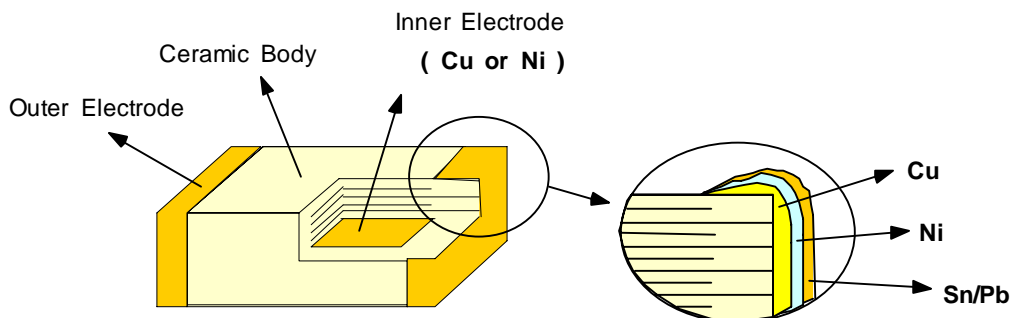


FEATURE



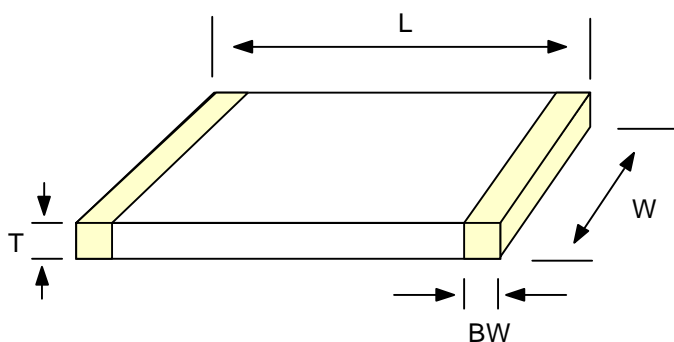
- LOW ESR at high frequencies
- High Q at high frequencies
- Stable COG temperature coefficient
- Ultra-Miniature Size
- Highly Reliable Performance
- High RF Power handling capabilities
- Industry Standard Size
- Tape & Reel for Surface Mount Assembly

PART NUMBER CODE

CL 10 C 101 J B G C
 (1) (2) (3) (4) (5) (6) (7) (8)

- (1) SAMSUNG Multilayer Ceramic Chip Capacitor
- (2) Type(Size)
- (3) Capacitance Temperature Characteristics
- (4) Nominal Capacitance
- (5) Capacitance Tolerance
- (6) Rated Voltage
- (7) **code " G " : Cu - Inner electrode**
code " C " : Ni - Inner electrode
- (8) Packaging Type

CONFIGURATION AND DIMENSIONS



| CODE | EIA CODE | DIMENSION (mm) | | | |
|------|----------|------------------|--------------|--------------|----------------|
| | | L | W | T (MAX) | BW |
| 05 | 0402 | 1.0 +/- 0.05 | 0.5 +/- 0.05 | 0.5 +/- 0.05 | 0.2 +0.15/-0.1 |
| 10 | 0603 | 1.6 +/- 0.1 | 0.8 +/- 0.1 | 0.8 +/- 0.1 | 0.3 +/- 0.2 |

CAPACITANCE TEMPERATURE CHARACTERISTIC

@ CLASS I (Temperature Compensation)

| Symble | EIA Code | Temperature Coefficient(PPM/C) | Operation Temperature Range |
|--------|----------|--------------------------------|-----------------------------|
| C | C0G(CH) | 0 +/- 60 | -55 ~ +125C |

@ CLASS II (High Dielectric Constant)

| Symble | EIA Code | Capacitance Change (Δ C : %) | Operation Temperature Range |
|--------|----------|--------------------------------|-----------------------------|
| B | X7R | +/- 15 | -55 ~ +125C |

NOMINAL CAPACITANCE

The value of nominal capacitance is expressed in pico-Farad(pF) with a three-digit number.

The first two digits denote significant figures and the last digit denotes the multiple of 10 in pF.

For values below 1pF, the letter "R" is used as the decimal point and the last digit becomes significant.

example 100 = $10 \times 10^0 = 10\text{pF}$ 222 = $22 \times 10^2 = 2200\text{pF}$
 020 = $2 \times 10^0 = 2\text{pF}$ 1R5 = 1.5pF

CAPACITANCE TOLERANCE

| Temperature Characteristics | Symbol | Tolerance | Applicable Capacitance & Range |
|------------------------------|---------|------------|--------------------------------|
| COG(NPO) or T.C Series | B | +/- 0.1pF | Less than 10pF |
| | C | +/- 0.25pF | |
| | D | +/- 0.5pF | |
| | F | +/- 1.0pF | |
| | *G | +/- 2% | E-24 Series for over 10pF |
| | J | +/- 5% | |
| K | +/- 10% | | |
| B(X7R) | J | +/- 5% | E-12 Series |
| | K | +/- 10% | |
| | M | +/- 20% | |

Please Consult us for special tolerances. * : Option

RATED VOLTAGE

| Symble | Rated Voltage(Vdc) | Symble | Rated Voltage(Vdc) |
|--------|--------------------|--------|--------------------|
| Q | 6.3V | A | 25V |
| P | 10V | B | 50V |
| O | 16V | C | 100V |

PACKAGING TYPE

| Symbol | Packaging | Symbol | Packaging |
|--------|-------------------------|--------|--------------------------|
| B | Bulk | O | Cardboard Tape, 10" Reel |
| P | Cassette | D | Cardboard Tape, 13" Reel |
| C | Cardboard Tape, 7" Reel | L | Cardboard Tape, 13" Reel |

STANDARD CAPACITANCE STEP

| Series | Capacitance Step | | | | | | | | | | | |
|--------|------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| E- 3 | 1.0 | | | | 2.2 | | | | 4.7 | | | |
| E- 6 | 1.0 | 1.5 | 2.2 | 3.3 | 4.7 | 6.8 | | | | | | |
| E-12 | 1.0 | 1.2 | 1.5 | 1.8 | 2.2 | 2.7 | 3.3 | 3.9 | 4.7 | 5.6 | 6.8 | 8.2 |
| E-24 | 1.0 | 1.2 | 1.5 | 1.8 | 2.2 | 2.7 | 3.3 | 3.9 | 4.7 | 5.6 | 6.8 | 8.2 |
| | 1.1 | 1.3 | 1.6 | 2.0 | 2.4 | 3.0 | 3.6 | 4.3 | 5.1 | 6.2 | 7.5 | 9.1 |

Standard Capacitance is " Each step x 10ⁿ "

Multilayer Chip Capacitors – High Frequency

CAPACITANCE RANGE

| Temp. Characteristics | Inner Electrode | Size | Voltage | Capacitance Range (pF) | | | |
|-----------------------|-----------------|-----------|---------|------------------------|-------------------|----------------------|-------|
| | | | | 10 | 100 | 1000 | 10000 |
| COG (NPO) | Cu | 05 (0402) | 6.3V | 0.3 [REDACTED] 33 | | | |
| | | 10 (0603) | 100V | 0.5 [REDACTED] 33 | | | |
| | Ni | 05 (0402) | 6.3V | | 33 [REDACTED] 100 | | |
| | | 10 (0603) | 100V | | 33 [REDACTED] 100 | | |
| X7R (B) | Ni | 05 (0402) | 6.3V | | | 220 [REDACTED] 10000 | |
| | | 10 (0603) | 50V | | | 220 [REDACTED] 10000 | |

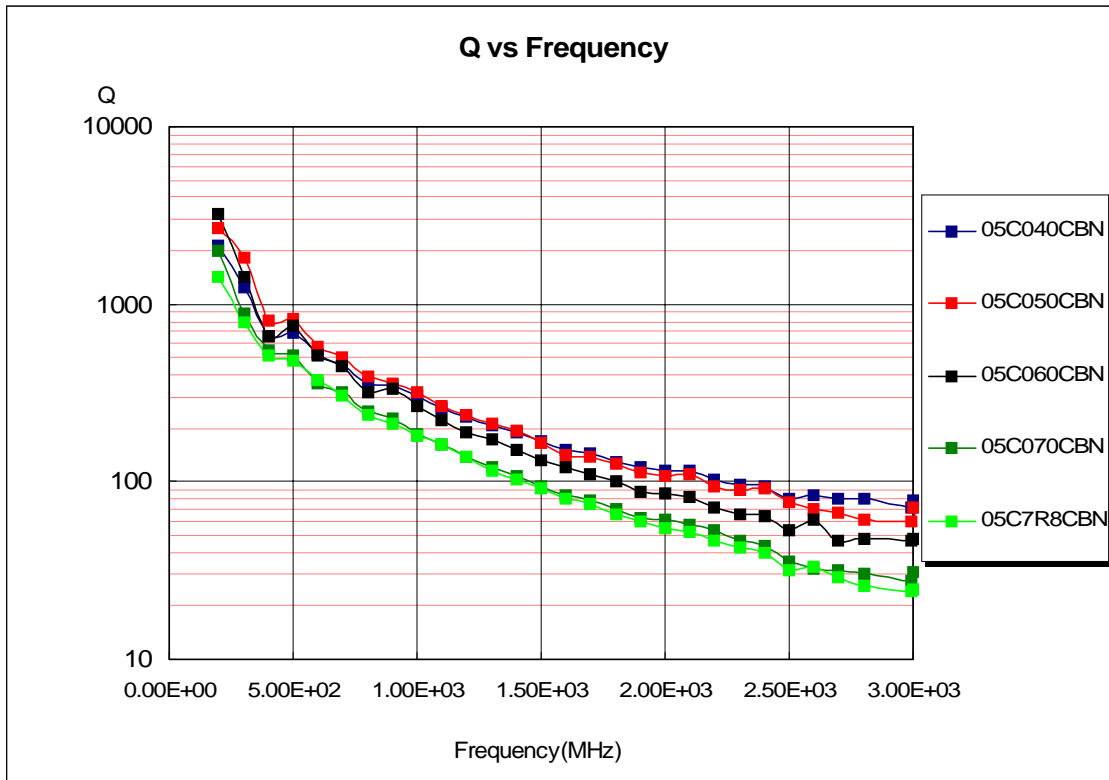
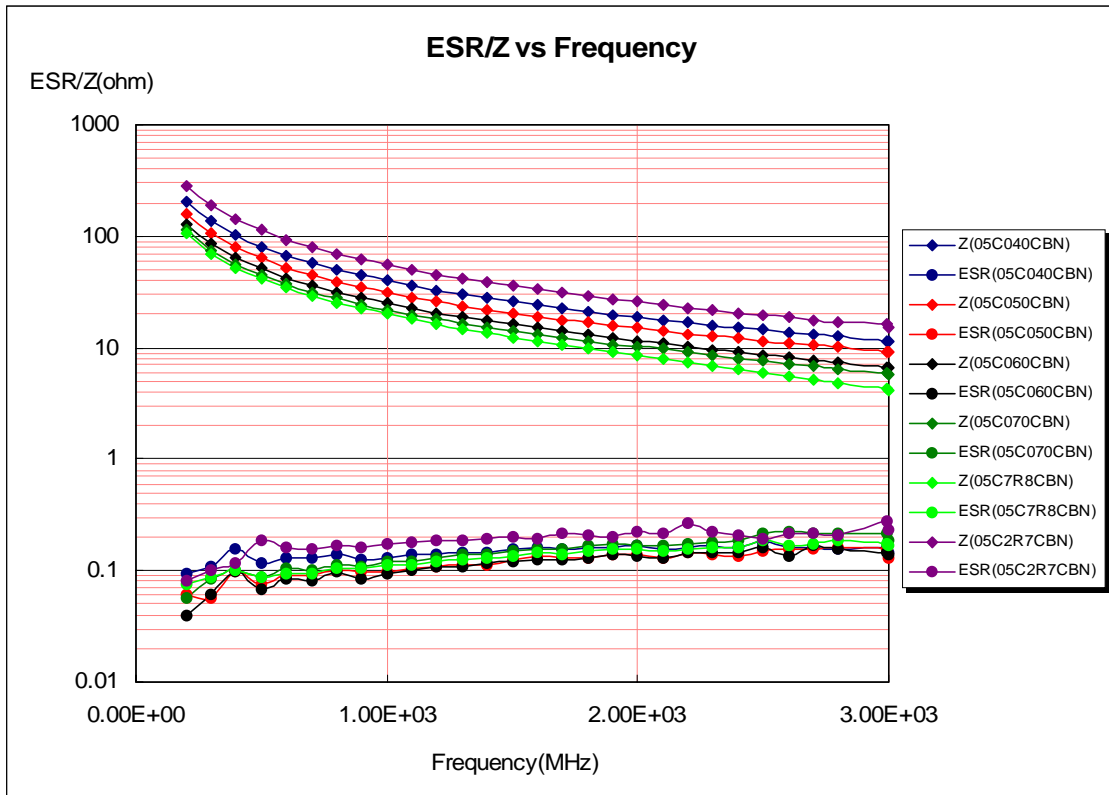
ADVANTAGE OF LOW LOSS CAPACITOR

- Extended battery life
- Increase power output and higher efficiency from RF power amplifiers
- Reduce the amount of heat generated
- The signal to noise ratio and overall noise temperature can easily be improved
- Designing low loss ceramic capacitors into filter networks will minimize the band(S21) insertion loss

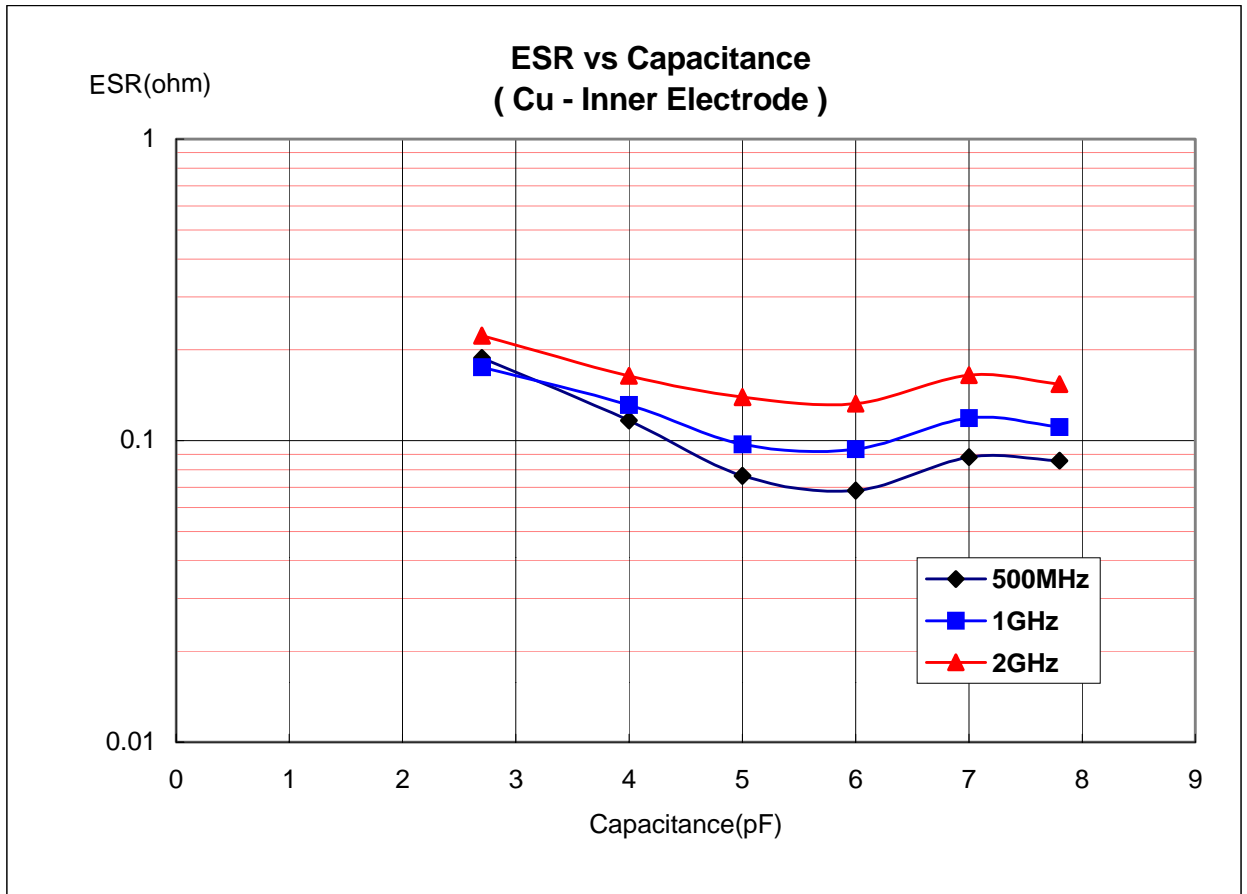
APPLICATIONS

- Cellular base station equipment
- High Q frequency sources
- Broadband wireless services
- Satcom equipment
- Point-to-Point/Point-to-Multipoint Radio
- Cellular phone
- RF LAN
- VCO
- TCXO
- Filter Networks
- Matching Networks
- Tuning, Coupling, Bypass and DC Block
- MRI
- MMICs
- LNA(Low noise amplifier)

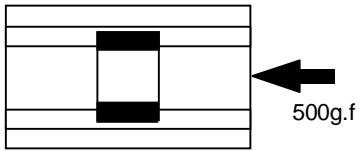
TYPICAL ELECTRIC CHARACTERISTICS

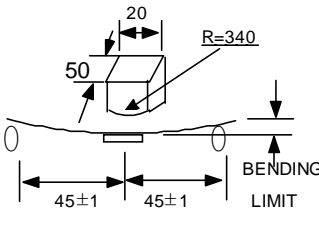
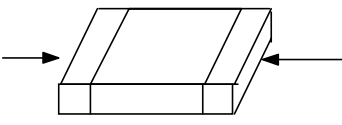


TYPICAL ELECTRIC CHARACTERISTICS



RELIABILITY AND TEST CONDITIONS

| NO | ITEM | PERFORMANCE | TEST CONDITION | | | | | | | | | | | | | | | | | |
|----------------|----------------------------------|---|---|--------------|---------------|----------|----------|-------|--------------|-----|-----|------|---|-----------|-----------|----------|----------|-------------|-----------|---------|
| 1 | APPEARANCE | NO ABNORMAL EXTERIOR APPEARANCE | THROUGH MICROSCOPE(x10) | | | | | | | | | | | | | | | | | |
| 2 | INSULATION RESISTANCE | 10,000Mohm OR 500Mohm uF PRODUCT WHICHEVER IS SMALLER (RATED VOLTAGE IS BELOW 16V : 10,000Mohm OR 100Mohm uF) | RATED VOLTAGE SHALL BE APPLIED. MEASUREMENT TIME IS 60 ~ 120 RATED VOLTAGE TIME 60 SEC. | | | | | | | | | | | | | | | | | |
| 3 | WITHSTANDING VOLTAGE | NO DIELECTRIC BREAKDOWN OR MECHANICAL BREAKDOWN | CLASS I: 300% OF THE RATED VOLTAGE FOR 1~5 SEC, CLASS II:250% OF THE RATED VOLTAGE FOR 1~5 SEC IS APPLIED WITH LESS THAN 50mA CURRENT | | | | | | | | | | | | | | | | | |
| 4 | CAPACITANCE | CLASS I WITHIN THE SPECIFIED TOLERANCE | CAPACITANCE | FREQUENCY | VOLTAGE | | | | | | | | | | | | | | | |
| | | | 1,000pF AND BELOW | 1MHz+/-10% | 0.5 ~ 5 Vrms | | | | | | | | | | | | | | | |
| | | | MORE THAN 1,000pF | 1KHz+/-10% | | | | | | | | | | | | | | | | |
| | | CLASS II WITHIN THE SPECIFIED TOLERANCE | CAPACITANCE | FREQUENCY | VOLTAGE | | | | | | | | | | | | | | | |
| | | | 22uF AND BELOW | 1KHz+/-10% | 1.0+/-0.2Vrms | | | | | | | | | | | | | | | |
| | | | MORE THAN 22uF | 120Hz+/-20% | 0.5+/-0.1Vrms | | | | | | | | | | | | | | | |
| 5 | Q | CLASS I OVER 30pF : Q >=1,000 LESS THAN 30pF: Q >=400 +20C (C : CAPACITANCE) | CAPACITANCE | FREQUENCY | VOLTAGE | | | | | | | | | | | | | | | |
| | | | 1,000pF AND BELOW | 1MHz+/-10% | 0.5 ~ 5 Vrms | | | | | | | | | | | | | | | |
| | | | MORE THAN 1,000pF | 1KHz+/-10% | | | | | | | | | | | | | | | | |
| 6 | Tan delta | CLASS II | <table border="1"> <thead> <tr> <th>Char.</th> <th>25V and over</th> <th>16V</th> <th>10V</th> <th>6.3V</th> </tr> </thead> <tbody> <tr> <td>B</td> <td>0.025 MAX</td> <td>0.035 MAX</td> <td>0.05 MAX</td> <td>0.05 MAX</td> </tr> </tbody> </table> | | | | | Char. | 25V and over | 16V | 10V | 6.3V | B | 0.025 MAX | 0.035 MAX | 0.05 MAX | 0.05 MAX | CAPACITANCE | FREQUENCY | VOLTAGE |
| | | | Char. | 25V and over | 16V | 10V | 6.3V | | | | | | | | | | | | | |
| | | | B | 0.025 MAX | 0.035 MAX | 0.05 MAX | 0.05 MAX | | | | | | | | | | | | | |
| | | | 22uF AND BELOW | 1KHz+/-10% | 1.0+/-0.2Vrms | | | | | | | | | | | | | | | |
| MORE THAN 22uF | 120Hz+/-20% | 0.5+/-0.1Vrms | | | | | | | | | | | | | | | | | | |
| 7 | ADHESIVE STRENGTH OF TERMINATION | NO INDICATION OF PEELING SHALL OCCUR ON THE TERMINAL ELECTRODE. | <p>A 500g.f PRESSURE SHALL BE APPLIED FOR 10+/-1 SECOND.</p>  | | | | | | | | | | | | | | | | | |

| NO | ITEM | | PERFORMANCE | | TEST CONDITION | | | | | | | | | |
|-----------------------|---|-----------------|--|---|--|----------------|----------|-------------|---|--------|----|---|---------|----|
| 8 | BENDING STRENGTH | APPEARANCE | NO MECHANICAL DAMAGE SHALL OCCUR. | | BENDING SHALL BE APPLIED TO THE LIMIT(1mm) WITH 0.3mm/SEC.  | | | | | | | | | |
| | | CAPACITANCE | CHARACTER | CHANGE OF CAPACITANCE | | | | | | | | | | |
| | | | CLASS I | WITHIN +/-5% OR +/- 0.5 pF WHICHEVER IS LARGER | | | | | | | | | | |
| CLASS II | B(X7R) | WITHIN +/-12.5% | | | | | | | | | | | | |
| 9 | SOLDERABILITY | | MORE THAN 95% OF THE TERMINAL SURFACE IS TO BE SOLDERED NEWLY, SO METAL PART(A) DOES NOT COME OUT OR DISSOLVE  | | SOLDER TEMPERATURE : 230+/-5C SOLDER : H63A FLUX : ROSIN PRE-HEATING : AT 80-120C FOR 10-30SEC. | | | | | | | | | |
| 10 | RESISTANCE TO SOLDERING HEAT | APPEARANCE | NO MECHANICAL DAMAGE SHALL OCCUR | | DIP : SOLDER TEMPERATURE OF 270+/-5C DIP TIME : 10+/-1 SEC. EACH TERMINATION SHALL BE FULLY IMMERSSED AND PREHEATED AS FOLLOWING: <table border="1" data-bbox="997 1198 1332 1344"> <thead> <tr> <th>STEP</th> <th>TEMP.(C)</th> <th>TIME (SEC.)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>80~100</td> <td>60</td> </tr> <tr> <td>2</td> <td>150~180</td> <td>60</td> </tr> </tbody> </table> MEASURE AT ROOM TEMP. AFTER COOLING FOR CLASS I : 24 +/- 2 HOURS CLASS II : 48 +/- 4 HOURS | STEP | TEMP.(C) | TIME (SEC.) | 1 | 80~100 | 60 | 2 | 150~180 | 60 |
| | | STEP | TEMP.(C) | TIME (SEC.) | | | | | | | | | | |
| | | 1 | 80~100 | 60 | | | | | | | | | | |
| | | 2 | 150~180 | 60 | | | | | | | | | | |
| | | CAPACITANCE | CHARACTERISTIC | CAP. CHANGE | | | | | | | | | | |
| | | | CLASS I | WITHIN +/-2.5% OR +/-0.25pF WHICHEVER IS LARGER | | | | | | | | | | |
| | | | CLASS II | B | | WITHIN +/-7.5% | | | | | | | | |
| Q CLASS I | 30pF AND OVER : Q>= 1000 LESS THAN 30pF : Q>= 400+20xC | | | | | | | | | | | | | |
| Tan delta CLASS II | TO SATISFY THE SPECIFIED INITIAL VALUE | | | | | | | | | | | | | |
| INSULATION RESISTANCE | TO SATISFY THE SPECIFIED INITIAL VALUE | | | | | | | | | | | | | |
| WITHSTANDING VOLTAGE | TO SATISFY THE SPECIFIED INITIAL VALUE | | | | | | | | | | | | | |

| NO | ITEM | PERFORMANCE | TEST CONDITION | | | | | |
|-----------------------|--|-----------------------|--|--|---|-----------------|----------|-----------|
| 11 | VIBRATION TEST | APPEARANCE | NO MECHANICAL DAMAGE SHALL OCCUR. | <p>THE CAPACITOR SHALL BE SUBJECTED TO A HARMONIC MOTION HAVING A TOTAL AMPLITUDE OF 1.5mm.</p> <p>THE ENTIRE FREQUENCY RANGE, FROM 10 TO 55Hz AND RETURN TO 10Hz, SHALL BE TRAVERSED IN 1 MINUTE.</p> <p>THIS CYCLE SHALL BE PERFORMED 2 HOURS IN EACH THERE MUTUALLY PERPENDICULAR DIRECTION, FOR TOTAL PERIOD OF 6 HOURS.</p> | | | | |
| | | CAPACITANCE | CHARACTERISTIC | | CAP. CHANGE | | | |
| | | | CLASS I | | WITHIN +/-2.5% OR +/-0.25pF WHICHEVER IS LARGER | | | |
| | | | CLASS II | | B | WITHIN +/-5% | | |
| | | Q CLASS I | 30pF AND OVER : Q>= 1000 LESS THAN 30pF : Q>= 400+20xC | | | | | |
| | | Tan delta CLASS II | TO SATISFY THE SPECIFIED INITIAL VALUE | | | | | |
| | | INSULATION RESISTANCE | TO SATISFY THE SPECIFIED INITIAL VALUE | | | | | |
| 12 | HUMIDITY (STEADY STATE) | APPEARANCE | NO MECHANICAL DAMAGE SHALL OCCUR | <p>TEMPERATURE : 40+/-2 C</p> <p>RELATIVE HUMIDITY : 90-95 %RH</p> <p>TEST TIME : 500 +12/-0 Hr.</p> <p>MEASURE AT ROOM TEMPERATURE AFTER COOLING FOR</p> <p>CLASS I : 24+/-2 Hr.</p> <p>CLASS II : 48+/-4 Hr.</p> | | | | |
| | | CAPACITANCE | CHARACTERISTIC | | CAPACITANCE CHANGE | | | |
| | | | CLASS I | | WITHIN +/-5% OR +/-0.5pF WHICHEVER IS LARGER | | | |
| | | | CLASS II | | B | WITHIN +/-12.5% | | |
| | | Q CLASS I | 30pF AND OVER : Q>= 350 10 ~30pF : Q>= 275 + 2.5xC LESS THAN 10pF : Q>= 200 + 10xC | | | | | |
| | | Tan delta CLASS II | Char. | | 25V and over | 16V | 10V | 6.3V |
| | | | B | | 0.05 MAX | 0.06 MAX | 0.75 MAX | 0.075 MAX |
| INSULATION RESISTANCE | MINIMUM INSULATION RESISTANCE: 1,000 Mohm OR 50Mohm uF PRODUCT WHICHEVER IS SMALLER | | | | | | | |

* THE INITIAL VALUE OF HIGH DIELECTRIC CONSTANT SERIES SHALL BE MEASURED AFTER THE HEAT TREATMENT OF 150 +/-10C, 1Hr AND SITTING OF 48+/-4hr AT ROOM TEMPERATURE & ROOM HUMIDITY.

Multilayer Chip Capacitors – High Frequency

| NO | ITEM | PERFORMANCE | TEST CONDITION | | | | | | | | | |
|-----------------------|---|--|--|---|-------|------|-------|----------|----------|------------|-----------|--|
| 13 | APPEARANCE | NO MECHANICAL DAMAGE SHALL OCCUR | APPLIED VOLTAGE : RATED VOLTAGE | | | | | | | | | |
| | CAPACITANCE | CHARACTERISTIC | CAPACITANCE CHANGE | | | | | | | | | |
| | | CLASS I | WITHIN +/-7.5% OR +/-0.75pF WHICHEVER IS LARGER | | | | | | | | | |
| | | CLASS II | B | WITHIN +/-12.5% | | | | | | | | |
| | Q CLASS I | 30pF AND OVER : Q >= 200 30pF AND BELOW : Q >= 100 + 10/3xC | | TEMPERATURE : 40+/-2 C RELATIVE HUMIDITY : 90-95%RH TEST TIME : 500 +12/-0 Hr. CURRENT APPLIED : 50mA MAX. | | | | | | | | |
| Tan delta CLASS II | <table border="1"> <tr> <td>Char.</td> <td>25V and over</td> <td>16V</td> <td>10V</td> <td>6.3V</td> </tr> <tr> <td>B</td> <td>0.05 MAX</td> <td>0.06 MAX</td> <td>0.075 MAX</td> <td>0.075 MAX</td> </tr> </table> | Char. | 25V and over | 16V | 10V | 6.3V | B | 0.05 MAX | 0.06 MAX | 0.075 MAX | 0.075 MAX | MEASURING AT ROOM TEMPERATURE AFTER COOLING FOR CLASS I : 24+/-2 Hr. CLASS II : 48+/-4 Hr. |
| Char. | 25V and over | 16V | 10V | 6.3V | | | | | | | | |
| B | 0.05 MAX | 0.06 MAX | 0.075 MAX | 0.075 MAX | | | | | | | | |
| INSULATION RESISTANCE | MINIMUM INSULATION RESISTANCE: 500 Mohm OR 25Mohm uF PRODUCT, WHICHEVER IS SMALLER. | | | | | | | | | | | |
| 14 | APPEARANCE | NO MECHANICAL DAMAGE SHALL OCCUR | APPLIED VOLTAGE : 200% OF RATED VOLTAGE TEST TIME : 1000 +48/-0 Hr. CURRENT APPLIED : 50mA MAX. | | | | | | | | | |
| | CAPACITANCE | CHARACTERISTIC | CAP. CHANGE | | | | | | | | | |
| | | CLASS I | WITHIN +/-3% OR +/-0.3pF, WHICHEVER IS LARGER | | | | | | | | | |
| | | CLASS II | B | WITHIN +/-12.5% | | | | | | | | |
| | Q CLASS I | 30pF AND OVER : Q >= 350 10 ~ 30 pF : Q >= 275 + 2.5xC LESS THAN 10pF : Q >=200 + 10xC | | <table border="1"> <tr> <td colspan="2">CHAR.</td> <td>TEMP.</td> </tr> <tr> <td>CLASS I</td> <td>B</td> <td>125 +/-3 C</td> </tr> <tr> <td>CLASS II</td> <td>B</td> <td>125 +/-3 C</td> </tr> </table> | CHAR. | | TEMP. | CLASS I | B | 125 +/-3 C | CLASS II | B |
| CHAR. | | TEMP. | | | | | | | | | | |
| CLASS I | B | 125 +/-3 C | | | | | | | | | | |
| CLASS II | B | 125 +/-3 C | | | | | | | | | | |
| Tan delta CLASS II | <table border="1"> <tr> <td>Char.</td> <td>25V and over</td> <td>16V</td> <td>10V</td> <td>6.3V</td> </tr> <tr> <td>B</td> <td>0.05 MAX</td> <td>0.06 MAX</td> <td>0.075 MAX</td> <td>0.075 MAX</td> </tr> </table> | Char. | 25V and over | 16V | 10V | 6.3V | B | 0.05 MAX | 0.06 MAX | 0.075 MAX | 0.075 MAX | (INITIAL VALUE MEASUREMENT) FOR CLASSII CAPACITORS, 200 % OF RATED VOLTAGE SHALL BE APPLIED FOR 1 HOUR AT THE MAXIMUM OPERATING TEMPERATURE, THEN KEEP IT AT ROOM TEMPERATURE. FOR 48 +/- 4 Hrs. |
| Char. | 25V and over | 16V | 10V | 6.3V | | | | | | | | |
| B | 0.05 MAX | 0.06 MAX | 0.075 MAX | 0.075 MAX | | | | | | | | |
| INSULATION RESISTANCE | MINIMUM INSULATION RESISTANCE: 1,000 Mohm OR 50Mohm uF PRODUCT WHICHEVER IS SMALLER | | | | | | | | | | | |

Multilayer Chip Capacitors – High Frequency

| NO | ITEM | PERFORMANCE | TEST CONDITION | | | | | | | | | | | | | | | |
|------|------------------------------|-----------------------|--|-------------|--|------------|---|------------------------------|----|---|----|-----|---|------------------------------|----|---|----|-----|
| 15 | TEMPERATURE CYCLE | APPEARANCE | NO MECHANICAL DAMAGE SHALL OCCUR | | | | | | | | | | | | | | | |
| | | CAPACITANCE | CHARACTERISTIC | CAP. CHANGE | | | | | | | | | | | | | | |
| | | | CLASS I | | WITHIN +/-2.5% OR +/-0.25pF WHICHEVER IS LARGER | | | | | | | | | | | | | |
| | | | CLASS II | B | WITHIN +/-7.5% | | | | | | | | | | | | | |
| | | Q CLASS I | 30 pF AND OVER : Q >= 1000 LESS THAN 30pF:Q >=400 +20xC | | | | | | | | | | | | | | | |
| | | Tan delta CLASS II | TO SATISFY THE SPECIFIED INITIAL VALUE | | | | | | | | | | | | | | | |
| | | INSULATION RESISTANCE | TO SATISFY THE SPECIFIED INITIAL VALUE | | | | | | | | | | | | | | | |
| | | | CAPACITORS SHALL BE SUBJECTED TO FIVE CYCLES OF THE TEMPERATURE CYCLE AS FOLLOWING <table border="1" data-bbox="991 474 1340 857"> <thead> <tr> <th>STEP</th> <th>TEMP.(C)</th> <th>TIME (MIN)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>MIN. RATED TEMP. +0/-3</td> <td>30</td> </tr> <tr> <td>2</td> <td>25</td> <td>2~3</td> </tr> <tr> <td>3</td> <td>MAX. RATED TEMP. +3/-0</td> <td>30</td> </tr> <tr> <td>4</td> <td>25</td> <td>2~3</td> </tr> </tbody> </table> | STEP | TEMP.(C) | TIME (MIN) | 1 | MIN. RATED TEMP. +0/-3 | 30 | 2 | 25 | 2~3 | 3 | MAX. RATED TEMP. +3/-0 | 30 | 4 | 25 | 2~3 |
| STEP | TEMP.(C) | TIME (MIN) | | | | | | | | | | | | | | | | |
| 1 | MIN. RATED TEMP. +0/-3 | 30 | | | | | | | | | | | | | | | | |
| 2 | 25 | 2~3 | | | | | | | | | | | | | | | | |
| 3 | MAX. RATED TEMP. +3/-0 | 30 | | | | | | | | | | | | | | | | |
| 4 | 25 | 2~3 | | | | | | | | | | | | | | | | |
| | | | MEASURE AT ROOM TEMPERATURE AFTER COOLING FOR CLASS I : 24+/-2 Hr. CLASS II : 48+/-4 Hr. | | | | | | | | | | | | | | | |