | X5R | 18μF | 12μF | 10μF | 6.8μF | 6.8μF | - | - | - | - | - |
| 2225 | COG | 560nF | 220nF | 150nF | 100nF | 100nF | 68nF | 27nF | 27nF | 22nF | 15nF |
| | X7R | 6.8μF | 6.8μF | 5.6μF | 3.3μF | 3.3μF | 2.7μF | 1.5μF | 1.5μF | 820nF | 390nF |
| | X5R | 22μF | 15μF | 12μF | 10μF | 10μF | - | - | - | - | - |
| 2520 | COG | - | - | - | 100nF | 100nF | 68nF | 27nF | 27nF | 39nF | 22nF |
| | X7R | - | - | - | 3.3μF | 3.3μF | 2.7μF | 1.5μF | 1.5μF | 680nF | 390nF |
| 3333 | COG | - | - | - | 100nF | 100nF | 68nF | 27nF | 27nF | 68nF | 47nF |
| | X7R | - | - | - | 3.3μF | 3.3μF | 2.7μF | 1.5μF | 1.5μF | 1.0μF | 680nF |
| 3530 | COG | - | - | - | 220nF | 220nF | 180nF | 82nF | 82nF | 56nF | 39nF |
| | X7R | - | - | - | 10μF | 10μF | 5.6μF | 3.3μF | 3.3μF | 1.0μF | 680nF |
| 4540 | COG | - | - | - | 220nF | 220nF | 180nF | 82nF | 82nF | 120nF | 82nF |
| | X7R | - | - | - | 10μF | 10μF | 5.6μF | 3.3μF | 3.3μF | 1.8μF | 1.5μF |
| 5550 | COG | - | - | - | 390nF | 390nF | 330nF | 120nF | 120nF | 180nF | 150nF |
| | X7R | - | - | - | 15μF | 15μF | 10μF | 5.6μF | 5.6μF | 2.2μF | 2.2μF |
| 6560 | COG | - | - | - | 390nF | 390nF | 330nF | 120nF | 120nF | 270nF | 220nF |
| | X7R | - | - | - | 15μF | 15μF | 10μF | 5.6μF | 5.6μF | 3.3μF | 2.7μF |
| 7565 | COG | - | - | - | 680nF | 680nF | 560nF | 270nF | 270nF | 330nF | 270nF |
| | X7R | - | - | - | 22μF | 22μF | 15μF | 10μF | 10μF | 47μF | 3.9μF |

* 高压贴片陶瓷电容 (1kVdc to 10kVdc)

| Size | Max Cap | 1 kV | 2 kV | 3 kV | 4 kV | 5 kV | 6 kV | 7 kV | 8 kV | 9 kV | 10 kV |
|------|---------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0805 | COG | 680pF | - | - | - | - | - | - | - | - | - |
| | X7R | 4.7nF | - | - | - | - | - | - | - | - | - |
| 1206 | COG | 1000pF | 390pF | - | - | - | - | - | - | - | - |
| | X7R | 27nF | 2.2nF | - | - | - | - | - | - | - | - |
| 1210 | COG | 1.0nF | 220pF | - | - | - | - | - | - | - | - |
| | X7R | 33nF | 4.7nF | - | - | - | - | - | - | - | - |
| 1515 | COG | 5.6nF | 2.7nF | 1.2nF | 680pF | - | - | - | - | - | - |
| | X7R | 56nF | 8.2nF | 3.3nF | 1.2nF | - | - | - | - | - | - |
| 1808 | COG | 3.3nF | 1.2nF | 470pF | 270pF | 82pF | 56pF | - | - | - | - |
| | X7R | 47nF | 4.7nF | 1.2nF | 1.0nF | 680pF | 390pF | - | - | - | - |
| 1812 | COG | 8.2nF | 2.7nF | 1.2nF | 820pF | 270pF | 220pF | - | - | - | - |
| | X7R | 100nF | 10nF | 2.7nF | 2.2nF | 1.2nF | 1.0nF | - | - | - | - |
| 1825 | COG | 15nF | 5.6nF | 2.2nF | 1.2nF | 820pF | 330pF | - | - | - | - |
| | X7R | 120nF | 10nF | 3.9nF | 2.2nF | 1.8nF | 1.5nF | - | - | - | - |
| 2220 | COG | 10nF | 4.7nF | 2.2nF | 1.2nF | 820pF | 470pF | - | - | - | - |
| | X7R | 150nF | 27nF | 10nF | 4.7nF | 3.9nF | 2.2nF | - | - | - | - |
| 2221 | COG | 10nF | 2.7nF | 1.2nF | 1.2nF | 390pF | - | - | - | - | - |
| | X7R | 82nF | 12nF | 4.7nF | 1.5nF | 820pF | - | - | - | - | - |
| 2225 | COG | 22nF | 8.2nF | 3.3nF | 1.8nF | 1.2pF | 560pF | - | - | - | - |
| | X7R | 220nF | 33nF | 8.2nF | 5.6nF | 4.7nF | 2.7nF | - | - | - | - |
| 2520 | COG | 12nF | 6.8nF | 2.7nF | 1.5nF | 1.0nF | 820pF | - | - | - | - |
| | X7R | 180nF | 27nF | 12nF | 4.7nF | 2.7nF | 1.0nF | - | - | - | - |
| 3333 | COG | 33nF | 18nF | 10nF | 5.6nF | 3.3nF | 2.2nF | - | - | - | - |
| | X7R | 330nF | 82nF | 33nF | 18nF | 12nF | 6.8nF | - | - | - | - |
| 3530 | COG | 27nF | 15nF | 10nF | 5.6nF | 3.3nF | 1.8nF | 1.2nF | 1.0nF | 820pF | 680pF |
| | X7R | 330nF | 68nF | 27nF | 15nF | 10nF | 5.6nF | 4.7nF | 3.3nF | 2.7nF | 1.8nF |
| 4032 | COG | 15nF | 8.2nF | 3.9nF | 2.7nF | 1.5nF | 820pF | 470pF | - | - | - |
| | X7R | 180nF | 33nF | 22nF | 12nF | 5.6nF | 3.3nF | 2.2nF | - | - | - |
| 4040 | COG | 56nF | 27nF | 18nF | 12nF | 6.8nF | 3.9nF | 2.7nF | 2.2nF | 1.5nF | 1.2nF |
| | X7R | 560nF | 150nF | 68nF | 22nF | 12nF | 8.2nF | 5.6nF | 4.7nF | 3.3nF | 2.7nF |
| 4540 | COG | 56nF | 33nF | 22nF | 12nF | 8.2nF | 3.9nF | 2.7nF | 2.2nF | 1.8nF | 1.5nF |
| | X7R | 680nF | 180nF | 68nF | 33nF | 18nF | 12nF | 8.2nF | 6.8nF | 4.7nF | 3.9nF |
| 5440 | COG | 68nF | 33nF | 22nF | 12nF | 8.2nF | 4.7nF | 3.3nF | 2.7nF | 1.8nF | 1.5nF |
| | X7R | 680nF | 180nF | 82nF | 39nF | 22nF | 15nF | 10nF | 8.2nF | 5.6nF | 4.7nF |
| 5550 | COG | 100nF | 47nF | 33nF | 18nF | 12nF | 5.6nF | 4.7nF | 3.3nF | 2.7nF | 2.2nF |
| | X7R | 1.0μF | 270nF | 120nF | 47nF | 33nF | 22nF | 15nF | 12nF | 10nF | 6.8nF |
| 6560 | COG | 150nF | 68nF | 47nF | 27nF | 18nF | 10nF | 6.8nF | 5.6nF | 3.9nF | 3.3nF |
| | X7R | 1.5μF | 390 | 180nF | 82nF | 47nF | 33nF | 22nF | 15nF | 12nF | 10nF |
| 6660 | COG | 100nF | 68nF | 39nF | 22nF | 12nF | 6.8nF | 5.6nF | 3.9nF | 3.3nF | 2.7nF |
| | X7R | 1.2μF | 330nF | 180nF | 100nF | 47nF | 33nF | 22nF | 15nF | 12nF | 10nF |
| 7565 | COG | 180nF | 100nF | 68nF | 39nF | 22nF | 12nF | 8.2nF | 6.8nF | 4.7nF | 3.9nF |
| | X7R | 2.2μF | 470nF | 220nF | 100nF | 56nF | 39nF | 27nF | 22nF | 18nF | 12nF |
| 9080 | COG | 150nF | 100nF | 68nF | 47nF | 18nF | 12nF | 10nF | 6.8nF | 5.6nF | 4.7nF |
| | X7R | 2.2μF | 560nF | 270nF | 180nF | 100nF | 68nF | 47nF | 39nF | 33nF | 27nF |

* 径向引线陶瓷电容 (50Vdc to 10kVdc)



Unit: mm

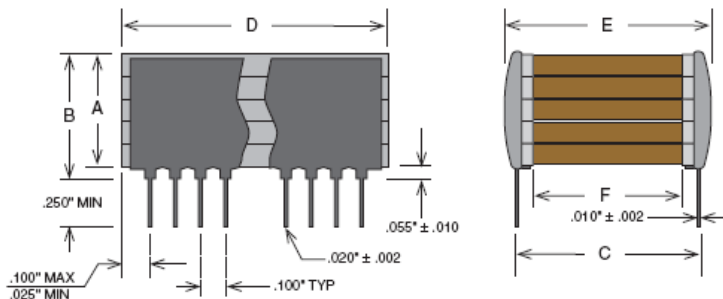
| Size | 381 | 382 | 502 | 762 | 764 |
|------|------|------|------|------|------|
| W/H | 3.8 | 3.8 | 5.0 | 8.0 | 8.0 |
| L | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| LS | 2.5 | 5.0 | 5.0 | 5.0 | 10.0 |
| T | 3.0 | 3.0 | 4.5 | 5.5 | 5.5 |
| d | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 |
| Size | 102 | 104 | 144 | 186 | 246 |
| W/H | 10.0 | 10.0 | 14.0 | 18.0 | 24.0 |
| L | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| LS | 5.0 | 10.0 | 10.0 | 15.0 | 15.0 |
| T | 5.5 | 5.5 | 5.5 | 6.5 | 6.5 |
| d | 0.6 | 0.6 | 0.8 | 0.8 | 0.8 |

| Size | Max Cap | 381 | 382 | 502 | 762 | 764 | 102 | 104 | 144 | 186 | 246 |
|------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50V | COG | 2.2nF | 2.2nF | 18nF | 56nF | 56nF | 82nF | 82nF | 150nF | - | - |
| | X7R | 100nF | 100nF | 390nF | 1.2μF | 1.2μF | 2.2μF | 2.2μF | 4.7μF | - | - |
| 100V | COG | 2.2nF | 2.2nF | 8.2nF | 47nF | 47nF | 68nF | 68nF | 120nF | - | - |
| | X7R | 82nF | 82nF | 330nF | 1.0μF | 1.0μF | 1.8μF | 1.8μF | 3.9μF | - | - |
| 250V | COG | 1.2nF | 1.2nF | 4.7nF | 22nF | 22nF | 47nF | 47nF | 82nF | - | - |
| | X7R | 15nF | 15nF | 100nF | 680nF | 680nF | 470nF | 470nF | 680nF | - | - |
| 300V | COG | 330pF | 330pF | 3.3nF | 15nF | 15nF | 22nF | 22nF | 56nF | - | - |
| | X7R | 6.8nF | 6.8nF | 47nF | 330nF | 330nF | 220nF | 220nF | 270nF | - | - |
| 500V | COG | 270pF | 270pF | 1.8nF | 8.2nF | 8.2nF | 15nF | 15nF | 33nF | - | - |
| | X7R | 4.7nF | 4.7nF | 33nF | 150nF | 150nF | 100nF | 100nF | 220nF | - | - |
| 1kV | COG | 180pF | 180pF | 1.2nF | 6.8nF | 6.8nF | 8.2nF | 8.2nF | 18nF | 39nF | 100nF |
| | X7R | 1.8nF | 1.8nF | 12nF | 68nF | 68nF | 82nF | 82nF | 150nF | 470nF | 1.0μF |
| 2kV | COG | - | - | 560pF | 3.3nF | 3.3nF | 5.6nF | 5.6nF | 12nF | 27nF | 68nF |
| | X7R | - | - | 2.2nF | 27nF | 27nF | 12nF | 12nF | 120nF | 82nF | 330nF |
| 3kV | COG | - | - | - | 1.5nF | 1.5nF | 2.2nF | 2.2nF | 6.8nF | 15nF | 39nF |
| | X7R | - | - | - | 6.8nF | 6.8nF | 5.6nF | 5.6nF | 33nF | 56nF | 180nF |
| 4kV | COG | - | - | - | 820pF | 820pF | 1.5nF | 1.5nF | 4.7nF | 10nF | 22nF |
| | X7R | - | - | - | 1.8nF | 1.8nF | 3.3nF | 3.3nF | 18nF | 27nF | 100nF |
| 5kV | COG | - | - | - | 330pF | 330pF | 560pF | 560pF | 2.2nF | 3.9nF | 12nF |
| | X7R | - | - | - | 1.0nF | 1.0nF | 2.2nF | 2.2nF | 8.2nF | 15nF | 47nF |
| 6kV | COG | - | - | - | - | - | 68pF | 68pF | 1.2nF | 2.7nF | 6.8nF |
| | X7R | - | - | - | - | - | 1.2nF | 1.2nF | 4.7nF | 12nF | 33nF |
| 7kV | COG | - | - | - | - | - | - | - | 820pF | 1.8nF | 5.6nF |
| | X7R | - | - | - | - | - | - | - | 3.3nF | 8.2nF | 22nF |
| 8kV | COG | - | - | - | - | - | - | - | - | 5.6nF | 4.7nF |
| | X7R | - | - | - | - | - | - | - | - | 5.6nF | 15nF |
| 9kV | COG | - | - | - | - | - | - | - | - | 1.0nF | 3.3nF |
| | X7R | - | - | - | - | - | - | - | - | 4.7nF | 12nF |
| 10kV | COG | - | - | - | - | - | - | - | - | 560pF | 2.7nF |
| | X7R | - | - | - | - | - | - | - | - | 3.3nF | 10nF |

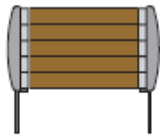
* SMPS 叠片陶瓷电容 (50Vdc to 500Vdc) 630Vdc to 5KVdc On request

Today's high frequency switch mode power supplies (SMPS) require high performance capacitors in the input and output filters. TechCap with Kekon has developed a line of MLCC SMPS filter caps with extremely low equivalent series resistance (ESR) and low equivalent series inductance (ESL) that offer improved performance at higher frequencies. These capacitors have been extensively tested and have performance characteristics meeting the demands for efficient capacitors in these stringent applications.

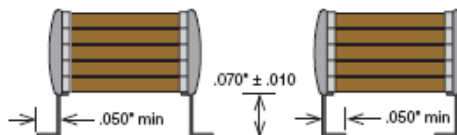
* Dimension



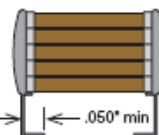
Straight Lead



L-Lead



J-Lead



| Dimension | | Unit: inch | | | |
|-----------|----------|------------|-------|------|-------|
| Case | Leads | D | | E | C |
| Size | per side | Min | Max | Max | ±0.03 |
| 1 | 20 | 1.95 | 2.075 | 0.5 | 0.45 |
| 2 | 15 | 1.45 | 1.535 | 0.87 | 0.8 |
| 3 | 10 | 0.95 | 1.075 | 0.5 | 0.45 |
| 4 | 4 | 0.35 | 0.435 | 0.44 | 0.4 |
| 5 | 3 | 0.224 | 0.275 | 0.3 | 0.25 |
| 6 | 20 | 1.95 | 2.075 | 1.35 | 1.25 |

Ordering Code

Part Number : SM1B107K500N

SM : SMPS

1: Case =1 , up to 6

B: C=COG, B=X7R

107: Cap Vlaue,107=100µF

K: Tolerance, J=±5%,K= ±10%,M=±20%

500: Voltage: 500=50V,101=100V,201=200V

N: Lead Style,N=Straight , L= L lead, J = J lead

| Case 1 | | | | |
|--------|-------|-------|-------|--------|
| VDC | 50V | 100V | 200V | 500V |
| X7R | 100µF | 56µF | 27µF | 12µF |
| COG | 4.7µF | 3.3µF | 1.8µF | 0.82µF |

| Case 2 | | | | |
|--------|-------|-------|-------|-------|
| VDC | 50V | 100V | 200V | 500V |
| X7R | 150µF | 82µF | 39µF | 18µF |
| COG | 5.6µF | 4.7µF | 2.7µF | 1.2µF |

| Case 3 | | | | |
|--------|-------|-------|-------|--------|
| VDC | 50V | 100V | 200V | 500V |
| X7R | 47µF | 27µF | 12µF | 5.6µF |
| COG | 2.2µF | 1.8µF | 1.0µF | 0.39µF |

| Case 4 | | | | |
|--------|--------|--------|--------|--------|
| VDC | 50V | 100V | 200V | 500V |
| X7R | 15µF | 8.2µF | 3.9µF | 1.8µF |
| COG | 0.56µF | 0.47µF | 0.27µF | 0.12µF |

| Case 5 | | | | |
|--------|--------|--------|-------|---------|
| VDC | 50V | 100V | 200V | 500V |
| X7R | 5.6µF | 3.3µF | 1.5µF | 0.68µF |
| COG | 0.27µF | 0.22µF | 0.1µF | 0.047µF |

| Case 6 | | | | |
|--------|-------|-------|-------|-------|
| VDC | 50V | 100V | 200V | 500V |
| X7R | 270µF | 180µF | 120µF | 39µF |
| COG | 15µF | 12µF | 5.6µF | 2.2µF |

* 200'C 高温陶瓷电容 (25Vdc to 10kVdc)
150'C, 175'C 高温陶瓷电容 On Request

* 高温陶瓷电容介质特性
类别: COG Calss I), X7R(Calss II)

COG DIELECTRIC CHARACTERISTICS

| | |
|--------------------------------------|--|
| Operating Temperature Range: | -55°C to 200°C |
| Temperature Coefficient up to 200°C: | 0 +/- 30 ppm/°C |
| Dissipation Factor @ 25°C: | .001 (0.1%) Max |
| Insulation Resistance at 25°C: | >100G Ω or >1000 Ω F |
| at 200°C: | > 1G Ω or >10 Ω F |
| Dielectric Withstanding Voltage: | < 200V, 250% |
| *whichever is greater | 201-500V, 150% or 500V* |
| | > 500V, 120% or 750V* |
| Aging Rate: | 0% per decade |
| Test Parameters: | 1KHz, 1.0 +/-0.2 VRMS, 25°C 1MHz for Capacitance <100pf |

CLASS II DIELECTRIC CHARACTERISTICS

| | |
|--------------------------------------|------------------------------------|
| Operating Temperature Range: | -55°C to 200°C |
| Temperature Coefficient up to 200°C: | +15 -65% Δ C Max |
| Dissipation Factor @ 25°C: | .025 (2.5%) Max |
| Insulation Resistance at 25°C: | >100G Ω or >1000 Ω F |
| at 200°C: | > 1G Ω or > 10 Ω F |
| Dielectric Withstanding Voltage: | < 200V, 250% |
| *whichever is greater | 201-500V, 150% or 500V* |
| | > 500V, 120% or 750V* |
| Aging Rate: | 2% per decade |
| Test Parameters: | 1KHz, 1.0 +/-0.2 VRMS, 25°C |

* 200'C 贴片高温陶瓷电容

| SIZE | 0805 | 1206 | 1210 | 1515 | 1808 | 1812 | 1825 | 2225 | 3530 | 4540 | 6560 | 7565 | |
|-------------------|-------|------|------|------|------|------|------|------|------|------|------|------|-----|
| Min Cap | 0R5 | 1R0 | 5R0 | 5R0 | 120 | 220 | 330 | 470 | 221 | 390 | 560 | 101 | |
| MAX CAP & VOLTAGE | 25V | 272 | 562 | 123 | 223 | 123 | 223 | 563 | 563 | 104 | 184 | 334 | 394 |
| | 50V | 182 | 392 | 822 | 183 | 822 | 153 | 393 | 473 | 823 | 154 | 274 | 334 |
| | 100V | 681 | 182 | 332 | 103 | 332 | 822 | 153 | 183 | 563 | 104 | 224 | 274 |
| | 250V | 471 | 102 | 222 | 392 | 222 | 562 | 123 | 183 | 333 | 563 | 124 | 154 |
| | 500V | 181 | 391 | 821 | 272 | 102 | 222 | 392 | 562 | 123 | 273 | 563 | 683 |
| | 1000V | 470 | 101 | 221 | 821 | 221 | 561 | 821 | 102 | 562 | 153 | 333 | 393 |
| | 2000V | • | 270 | 560 | 181 | 560 | 121 | 181 | 271 | 152 | 332 | 822 | 103 |
| | 3000V | • | • | • | 820 | 220 | 560 | 820 | 101 | 561 | 152 | 332 | 392 |
| | 4000V | • | • | • | 470 | 120 | 270 | 330 | 470 | 331 | 821 | 182 | 222 |

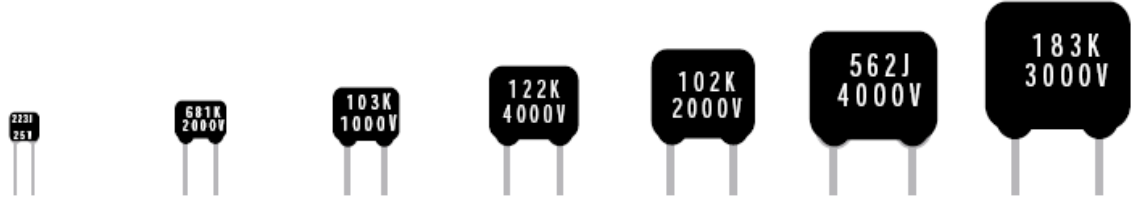
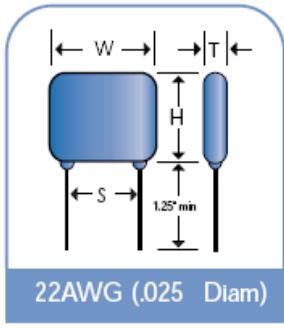
200'C X7R (Calss II) Capacitance and Voltage Selection:

| SIZE | 0805 | 1206 | 1210 | 1515 | 1808 | 1812 | 1825 | 2225 | 3530 | 4540 | 6560 | 7565 | |
|-------------------|-------|------|------|------|------|------|------|------|------|------|------|------|-----|
| Min Cap | 121 | 121 | 121 | 151 | 151 | 151 | 471 | 471 | 102 | 102 | 222 | 222 | |
| MAX CAP & VOLTAGE | 25V | 823 | 224 | 394 | 824 | 334 | 684 | 155 | 185 | 395 | 565 | 156 | 186 |
| | 50V | 473 | 124 | 224 | 684 | 274 | 474 | 105 | 125 | 275 | 475 | 126 | 156 |
| | 100V | 183 | 473 | 104 | 274 | 823 | 154 | 474 | 474 | 225 | 335 | 825 | 126 |
| | 250V | 472 | 103 | 273 | 822 | 223 | 473 | 124 | 154 | 564 | 125 | 275 | 395 |
| | 500V | 102 | 222 | 562 | 183 | 562 | 103 | 273 | 333 | 124 | 334 | 684 | 824 |
| | 1000V | 181 | 391 | 821 | 272 | 821 | 152 | 472 | 562 | 273 | 683 | 154 | 224 |
| | 2000V | • | 390 | 151 | 561 | 121 | 221 | 561 | 681 | 682 | 183 | 393 | 473 |
| | 3000V | • | • | • | 221 | 120 | 560 | 181 | 221 | 272 | 682 | 153 | 183 |
| | 4000V | • | • | • | • | • | • | 330 | 820 | 122 | 272 | 562 | 822 |

* Chip 高温电容定货号 (Part Number)

| TC | 1210 | D | 101 | K | 101 | N | T |
|---------|------|------------|-----------|--------|----------|------|--------|
| TechCap | SIZE | 介质 | 容值 | 公差 | 电压 | 封装 | 包装 |
| | 0805 | D=Calss I | 100=10pF | F= ±1% | 500=50V | N=镍锡 | T=Reel |
| | : | E=Calss II | 101=100pF | G= ±2% | 101=100V | P=钯银 | B=bulk |
| | 1210 | | 102=1.0nF | COG | 251=250V | Y=镍铅 | |
| | 1808 | | 103=10nF | Only | 501=500V | C=镀金 | |
| | 1812 | | 104=100nF | J= ±5% | 102=1KV | | |
| | 1825 | | 105=1.0μF | K=±10% | 202=2KV | | |
| | : | | 106=10μF | M=±20% | : | | |

* 200'C径向引线高温陶瓷电容



| SIZE | 1515 | 1812 | 2520 | 3530 | 4540 | 6560 | 7565 |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| W Max. | .250 (6.35) | .300 (7.62) | .370 (9.40) | .470 (11.9) | .570 (14.5) | .770 (19.6) | .870 (22.1) |
| H Max. | .250 (6.35) | .200 (5.08) | .300 (7.62) | .400 (10.2) | .500 (12.7) | .720 (18.3) | .770 (19.6) |
| T Max. | .190 (4.83) | .160 (4.06) | .240 (6.10) | .310 (7.87) | .360 (9.14) | .360 (9.14) | .360 (9.14) |
| S +/- .030 | .170 (4.32) | .200 (5.08) | .280 (7.11) | .380 (9.65) | .480 (12.2) | .680 (17.3) | .780 (19.8) |

CAPACITANCE & VOLTAGE

3 digit code: two significant digits, followed by number of zeros eg: 183 = 18,000 pF. R denotes decimal, eg. 2R7 = 2.7 pF

MAX CAP @ VOLTAGE

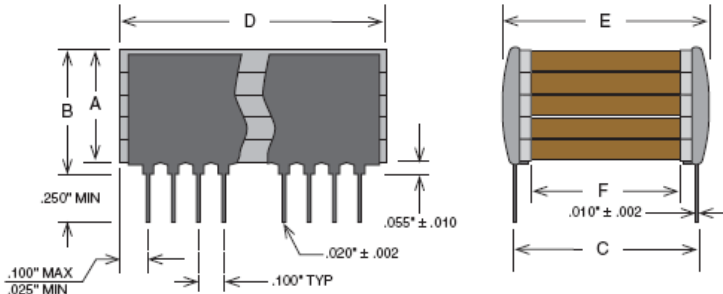
| Min Cap | 5R0 | 151 | 220 | 151 | 390 | 102 | 221 | 102 | 390 | 102 | 560 | 222 | 101 | 222 |
|---------|-----|----------|-----|----------|-----|----------|-----|----------|-----|----------|-----|----------|-----|----------|
| | COG | CLASS I1 | COG | CLASS I1 | COG | CLASS I1 | COG | CLASS I1 | COG | CLASS I1 | COG | CLASS I1 | COG | CLASS I1 |
| 25V | 223 | 824 | 273 | 105 | 563 | 225 | 104 | 395 | 184 | 565 | 334 | 156 | 394 | 186 |
| 50V | 183 | 684 | 223 | 684 | 563 | 185 | 823 | 275 | 154 | 475 | 274 | 126 | 334 | 156 |
| 100V | 103 | 274 | 103 | 274 | 333 | 125 | 563 | 225 | 104 | 335 | 224 | 825 | 274 | 126 |
| 250V | 392 | 823 | 682 | 104 | 153 | 274 | 333 | 564 | 563 | 125 | 124 | 275 | 154 | 395 |
| 500V | 272 | 183 | 332 | 223 | 562 | 563 | 123 | 124 | 273 | 334 | 563 | 684 | 683 | 824 |
| 1000V | 821 | 272 | 102 | 332 | 182 | 123 | 562 | 273 | 153 | 683 | 333 | 154 | 393 | 224 |
| 2000V | 181 | 561 | 221 | 681 | 391 | 222 | 152 | 682 | 332 | 183 | 822 | 393 | 103 | 473 |
| 3000V | 820 | 221 | 101 | 221 | 181 | 821 | 561 | 272 | 152 | 682 | 332 | 153 | 392 | 183 |
| 4000V | 470 | . | . | . | 101 | 221 | 331 | 122 | 821 | 272 | 182 | 562 | 222 | 822 |

* Radial Leaded高温电容定货号 (Part Number)

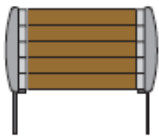
| TC | 1210 | D | 101 | K | 101 | LG | T |
|---------|------|------------|-----------|--------|----------|-------|--------|
| TechCap | SIZE | 介质 | 容值 | 公差 | 电压 | 封装 | 包装 |
| | 1515 | D=Calss I | 100=10pF | F= ±1% | 500=50V | LG= 环 | T=Reel |
| | : | E=Calss II | 101=100pF | G= ±2% | 101=100V | 氧树脂 | B=bulk |
| | 1812 | | 102=1.0nF | COG | 251=250V | LC=特 | |
| | 1825 | | 103=10nF | Only | 501=500V | 殊定制 | |
| | : | | 104=100nF | J= ±5% | 102=1KV | | |
| | 7565 | | 105=1.0μF | K=±10% | 202=2KV | | |
| | | | 106=10μF | M=±20% | : | | |
| | | | | | 103=10KV | | |

*** 200'C SMPS 叠片陶瓷电容 (50Vdc to 500Vdc)
600Vdc to 10KVdc On request**

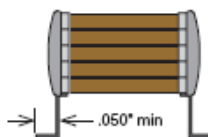
*** Dimension**



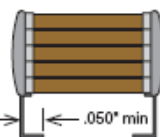
Straight Lead



L-Lead



J-Lead



| Dimension | | Unit: inch | | | |
|-----------|----------|------------|-------|------|-------|
| Case | Leads | D | | E | C |
| Size | per side | Min | Max | Max | ±0.03 |
| 1 | 20 | 1.95 | 2.075 | 0.5 | 0.45 |
| 2 | 15 | 1.45 | 1.535 | 0.87 | 0.8 |
| 3 | 10 | 0.95 | 1.075 | 0.5 | 0.45 |
| 4 | 4 | 0.35 | 0.435 | 0.44 | 0.4 |
| 5 | 3 | 0.224 | 0.275 | 0.3 | 0.25 |
| 6 | 20 | 1.95 | 2.075 | 1.35 | 1.25 |

Ordering Code

Part Number : SM1E107K500N
 SM : 200'C SMPS
 1: Case =1 , up to 6
 E: D=COG(Class I) , E=X7R(Class II)
 107: Cap Vlaue,107=100µF
 K: Tolerance, J=±5%,K= ±10%,M=±20%
 500: Voltage: 500=50V,101=100V,201=200V
 N: Lead Style,N= Straight , L= L lead, J = J lead

| Case 1 | | | | |
|--------|-------|-------|-------|--------|
| VDC | 50V | 100V | 200V | 500V |
| X7R | 82µF | 47µF | 22µF | 10µF |
| COG | 4.7µF | 3.3µF | 1.8µF | 0.82µF |

| Case 2 | | | | |
|--------|-------|-------|-------|-------|
| VDC | 50V | 100V | 200V | 500V |
| X7R | 150µF | 82µF | 39µF | 18µF |
| COG | 5.6µF | 4.7µF | 2.7µF | 1.2µF |

| Case 3 | | | | |
|--------|-------|-------|-------|--------|
| VDC | 50V | 100V | 200V | 500V |
| X7R | 47µF | 27µF | 12µF | 5.6µF |
| COG | 2.2µF | 1.8µF | 1.0µF | 0.39µF |

| Case 4 | | | | |
|--------|--------|--------|--------|--------|
| VDC | 50V | 100V | 200V | 500V |
| X7R | 15µF | 8.2µF | 3.9µF | 1.8µF |
| COG | 0.56µF | 0.47µF | 0.27µF | 0.12µF |

| Case 5 | | | | |
|--------|--------|--------|-------|---------|
| VDC | 50V | 100V | 200V | 500V |
| X7R | 5.6µF | 3.3µF | 1.5µF | 0.68µF |
| COG | 0.27µF | 0.22µF | 0.1µF | 0.047µF |

| Case 6 | | | | |
|--------|-------|-------|-------|-------|
| VDC | 50V | 100V | 200V | 500V |
| X7R | 270µF | 180µF | 120µF | 39µF |
| COG | 15µF | 12µF | 5.6µF | 2.2µF |

*** Applications**

- 1.) Oil Drilling (Down Hole)
- 2.) Geophysical Probes
- 3.) Jet Engine Controls
- 4.) Ignition System