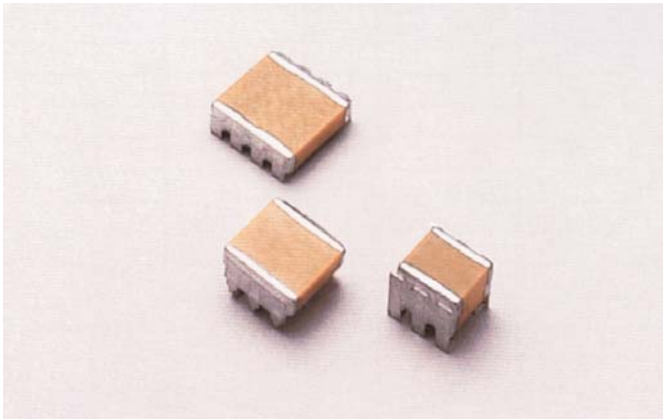


SMPS Capacitors (RH Style)



RH - Surface Mount 'J' Lead Range



0.047 μ F to 47.0 μ F Low ESR/ESL
 25V to 500 VDC X7R Dielectric
 -55°C to +125°C

This range of uncoated MLC capacitors are processed for input and output filter capacitors in high frequency DC-DC convertor applications above 10 Watts e.g. telecomms and instrumentation, where high volume and low cost is required. These products are available in surface mount 'J' leaded versions and can be supplied in bulk and tape/reel packaging.

ELECTRICAL SPECIFICATIONS

Temperature Coefficient CECC 30 000, (4.24.1)
 X7R: C Temperature Characteristic - \pm 15%, -55°C to +125°C

Capacitance Test
 Measured at 1 VRMS max at 1KHz

Dissipation Factor 25°C
 2.5% max at 1KHz, 1 VRMS max

Insulation Resistance 25°C
 100K megohms or 1000 megohms- μ F, whichever is less

Dielectric Withstanding Voltage 25°C (Flash Test)
 250% rated voltage for 5 seconds with 50 mA max charging current. (500 Volt units @ 150% rated voltage)

Life Test (1000 hrs) CECC 30 000 (4.23)
 200% rated voltage at +125°C.
 (500 Volt units @ 120% rated voltage)

Thermal Shock IEC 68.2.14
 -55°C to +125°C, 5 cycles

Resistance to Solder Heat IEC 68.2.20

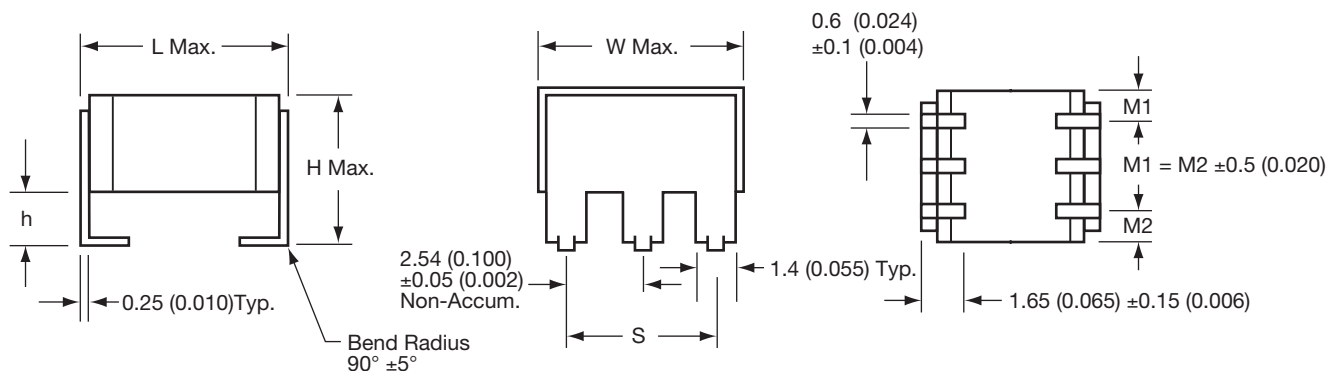
| Typical ESR (m Ω) 3 μ F, 100V X7R | |
|---|----|
| ESR @ 100KHz | 17 |
| ESR @ 500KHz | 12 |
| ESR @ 1MHz | 14 |

DIMENSIONS

millimeters (inches)

| Style | L max | W max | H max | S \pm 0.1 (\pm 0.004) | h | No. of leads per side |
|-------|--------------|--------------|--------------|-------------------------------|--|--------------------------|
| RH21 | 7.62 (0.300) | 5.40 (0.213) | 4.60 (0.181) | 2.50 (0.098) | 1.50 \pm 0.30 (0.059 \pm 0.012) | 2 |
| RH22 | 7.62 (0.300) | 5.40 (0.213) | 7.50 (0.295) | 2.50 (0.098) | 1.50 \pm 0.30 (0.059 \pm 0.012) | 2 |
| RH31 | 7.62 (0.300) | 7.00 (0.270) | 5.08 (0.200) | 5.08 (0.200) | 1.78 \pm 0.25 (0.070 \pm 0.010) | 3 |
| RH32 | 7.62 (0.300) | 7.00 (0.270) | 8.13 (0.320) | 5.08 (0.200) | 1.78 \pm 0.25 (0.070 \pm 0.010) | 3 |
| RH41 | 9.20 (0.362) | 8.70 (0.342) | 4.90 (0.192) | 5.08 (0.200) | 1.60 \pm 0.10 (0.062 \pm 0.004) | 3 |
| RH42 | 9.20 (0.362) | 8.70 (0.342) | 8.20 (0.323) | 5.08 (0.200) | 1.60 \pm 0.10 (0.062 \pm 0.004) | 3 |
| RH51 | 10.7 (0.421) | 10.7 (0.421) | 4.90 (0.192) | 7.62 (0.300) | 1.60 \pm 0.10 (0.062 \pm 0.004) | 4 |
| RH52 | 10.7 (0.421) | 10.7 (0.421) | 8.20 (0.323) | 7.62 (0.300) | 1.60 \pm 0.10 (0.062 \pm 0.004) | 4 |
| RH61 | 14.9 (0.586) | 13.6 (0.535) | 4.90 (0.192) | 10.2 (0.400) | 1.60 \pm 0.10 (0.062 \pm 0.004) | 5 |
| RH62 | 14.9 (0.586) | 13.6 (0.535) | 8.20 (0.323) | 10.2 (0.400) | 1.60 \pm 0.10 (0.062 \pm 0.004) | 5 |

DIMENSIONS millimeters (inches)



SMPS Capacitors (RH Style)



RH - Surface Mount 'J' Lead Range

X7R STABLE DIELECTRIC

| Cap μ F | RH21/RH22 Style | | | | | RH31/RH32 Style | | | | | RH41/RH42 Style | | | | RH51/RH52 Style | | | | RH61/RH62 Style | | | |
|-------------|-----------------|----|-----|-----|-----|-----------------|-----|-----|------|----|-----------------|-----|------|----|-----------------|-----|-----|----|-----------------|-----|-----|--|
| | 25 | 50 | 100 | 200 | 500 | 50 | 100 | 200 | 500 | 50 | 100 | 200 | 500 | 50 | 100 | 200 | 500 | 50 | 100 | 200 | 500 | |
| 0.047 | | | | | | | | | | | | | | | | | | | | | | |
| 0.056 | | | | | | | | | | | | | | | | | | | | | | |
| 0.068 | | | | | | | | | RH31 | | | | | | | | | | | | | |
| 0.082 | | | | | | | | | | | | | | | | | | | | | | |
| 0.1 | | | | | | | | | | | | | | | | | | | | | | |
| 0.12 | | | | | | | | | | | | | | | | | | | | | | |
| 0.15 | | | | | | | | | RH32 | | | | RH41 | | | | | | | | | |
| 0.18 | | | | | | | | | | | | | | | | | | | | | | |
| 0.22 | | | | | | | | | | | | | | | | | | | | | | |
| 0.27 | | | | | | | | | RH31 | | | | RH42 | | | | | | | | | |
| 0.33 | | | | | | | | | | | | | | | | | | | | | | |
| 0.39 | | | | | | | | | | | | | | | | | | | | | | |
| 0.47 | | | | | | | | | | | | | RH41 | | | | | | | | | |
| 0.56 | | | | | | | | | RH32 | | | | | | | | | | | | | |
| 0.68 | | | | | | | | | | | | | | | | | | | | | | |
| 0.78 | | | | | | | | | | | | | | | | | | | | | | |
| 0.82 | | | | | | | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | RH31 | | | | | | | | | | | | | |
| 1.2 | | | | | | | | | | | | | | | | | | | | | | |
| 1.5 | | | | | | | | | RH31 | | | | | | | | | | | | | |
| 1.8 | | | | | | | | | | | | | | | | | | | | | | |
| 2.2 | | | | | | | | | | | | | | | | | | | | | | |
| 2.7 | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | |
| 3.3 | | | | | | | | | | | | | | | | | | | | | | |
| 3.9 | | | | | | | | | | | | | | | | | | | | | | |
| 4.4 | | | | | | | | | | | | | | | | | | | | | | |
| 4.7 | | | | | | | | | | | | | | | | | | | | | | |
| 5.6 | | | | | | | | | | | | | | | | | | | | | | |
| 6.8 | | | | | | | | | | | | | | | | | | | | | | |
| 8.2 | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | | | | | | |
| 33 | | | | | | | | | | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | | | | | | | | | | |
| 47 | | | | | | | | | | | | | | | | | | | | | | |

For availability of further parts in the RH21/RH22 Series, contact manufacturing.

PACKAGING

| Style | Qty/Reel 13" | Max. Qty/Waffle Pack |
|-------|--------------|----------------------|
| RH21 | 800 | 270 |
| RH22 | 500 | 270 |
| RH31 | 800 | 108 |
| RH32 | 500 | 108 |
| RH41 | 800 | 108 |
| RH42 | see note | 100 |
| RH51 | 750 | 88 |
| RH52 | see note | 88 |
| RH61 | 500 | 42 |
| RH62 | see note | 42 |

Note: T&R is not yet available. Contact manufacturing for further information as this will be available in the future.

HOW TO ORDER

| | | | | | | | | | | |
|--|------------------|---|-----------------------------------|--|--|---|---|---|--|--|
| RH | 31 | 5 | C | 225 | M | A | 3 | 0 | A | 3 |
| Style Code (see table above) | Size Code | Voltage Code 3 = 25V 5 = 50V 1 = 100V 2 = 200V 7 = 500V | Dielectric Code C = X7R | Capacitance Code (2 significant digits + no. of zeros) eg. 105 = 1 μ F 104 = 0.1 μ F | Capacitance Tolerance K = \pm 10% M = \pm 20% | Specification Code A = Non customized | Package Code 3 = Waffle Pack A = Tape & Reel | Lead Dia. Code 0 = Standard R = RoHS Compliant | Lead Space Code A = Standard | Lead Style Code 3 = 'J' Lead |

