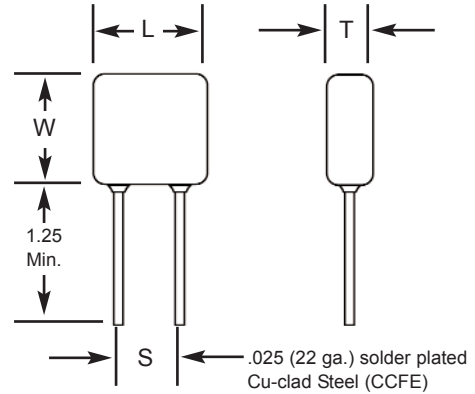


FEATURES

1. Conforms to MIL-PRF-49467. (Group A Screening, Subgroup 1)
2. 100% Corona tested.
3. No IR degradation over life.
4. High density, low DF ceramic.
5. Conservative and proven design is recommended for non-repairable applications such as spacecraft.
6. CSAM inspection is available and is recommended for space applications.
7. Burn-in in a non-contaminating inert fluid is standard for $\geq 2\text{KV}$; optional for 500V or 1 KV parts.

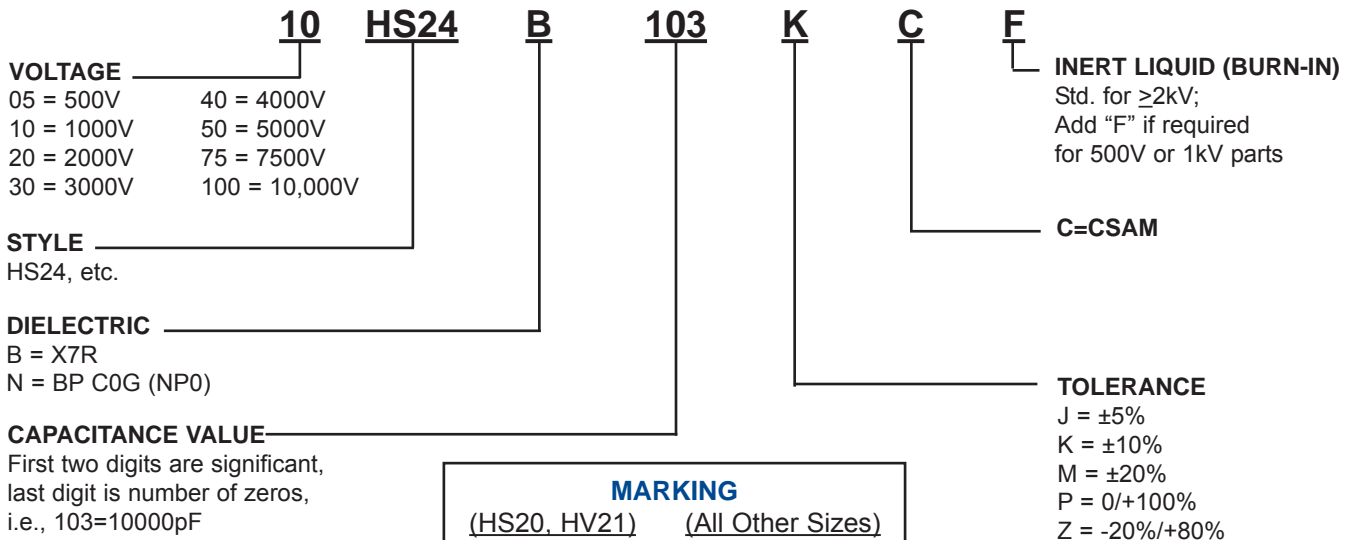
CAPACITOR OUTLINE DRAWING



DIMENSIONS

| Style | Sizes in Inches (mm) max. | | | Lead Spacing ± 0.030 (S) |
|-------|---------------------------|--------------|---------------|------------------------------|
| | Length (L) | Width (W) | Thickness (T) | |
| HS20 | .250 (6.35) | .220 (5.59) | .200 (5.08) | .170 (4.32) |
| HS21 | .320 (8.13) | .280 (7.11) | .250 (6.35) | .220 (5.59) |
| HS22 | .370 (9.40) | .300 (7.62) | .250 (6.35) | .275 (6.98) |
| HS30 | .450 (11.43) | .220 (5.59) | .200 (5.08) | .300 (7.62) |
| HS23 | .470 (11.94) | .400 (10.16) | .270 (6.89) | .375 (9.52) |
| HS31 | .550 (13.97) | .280 (7.11) | .250 (6.35) | .400 (10.16) |
| HS24 | .570 (14.48) | .500 (12.70) | .270 (6.89) | .475 (12.06) |
| HS25 | .670 (17.02) | .600 (15.24) | .270 (6.89) | .575 (14.60) |
| HS26 | .770 (19.56) | .720 (18.29) | .270 (6.89) | .675 (17.14) |
| HS33 | .850 (21.59) | .400 (10.16) | .270 (6.89) | .700 (17.78) |
| HS34 | 1.050 (26.67) | .500 (12.70) | .270 (6.89) | .975 (24.76) |
| HS35 | 1.250 (31.75) | .600 (15.24) | .270 (6.89) | 1.175 (29.84) |
| HS36 | 1.450 (36.83) | .720 (18.29) | .270 (6.89) | 1.375 (34.92) |

PART NUMBER AND ORDERING INFORMATION



| MARKING | |
|--------------|-------------------|
| (HS20, HV21) | (All Other Sizes) |
| 103K | HS24B103K |
| 1 kV | 1 kV |
| KEC | KEC |
| Date Code | Date Code |

High Voltage Space Quality MLC (-55° to +125°C) HS Series

COG DIELECTRIC

| STYLE | | HS 20 | | | HS 21 | | | HS 22 | | | HS 23 | | | | HS 24 | | | | | HS 25 | | | | | HS 26 | | | | | | | |
|----------------------------|-------|-------------|----|----|-------------|----|----|-------------|----|----|--------------|----|----|----|--------------|----|----|----|----|--------------|-----|----|----|----|--------------|----|-----|----|----|----|----|----|
| Cap | L MAX | .250 (6.35) | | | .320 (8.13) | | | .370 (9.40) | | | .470 (11.94) | | | | .570 (14.48) | | | | | .670 (17.02) | | | | | .770 (19.56) | | | | | | | |
| | W MAX | .220 (5.59) | | | .280 (7.11) | | | .300 (7.62) | | | .400 (10.16) | | | | .500 (12.70) | | | | | .600 (15.24) | | | | | .720 (18.29) | | | | | | | |
| | T MAX | .200 (5.08) | | | .250 (6.35) | | | .250 (6.35) | | | .270 (6.86) | | | | .270 (6.86) | | | | | .270 (6.86) | | | | | .270 (6.86) | | | | | | | |
| S± .030 | | .170 (4.32) | | | .220 (5.59) | | | .275 (6.98) | | | .375 (9.52) | | | | .475 (12.06) | | | | | .575 (14.60) | | | | | .675 (17.14) | | | | | | | |
| Lead Dia. +0.004/-0.002 | | .025 (.635) | | | .025 (.635) | | | .025 (.635) | | | .025 (.635) | | | | .025 (.635) | | | | | .025 (.635) | | | | | .025 (.635) | | | | | | | |
| | | WVDC | | | WVDC | | | WVDC | | | WVDC | | | | WVDC | | | | | WVDC | | | | | WVDC | | | | | | | |
| Cap Code | | 500 | 1k | 2k | 500 | 1k | 2k | 500 | 1k | 2k | 500 | 1k | 2k | 3k | 500 | 1k | 2k | 3k | 4k | 5k | 500 | 1k | 2k | 3k | 4k | 5k | 500 | 1k | 2k | 3k | 4k | 5k |
| 12pF | 120 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 150 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | 180 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | 220 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | 270 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33 | 330 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 39 | 390 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 47 | 470 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 56 | 560 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 68 | 680 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 82 | 820 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 | 101 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 120 | 121 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 150 | 151 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 180 | 181 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 220 | 221 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 270 | 271 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 330 | 331 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 390 | 391 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 470 | 471 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 560 | 561 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 680 | 681 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 820 | 821 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1000 | 102 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1200 | 122 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1500 | 152 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1800 | 182 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2200 | 222 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2700 | 272 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3300 | 332 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3900 | 392 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4700 | 472 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5600 | 562 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6800 | 682 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8200 | 822 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.010uF | 103 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.012 | 123 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.015 | 153 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.018 | 183 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.022 | 223 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.027 | 273 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.033 | 333 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.039 | 393 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.047 | 473 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.056 | 563 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.068 | 683 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.082 | 823 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.10 | 104 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.12 | 124 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.15 | 154 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

C0G DIELECTRIC

| STYLE | | HS 30 | HS 31 | HS 33 | HS 34 | HS 35 | HS 36 |
|---------|-------------------------|--------------|--------------------|--------------------|-------------------------|-----------------------------|-----------------------------|
| Cap | L MAX | .450 (11.43) | .550 (13.97) | .850 (21.59) | 1.050 (26.67) | 1.250 (31.75) | 1.450 (36.83) |
| | W MAX | .220 (5.59) | .280 (7.11) | .400 (10.16) | .500 (12.70) | .600 (15.24) | .720 (18.29) |
| | T MAX | .200 (5.08) | .250 (6.35) | .270 (6.89) | .270 (6.89) | .270 (6.89) | .270 (6.89) |
| | S± .030 | .300 (7.62) | .400 (10.16) | .700 (17.78) | .975 (24.76) | 1.175 (29.84) | 1.375 (34.92) |
| | Lead Dia. +0.004/-0.002 | .025 (.635) | .025 (.635) | .025 (.635) | .025 (.635) | .025 (.635) | .025 (.635) |
| | Cap Code | 500 1k 2k 3k | 500 1k 2k 3k 4k 5k | 500 1k 2k 3k 4k 5k | 500 1k 2k 3k 4k 5k 7.5k | 500 1k 2k 3k 4k 5k 7.5k 10k | 500 1k 2k 3k 4k 5k 7.5k 10k |
| 10pF | 100 | | | | | | |
| 12 | 120 | | | | | | |
| 15 | 150 | | | | | | |
| 18 | 180 | | | | | | |
| 22 | 220 | | | | | | |
| 27 | 270 | | | | | | |
| 33 | 330 | | | | | | |
| 39 | 390 | | | | | | |
| 47 | 470 | | | | | | |
| 56 | 560 | | | | | | |
| 68 | 680 | | | | | | |
| 82 | 820 | | | | | | |
| 100 | 101 | | | | | | |
| 120 | 121 | | | | | | |
| 150 | 151 | | | | | | |
| 180 | 181 | | | | | | |
| 220 | 221 | | | | | | |
| 270 | 271 | | | | | | |
| 330 | 331 | | | | | | |
| 390 | 391 | | | | | | |
| 470 | 471 | | | | | | |
| 560 | 561 | | | | | | |
| 680 | 681 | | | | | | |
| 820 | 821 | | | | | | |
| 1000 | 102 | | | | | | |
| 1200 | 122 | | | | | | |
| 1500 | 152 | | | | | | |
| 1800 | 182 | | | | | | |
| 2200 | 222 | | | | | | |
| 2700 | 272 | | | | | | |
| 3300 | 332 | | | | | | |
| 3900 | 392 | | | | | | |
| 4700 | 472 | | | | | | |
| 5600 | 562 | | | | | | |
| 6800 | 682 | | | | | | |
| 8200 | 822 | | | | | | |
| 0.010uF | 103 | | | | | | |
| 0.012 | 123 | | | | | | |
| 0.015 | 153 | | | | | | |
| 0.018 | 183 | | | | | | |
| 0.022 | 223 | | | | | | |
| 0.027 | 273 | | | | | | |
| 0.033 | 333 | | | | | | |
| 0.039 | 393 | | | | | | |
| 0.047 | 473 | | | | | | |
| 0.056 | 563 | | | | | | |
| 0.068 | 683 | | | | | | |
| 0.082 | 823 | | | | | | |
| 0.10 | 104 | | | | | | |
| 0.12 | 124 | | | | | | |
| 0.15 | 154 | | | | | | |
| 0.18 | 184 | | | | | | |

High Voltage Space Quality MLC (-55° to +125°C) HS Series

X7R DIELECTRIC

| STYLE | | HS 20 | | | HS 21 | | | HS 22 | | | HS 23 | | | | HS 24 | | | | | HS 25 | | | | | HS 26 | | | | | | |
|---------|----------------------------|-------------|----|----|-------------|----|----|-------------|----|----|--------------|----|----|----|--------------|----|----|----|----|--------------|----|----|----|----|--------------|-----|----|----|----|----|----|
| Cap | L MAX | .250 (6.35) | | | .320 (8.13) | | | .370 (9.40) | | | .470 (11.94) | | | | .570 (14.48) | | | | | .670 (17.02) | | | | | .770 (19.56) | | | | | | |
| | W MAX | .220 (5.59) | | | .280 (7.11) | | | .300 (7.62) | | | .400 (10.16) | | | | .500 (12.70) | | | | | .600 (15.24) | | | | | .720 (18.29) | | | | | | |
| | T MAX | .200 (5.08) | | | .250 (6.35) | | | .250 (6.35) | | | .270 (6.86) | | | | .270 (6.86) | | | | | .270 (6.86) | | | | | .270 (6.86) | | | | | | |
| | S± .030 | .170 (4.32) | | | .220 (5.59) | | | .275 (6.98) | | | .375 (9.52) | | | | .475 (12.06) | | | | | .575 (14.60) | | | | | .675 (17.14) | | | | | | |
| | Lead Dia. +0.004/-0.002 | .025 (.635) | | | .025 (.635) | | | .025 (.635) | | | .025 (.635) | | | | .025 (.635) | | | | | .025 (.635) | | | | | .025 (.635) | | | | | | |
| | | WVDC | | | WVDC | | | WVDC | | | WVDC | | | | WVDC | | | | | WVDC | | | | | WVDC | | | | | | |
| | Cap Code | 500 | 1k | 2k | 500 | 1k | 2k | 500 | 1k | 2k | 500 | 1k | 2k | 3k | 500 | 1k | 2k | 3k | 4k | 500 | 1k | 2k | 3k | 4k | 5k | 500 | 1k | 2k | 3k | 4k | 5k |
| 270pF | 271 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 330 | 331 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 390 | 391 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 470 | 471 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 560 | 561 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 680 | 681 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 820 | 821 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1000 | 102 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1200 | 122 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1500 | 152 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1800 | 182 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2200 | 222 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2700 | 272 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3300 | 332 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3900 | 392 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4700 | 472 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5600 | 562 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6800 | 682 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8200 | 822 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.010uF | 103 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.012 | 123 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.015 | 153 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.018 | 183 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.022 | 223 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.027 | 273 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.033 | 333 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.039 | 393 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.047 | 473 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.056 | 563 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.068 | 683 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.082 | 823 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.10 | 104 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.12 | 124 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.15 | 154 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.18 | 184 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.22 | 224 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.27 | 274 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.33 | 334 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.39 | 394 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.47 | 474 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.56 | 564 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.68 | 684 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.82 | 824 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.0 | 105 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.2 | 125 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.5 | 155 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.8 | 185 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.2 | 225 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.7 | 275 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

