General Purpose, High Stability and AC Line EMI Suppression

# MMC Series Encapsulated Winding, Size 2220 – 6560, 50 – 400 VDC

The Capacitance Company
KEMET
CHARGED.

## Overview

KEMET's MMC Series polyester (PET) film capacitor for surface mounting is encapsulated in self-extinguishing material meeting the requirements of UL 94 V–0.

## Applications

Typical applications include bypassing and signal coupling. MMC is a general purpose series designed for the highest reliability.

## Benefits

- Rated voltage: 50 – 400 VDC
- Rated voltage: 30 – 200 VAC
- Capacitance range: 0.001 – 15 µF
- EIA size: 2220 – 6560
- Capacitance tolerance: ±10%, ±20%, other tolerances on request
- Climatic category: 55/100/56
- RoHS Compliant and lead-free terminations
- Operating temperature range of -55˚C to +100˚C


## Legacy Part Number System

| MMC | 5.7 | 102 | K | 50 | J31 | TR12 |
|---|---|---|---|---|---|---|
| Series | Chip Length (mm) | Capacitance Code (pF) | Capacitance Tolerance | Rated Voltage (VDC) | Size Code | Packaging Code |
| Metallized Polyester | 5.7<br>7.3<br>10.2<br>12.7<br>16.5 | First two digits indicate the two most significant digits of the capacitance value in picofarads. The third digit is the number of following zeros. | K = ±10%<br>M = ±20%<br>Other tolerances on request | 50<br>63<br>100<br>250<br>400 | See Dimension Table | See Ordering Options Table |

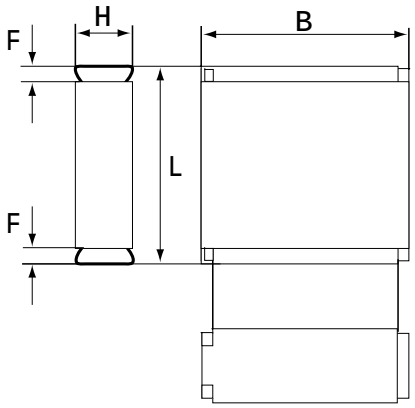
## New KEMET Part Number System

| F | 160 | P | L | 102 | K | 050 | V |
|---|---|---|---|---|---|---|---|
| Capacitor Class | Series | Chip Size | Size Code | Capacitance Code (pF) | Capacitance Tolerance | Rated Voltage (VDC) | Packaging Code |
| F = Film | Metallized Polyester | P = 2220<br>S = 2824<br>W = 4036<br>Y = 5045<br>Z = 6560 | See Dimension Table | First two digits indicate the two most significant digits of the capacitance value in picofarads. The third digit is the number of following zeros. | K = ±10%<br>M = ±20%<br>Other tolerances on request | 050 = 50<br>063 = 63<br>100 = 100<br>250 = 250<br>400 = 400 | See Ordering Options Table |

## Ordering Options Table

| Chip Size (EIA) | Packaging Type | KEMET Packaging Code | Legacy Packaging Code |
|---|---|---|---|
| 2220 | Standard Packaging Options | | |
| | Tape & Reel (Standard Reel) | V | TR12 |
| | Bulk (Bag) | A | BULK |
| | | | |
| 2824 | Standard Packaging Options | | |
| | Tape & Reel (Standard Reel) | V | TR12 |
| | Bulk (Bag) | A | BULK |
| | | | |
| 4036 | Standard Packaging Options | | |
| | Tape & Reel (Standard Reel) | V | TR16 |
| | Bulk (Bag) | A | BULK |
| | Other Packaging Options | | |
| | Tape & Reel (Vertical Orientation Standard Reel) | Y | TV24 |
| | | | |
| 5045 | Standard Packaging Options | | |
| | Tape & Reel (Standard Reel) | V | TR24 |
| | Bulk (Bag) | A | BULK |
| | Other Packaging Options | | |
| | Tape & Reel (Vertical Orientation Standard Reel) | Y | TV24 |
| | | | |
| 6560 | Standard Packaging Options | | |
| | Tape & Reel (Standard Reel) | V | TR24 |
| | Bulk (Bag) | A | BULK |
| | Other Packaging Options | | |
| | Tape & Reel (Vertical Orientation Standard Reel) | Y | TV44 |

## Dimensions – Millimeters




| KEMET Size Code | Legacy Size Code | Chip Size (EIA) | B | | H | | L | | F | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Nominal | Tolerance | Nominal | Tolerance | Nominal | Tolerance | Nominal | Tolerance |
| PL | J31 | 2220 | 5.0 | +/-0.2 | 2.5 | +/-0.2 | 5.7 | +/-0.2 | 0.5 | Nominal |
| PP | J33 | 2220 | 5.0 | +/-0.2 | 3.0 | +/-0.2 | 5.7 | +/-0.2 | 0.5 | Nominal |
| PU | J35 | 2220 | 5.0 | +/-0.2 | 4.0 | +/-0.2 | 5.7 | +/-0.2 | 0.5 | Nominal |
| SG | K31 | 2824 | 6.0 | +/-0.2 | 2.5 | +/-0.2 | 7.3 | +/-0.2 | 0.5 | Nominal |
| SL | K33 | 2824 | 6.0 | +/-0.2 | 3.0 | +/-0.2 | 7.3 | +/-0.2 | 0.5 | Nominal |
| SP | K35 | 2824 | 6.0 | +/-0.2 | 3.5 | +/-0.2 | 7.3 | +/-0.2 | 0.5 | Nominal |
| ST | K37 | 2824 | 6.0 | +/-0.2 | 4.5 | +/-0.2 | 7.3 | +/-0.2 | 0.5 | Nominal |
| WP | A31 | 4036 | 9.1 | +/-0.2 | 5.5 | +/-0.2 | 10.2 | +/-0.2 | 0.5 | Nominal |
| YR | B31 | 5045 | 11.5 | +/-0.2 | 6.5 | +/-0.2 | 12.7 | +/-0.2 | 0.5 | Nominal |
| ZS | C31 | 6560 | 15 | +/-0.2 | 7.0 | +/-0.2 | 16.5 | +/-0.2 | 0.5 | Nominal |

## Environmental Compliance

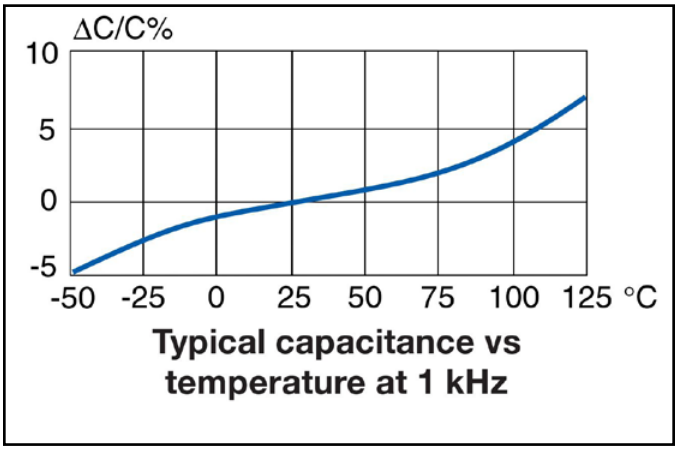
All KEMET surface mount capacitors are RoHS Compliant.

RoHS Compliant

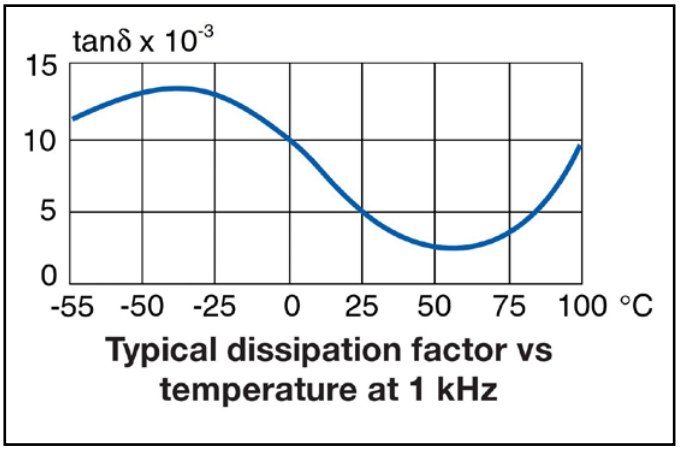
## Performance Characteristics

| | | | | | |
|---|---|---|---|---|---|
| Rated Voltage (VDC) | 50 | 63 | 100 | 250 | 400 |
| Rated Voltage (VAC) | 30 | 40 | 63 | 160 | 200 |
| Capacitance Range (µF) | 0.001 – 15 | 0.001 – 4.7 | 0.001 – 3.3 | 0.001 – 1 | 0.001 – 0.47 |
| Chip Size (EIA) | 2220 – 6560 | | | | |
| Capacitance Tolerance | ±10%, ±20%, other tolerances on request | | | | |
| Category Temperature Range | -55°C to +100°C | | | | |
| Rated Temperature | +85°C | | | | |
| Voltage Derating | The rated voltage is decreased with 1.25%/°C from +85°C | | | | |
| Climatic Category | 55/100/56 | | | | |
| Test Voltage | 1.6 x $V_R$, 60 seconds | | | | |
| Insulation Resistance | Measured at +20°C According to IEC 60384–2 | | | | |
| | Minimum Values Between Terminals | | | | |
| | | C ≤ 0.33 µF | | C > 0.33 µF | |
| | $V_R$ ≤ 100 | 10,000 MΩ | | 3,000 MΩ • µF | |
| | $V_R$ > 100 | 30,000 MΩ | | 10,000 MΩ • µF | |
| Dissipation Factor | Maximum Values at +23°C | | | | |
| | | C ≤ 0.1 µF | 0.1 < C < 1 µF | 1 ≤ C ≤ 10 µF | C > 10 µF |
| | 1 kHz | 0.8% | 0.8% | 0.8% | 0.8% |
| | 10 kHz | 1.2% | 1.2% | 1.5% | 3.0% |
| | 100 kHz | 2.5% | 3.0% | | |
| Pulse Rise Time | The capacitors can withstand an unlimited number of pulses with a dV/dt according to Table 1. For voltages (V) lower than the rated voltage ($V_R$), the specified dV/dt can be multiplied by $V_R$/V. | | | | |

## Capacitance vs. Temperature




## Dissipation Factor vs. Temperature



## Table 1 – Ratings & Part Number Reference

| VDC | VAC | Cap Value (µF) | Size Code (New/Legacy) | Dimensions in mm | | | Chip Size | dV/dt (V/µs) | New KEMET Part Number | Legacy Part Number |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | B | H | L | | | | |
| 50 | 30 | 0.0010 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL102(1)050(2) | MMC5.7102(1)50J31(2) |
| 50 | 30 | 0.0012 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL122(1)050(2) | MMC5.7122(1)50J31(2) |
| 50 | 30 | 0.0015 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL152(1)050(2) | MMC5.7152(1)50J31(2) |
| 50 | 30 | 0.0018 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL182(1)050(2) | MMC5.7182(1)50J31(2) |
| 50 | 30 | 0.0022 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL222(1)050(2) | MMC5.7222(1)50J31(2) |
| 50 | 30 | 0.0027 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL272(1)050(2) | MMC5.7272(1)50J31(2) |
| 50 | 30 | 0.0033 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL332(1)050(2) | MMC5.7332(1)50J31(2) |
| 50 | 30 | 0.0039 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL392(1)050(2) | MMC5.7392(1)50J31(2) |
| 50 | 30 | 0.0047 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL472(1)050(2) | MMC5.7472(1)50J31(2) |
| 50 | 30 | 0.0056 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL562(1)050(2) | MMC5.7562(1)50J31(2) |
| 50 | 30 | 0.0068 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL682(1)050(2) | MMC5.7682(1)50J31(2) |
| 50 | 30 | 0.0082 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL822(1)050(2) | MMC5.7822(1)50J31(2) |
| 50 | 30 | 0.010 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL103(1)050(2) | MMC5.7103(1)50J31(2) |
| 50 | 30 | 0.012 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL123(1)050(2) | MMC5.7123(1)50J31(2) |
| 50 | 30 | 0.015 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 30 | F160PL153(1)050(2) | MMC5.7153(1)50J31(2) |
| 50 | 30 | 0.018 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 30 | F160PL183(1)050(2) | MMC5.7183(1)50J31(2) |
| 50 | 30 | 0.022 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 30 | F160PL223(1)050(2) | MMC5.7223(1)50J31(2) |
| 50 | 30 | 0.027 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 30 | F160PL273(1)050(2) | MMC5.7273(1)50J31(2) |
| 50 | 30 | 0.033 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 30 | F160PL333(1)050(2) | MMC5.7333(1)50J31(2) |
| 50 | 30 | 0.039 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 30 | F160PL393(1)050(2) | MMC5.7393(1)50J31(2) |
| 50 | 30 | 0.047 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 30 | F160PL473(1)050(2) | MMC5.7473(1)50J31(2) |
| 50 | 30 | 0.056 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 30 | F160PL563(1)050(2) | MMC5.7563(1)50J31(2) |
| 50 | 30 | 0.068 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 20 | F160PL683(1)050(2) | MMC5.7683(1)50J31(2) |
| 50 | 30 | 0.082 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 20 | F160PL823(1)050(2) | MMC5.7823(1)50J31(2) |
| 50 | 30 | 0.10 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 20 | F160PL104(1)050(2) | MMC5.7104(1)50J31(2) |
| 50 | 30 | 0.12 | PP/J33 | 5.0 | 3.0 | 5.7 | 2220 | 20 | F160PP124(1)050(2) | MMC5.7124(1)50J33(2) |
| 50 | 30 | 0.15 | PP/J33 | 5.0 | 3.0 | 5.7 | 2220 | 20 | F160PP154(1)050(2) | MMC5.7154(1)50J33(2) |
| 50 | 30 | 0.18 | PU/J35 | 5.0 | 4.0 | 5.7 | 2220 | 20 | F160PU184(1)050(2) | MMC5.7184(1)50J35(2) |
| 50 | 30 | 0.22 | PU/J35 | 5.0 | 4.0 | 5.7 | 2220 | 20 | F160PU224(1)050(2) | MMC5.7224(1)50J35(2) |
| 50 | 30 | 0.0010 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG102(1)050(2) | MMC7.3102(1)50K31(2) |
| 50 | 30 | 0.0012 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG122(1)050(2) | MMC7.3122(1)50K31(2) |
| 50 | 30 | 0.0015 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG152(1)050(2) | MMC7.3152(1)50K31(2) |
| 50 | 30 | 0.0018 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG182(1)050(2) | MMC7.3182(1)50K31(2) |
| 50 | 30 | 0.0022 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG222(1)050(2) | MMC7.3222(1)50K31(2) |
| 50 | 30 | 0.0027 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG272(1)050(2) | MMC7.3272(1)50K31(2) |
| 50 | 30 | 0.0033 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG332(1)050(2) | MMC7.3332(1)50K31(2) |
| 50 | 30 | 0.0039 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG392(1)050(2) | MMC7.3392(1)50K31(2) |
| 50 | 30 | 0.0047 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG472(1)050(2) | MMC7.3472(1)50K31(2) |
| 50 | 30 | 0.0056 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG562(1)050(2) | MMC7.3562(1)50K31(2) |
| 50 | 30 | 0.0068 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 40 | F160SG682(1)050(2) | MMC7.3682(1)50K31(2) |
| 50 | 30 | 0.0082 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 40 | F160SG822(1)050(2) | MMC7.3822(1)50K31(2) |
| 50 | 30 | 0.010 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 40 | F160SG103(1)050(2) | MMC7.3103(1)50K31(2) |
| 50 | 30 | 0.012 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 40 | F160SG123(1)050(2) | MMC7.3123(1)50K31(2) |
| 50 | 30 | 0.015 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 40 | F160SG153(1)050(2) | MMC7.3153(1)50K31(2) |
| 50 | 30 | 0.018 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 40 | F160SG183(1)050(2) | MMC7.3183(1)50K31(2) |
| 50 | 30 | 0.022 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG223(1)050(2) | MMC7.3223(1)50K31(2) |
| 50 | 30 | 0.027 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG273(1)050(2) | MMC7.3273(1)50K31(2) |
| 50 | 30 | 0.033 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG333(1)050(2) | MMC7.3333(1)50K31(2) |
| 50 | 30 | 0.039 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG393(1)050(2) | MMC7.3393(1)50K31(2) |
| 50 | 30 | 0.047 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG473(1)050(2) | MMC7.3473(1)50K31(2) |
| 50 | 30 | 0.056 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG563(1)050(2) | MMC7.3563(1)50K31(2) |
| 50 | 30 | 0.068 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG683(1)050(2) | MMC7.3683(1)50K31(2) |
| 50 | 30 | 0.082 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG823(1)050(2) | MMC7.3823(1)50K31(2) |
| 50 | 30 | 0.10 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG104(1)050(2) | MMC7.3104(1)50K31(2) |
| 50 | 30 | 0.12 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG124(1)050(2) | MMC7.3124(1)50K31(2) |
| 50 | 30 | 0.15 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 25 | F160SG154(1)050(2) | MMC7.3154(1)50K31(2) |
| 50 | 30 | 0.18 | SL/K33 | 6.0 | 3.0 | 7.3 | 2824 | 25 | F160SL184(1)050(2) | MMC7.3184(1)50K33(2) |
| 50 | 30 | 0.22 | SL/K33 | 6.0 | 3.0 | 7.3 | 2824 | 25 | F160SL224(1)050(2) | MMC7.3224(1)50K33(2) |
| 50 | 30 | 0.27 | SP/K35 | 6.0 | 3.5 | 7.3 | 2824 | 25 | F160SP274(1)050(2) | MMC7.3274(1)50K35(2) |
| VDC | VAC | Cap Value (µF) | Size Code (New/Legacy) | B (mm) | H (mm) | L (mm) | Chip Size | dV/dt (V/µs) | New KEMET Part Number | Legacy Part Number |

*(1) K = ±10%, M = ±20%, other tolerances on request.*

*(2) Insert ordering code for lead type and packaging. See Ordering Options Table for available options.*

## Table 1 – Ratings & Part Number Reference cont'd

| VDC | VAC | Cap Value (µF) | Size Code (New/Legacy) | Dimensions in mm | | | Chip Size | dV/dt (V/µs) | New KEMET Part Number | Legacy Part Number |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | B | H | L | | | | |
| 50 | 30 | 0.33 | SP/K35 | 6.0 | 3.5 | 7.3 | 2824 | 25 | F160SP334(1)050(2) | MMC7.3334(1)50K35(2) |
| 50 | 30 | 0.39 | SP/K35 | 6.0 | 3.5 | 7.3 | 2824 | 25 | F160SP394(1)050(2) | MMC7.3394(1)50K35(2) |
| 50 | 30 | 0.47 | SP/K35 | 6.0 | 3.5 | 7.3 | 2824 | 25 | F160SP474(1)050(2) | MMC7.3474(1)50K35(2) |
| 50 | 30 | 0.56 | ST/K37 | 6.0 | 4.5 | 7.3 | 2824 | 12 | F160ST564(1)050(2) | MMC7.3564(1)50K37(2) |
| 50 | 30 | 0.68 | ST/K37 | 6.0 | 4.5 | 7.3 | 2824 | 12 | F160ST684(1)050(2) | MMC7.3684(1)50K37(2) |
| 50 | 30 | 0.82 | ST/K37 | 6.0 | 4.5 | 7.3 | 2824 | 12 | F160ST824(1)050(2) | MMC7.3824(1)50K37(2) |
| 50 | 30 | 1.0 | ST/K37 | 6.0 | 4.5 | 7.3 | 2824 | 12 | F160ST105(1)050(2) | MMC7.3105(1)50K37(2) |
| 50 | 30 | 0.022 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP223(1)050(2) | MMC10.2223(1)50A31(2) |
| 50 | 30 | 0.027 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP273(1)050(2) | MMC10.2273(1)50A31(2) |
| 50 | 30 | 0.033 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP333(1)050(2) | MMC10.2333(1)50A31(2) |
| 50 | 30 | 0.039 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP393(1)050(2) | MMC10.2393(1)50A31(2) |
| 50 | 30 | 0.047 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP473(1)050(2) | MMC10.2473(1)50A31(2) |
| 50 | 30 | 0.056 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP563(1)050(2) | MMC10.2563(1)50A31(2) |
| 50 | 30 | 0.068 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP683(1)050(2) | MMC10.2683(1)50A31(2) |
| 50 | 30 | 0.082 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP823(1)050(2) | MMC10.2823(1)50A31(2) |
| 50 | 30 | 0.10 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 30 | F160WP104(1)050(2) | MMC10.2104(1)50A31(2) |
| 50 | 30 | 0.12 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 30 | F160WP124(1)050(2) | MMC10.2124(1)50A31(2) |
| 50 | 30 | 0.15 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 30 | F160WP154(1)050(2) | MMC10.2154(1)50A31(2) |
| 50 | 30 | 0.18 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 20 | F160WP184(1)050(2) | MMC10.2184(1)50A31(2) |
| 50 | 30 | 0.22 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 20 | F160WP224(1)050(2) | MMC10.2224(1)50A31(2) |
| 50 | 30 | 0.27 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 20 | F160WP274(1)050(2) | MMC10.2274(1)50A31(2) |
| 50 | 30 | 0.33 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 20 | F160WP334(1)050(2) | MMC10.2334(1)50A31(2) |
| 50 | 30 | 0.39 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 20 | F160WP394(1)050(2) | MMC10.2394(1)50A31(2) |
| 50 | 30 | 0.47 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 20 | F160WP474(1)050(2) | MMC10.2474(1)50A31(2) |
| 50 | 30 | 0.56 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 12 | F160WP564(1)050(2) | MMC10.2564(1)50A31(2) |
| 50 | 30 | 0.68 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 12 | F160WP684(1)050(2) | MMC10.2684(1)50A31(2) |
| 50 | 30 | 0.82 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 12 | F160WP824(1)050(2) | MMC10.2824(1)50A31(2) |
| 50 | 30 | 1.0 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 12 | F160WP105(1)050(2) | MMC10.2105(1)50A31(2) |
| 50 | 30 | 1.2 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 12 | F160WP125(1)050(2) | MMC10.2125(1)50A31(2) |
| 50 | 30 | 1.5 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 12 | F160WP155(1)050(2) | MMC10.2155(1)50A31(2) |
| 50 | 30 | 1.8 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 12 | F160WP185(1)050(2) | MMC10.2185(1)50A31(2) |
| 50 | 30 | 2.2 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 12 | F160WP225(1)050(2) | MMC10.2225(1)50A31(2) |
| 50 | 30 | 2.7 | YR/B31 | 11.5 | 6.5 | 12.7 | 5045 | 8 | F160YR275(1)050(2) | MMC12.7275(1)50B31(2) |
| 50 | 30 | 3.3 | YR/B31 | 11.5 | 6.5 | 12.7 | 5045 | 8 | F160YR335(1)050(2) | MMC12.7335(1)50B31(2) |
| 50 | 30 | 3.9 | YR/B31 | 11.5 | 6.5 | 12.7 | 5045 | 8 | F160YR395(1)050(2) | MMC12.7395(1)50B31(2) |
| 50 | 30 | 4.7 | YR/B31 | 11.5 | 6.5 | 12.7 | 5045 | 8 | F160YR475(1)050(2) | MMC12.7475(1)50B31(2) |
| 50 | 30 | 5.6 | ZS/C31 | 15.0 | 7.0 | 16.5 | 5045 | 5 | F160ZS565(1)050(2) | MMC16.5565(1)50C31(2) |
| 50 | 30 | 6.8 | ZS/C31 | 15.0 | 7.0 | 16.5 | 5045 | 5 | F160ZS685(1)050(2) | MMC16.5685(1)50C31(2) |
| 50 | 30 | 8.2 | ZS/C31 | 15.0 | 7.0 | 16.5 | 5045 | 5 | F160ZS825(1)050(2) | MMC16.5825(1)50C31(2) |
| 50 | 30 | 10.0 | ZS/C31 | 15.0 | 7.0 | 16.5 | 5045 | 5 | F160ZS106(1)050(2) | MMC16.5106(1)50C31(2) |
| 50 | 30 | 12.0 | ZS/C31 | 15.0 | 7.0 | 16.5 | 5045 | 5 | F160ZS126(1)050(2) | MMC16.5126(1)50C31(2) |
| 50 | 30 | 15.0 | ZS/C31 | 15.0 | 7.0 | 16.5 | 5045 | 5 | F160ZS156(1)050(2) | MMC16.5156(1)50C31(2) |
| 63 | 40 | 0.0010 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG102(1)063(2) | MMC7.3102(1)63K31(2) |
| 63 | 40 | 0.0012 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG122(1)063(2) | MMC7.3122(1)63K31(2) |
| 63 | 40 | 0.0015 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG152(1)063(2) | MMC7.3152(1)63K31(2) |
| 63 | 40 | 0.0018 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG182(1)063(2) | MMC7.3182(1)63K31(2) |
| 63 | 40 | 0.0022 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG222(1)063(2) | MMC7.3222(1)63K31(2) |
| 63 | 40 | 0.0027 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG272(1)063(2) | MMC7.3272(1)63K31(2) |
| 63 | 40 | 0.0033 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG332(1)063(2) | MMC7.3332(1)63K31(2) |
| 63 | 40 | 0.0039 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG392(1)063(2) | MMC7.3392(1)63K31(2) |
| 63 | 40 | 0.0047 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG472(1)063(2) | MMC7.3472(1)63K31(2) |
| 63 | 40 | 0.0056 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG562(1)063(2) | MMC7.3562(1)63K31(2) |
| 63 | 40 | 0.0068 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 40 | F160SG682(1)063(2) | MMC7.3682(1)63K31(2) |
| 63 | 40 | 0.0082 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 40 | F160SG822(1)063(2) | MMC7.3822(1)63K31(2) |
| 63 | 40 | 0.010 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 40 | F160SG103(1)063(2) | MMC7.3103(1)63K31(2) |
| 63 | 40 | 0.012 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 40 | F160SG123(1)063(2) | MMC7.3123(1)63K31(2) |
| 63 | 40 | 0.015 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 40 | F160SG153(1)063(2) | MMC7.3153(1)63K31(2) |
| 63 | 40 | 0.018 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 40 | F160SG183(1)063(2) | MMC7.3183(1)63K31(2) |
| 63 | 40 | 0.022 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG223(1)063(2) | MMC7.3223(1)63K31(2) |
| VDC | VAC | Cap Value (µF) | Size Code (New/Legacy) | B (mm) | H (mm) | L (mm) | Chip Size | dV/dt (V/µs) | New KEMET Part Number | Legacy Part Number |

*(1) K = ±10%, M = ±20%, other tolerances on request.*

*(2) Insert ordering code for lead type and packaging. See Ordering Options Table for available options.*

## Table 1 – Ratings & Part Number Reference cont'd

| VDC | VAC | Cap Value (µF) | Size Code (New/Legacy) | Dimensions in mm | | | Chip Size | dV/dt (V/µs) | New KEMET Part Number | Legacy Part Number |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | B | H | L | | | | |
| 63 | 40 | 0.027 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG273(1)063(2) | MMC7.3273(1)63K31(2) |
| 63 | 40 | 0.033 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG333(1)063(2) | MMC7.3333(1)63K31(2) |
| 63 | 40 | 0.039 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG393(1)063(2) | MMC7.3393(1)63K31(2) |
| 63 | 40 | 0.047 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG473(1)063(2) | MMC7.3473(1)63K31(2) |
| 63 | 40 | 0.056 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG563(1)063(2) | MMC7.3563(1)63K31(2) |
| 63 | 40 | 0.068 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG683(1)063(2) | MMC7.3683(1)63K31(2) |
| 63 | 40 | 0.082 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG823(1)063(2) | MMC7.3823(1)63K31(2) |
| 63 | 40 | 0.10 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG104(1)063(2) | MMC7.3104(1)63K31(2) |
| 63 | 40 | 0.12 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG124(1)063(2) | MMC7.3124(1)63K31(2) |
| 63 | 40 | 0.15 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG154(1)063(2) | MMC7.3154(1)63K31(2) |
| 63 | 40 | 0.18 | SL/K33 | 6.0 | 3.0 | 7.3 | 2824 | 25 | F160SL184(1)063(2) | MMC7.3184(1)63K33(2) |
| 63 | 40 | 0.22 | SL/K33 | 6.0 | 3.0 | 7.3 | 2824 | 25 | F160SL224(1)063(2) | MMC7.3224(1)63K33(2) |
| 63 | 40 | 0.27 | SP/K35 | 6.0 | 3.5 | 7.3 | 2824 | 25 | F160SP274(1)063(2) | MMC7.3274(1)63K35(2) |
| 63 | 40 | 0.33 | SP/K35 | 6.0 | 3.5 | 7.3 | 2824 | 25 | F160SP334(1)063(2) | MMC7.3334(1)63K35(2) |
| 63 | 40 | 0.39 | SP/K35 | 6.0 | 3.5 | 7.3 | 2824 | 25 | F160SP394(1)063(2) | MMC7.3394(1)63K35(2) |
| 63 | 40 | 0.47 | SP/K35 | 6.0 | 3.5 | 7.3 | 2824 | 25 | F160SP474(1)063(2) | MMC7.3474(1)63K35(2) |
| 63 | 40 | 0.022 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP223(1)063(2) | MMC10.2223(1)63A31(2) |
| 63 | 40 | 0.027 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP273(1)063(2) | MMC10.2273(1)63A31(2) |
| 63 | 40 | 0.033 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP333(1)063(2) | MMC10.2333(1)63A31(2) |
| 63 | 40 | 0.039 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP393(1)063(2) | MMC10.2393(1)63A31(2) |
| 63 | 40 | 0.047 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP473(1)063(2) | MMC10.2473(1)63A31(2) |
| 63 | 40 | 0.056 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP563(1)063(2) | MMC10.2563(1)63A31(2) |
| 63 | 40 | 0.068 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP683(1)063(2) | MMC10.2683(1)63A31(2) |
| 63 | 40 | 0.082 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP823(1)063(2) | MMC10.2823(1)63A31(2) |
| 63 | 40 | 0.10 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 30 | F160WP104(1)063(2) | MMC10.2104(1)63A31(2) |
| 63 | 40 | 0.12 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 30 | F160WP124(1)063(2) | MMC10.2124(1)63A31(2) |
| 63 | 40 | 0.15 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 30 | F160WP154(1)063(2) | MMC10.2154(1)63A31(2) |
| 63 | 40 | 0.18 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 20 | F160WP184(1)063(2) | MMC10.2184(1)63A31(2) |
| 63 | 40 | 0.22 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 20 | F160WP224(1)063(2) | MMC10.2224(1)63A31(2) |
| 63 | 40 | 0.27 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 20 | F160WP274(1)063(2) | MMC10.2274(1)63A31(2) |
| 63 | 40 | 0.33 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 20 | F160WP334(1)063(2) | MMC10.2334(1)63A31(2) |
| 63 | 40 | 0.39 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 20 | F160WP394(1)063(2) | MMC10.2394(1)63A31(2) |
| 63 | 40 | 0.47 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 20 | F160WP474(1)063(2) | MMC10.2474(1)63A31(2) |
| 63 | 40 | 0.56 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 12 | F160WP564(1)063(2) | MMC10.2564(1)63A31(2) |
| 63 | 40 | 0.68 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 12 | F160WP684(1)063(2) | MMC10.2684(1)63A31(2) |
| 63 | 40 | 0.82 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 12 | F160WP824(1)063(2) | MMC10.2824(1)63A31(2) |
| 63 | 40 | 1.0 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 12 | F160WP105(1)063(2) | MMC10.2105(1)63A31(2) |
| 63 | 40 | 1.2 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 12 | F160WP125(1)063(2) | MMC10.2125(1)63A31(2) |
| 63 | 40 | 1.5 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 12 | F160WP155(1)063(2) | MMC10.2155(1)63A31(2) |
| 63 | 40 | 1.8 | YR/B31 | 11.5 | 6.5 | 12.7 | 6560 | 8 | F160YR185(1)063(2) | MMC12.7185(1)63B31(2) |
| 63 | 40 | 2.2 | YR/B31 | 11.5 | 6.5 | 12.7 | 6560 | 8 | F160YR225(1)063(2) | MMC12.7225(1)63B31(2) |
| 63 | 40 | 2.7 | YR/B31 | 11.5 | 6.5 | 12.7 | 6560 | 8 | F160YR275(1)063(2) | MMC12.7275(1)63B31(2) |
| 63 | 40 | 3.3 | YR/B31 | 11.5 | 6.5 | 12.7 | 6560 | 8 | F160YR335(1)063(2) | MMC12.7335(1)63B31(2) |
| 63 | 40 | 3.9 | ZS/C31 | 15.0 | 7.0 | 16.5 | 6560 | 5 | F160ZS395(1)063(2) | MMC16.5395(1)63C31(2) |
| 63 | 40 | 4.7 | ZS/C31 | 15.0 | 7.0 | 16.5 | 6560 | 5 | F160ZS475(1)063(2) | MMC16.5475(1)63C31(2) |
| 100 | 63 | 0.0010 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL102(1)100(2) | MMC5.7102(1)100J31(2) |
| 100 | 63 | 0.0012 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL122(1)100(2) | MMC5.7122(1)100J31(2) |
| 100 | 63 | 0.0015 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL152(1)100(2) | MMC5.7152(1)100J31(2) |
| 100 | 63 | 0.0018 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL182(1)100(2) | MMC5.7182(1)100J31(2) |
| 100 | 63 | 0.0022 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL222(1)100(2) | MMC5.7222(1)100J31(2) |
| 100 | 63 | 0.0027 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL272(1)100(2) | MMC5.7272(1)100J31(2) |
| 100 | 63 | 0.0033 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL332(1)100(2) | MMC5.7332(1)100J31(2) |
| 100 | 63 | 0.0039 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL392(1)100(2) | MMC5.7392(1)100J31(2) |
| 100 | 63 | 0.0047 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL472(1)100(2) | MMC5.7472(1)100J31(2) |
| 100 | 63 | 0.0056 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL562(1)100(2) | MMC5.7562(1)100J31(2) |
| 100 | 63 | 0.0068 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL682(1)100(2) | MMC5.7682(1)100J31(2) |
| 100 | 63 | 0.0082 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL822(1)100(2) | MMC5.7822(1)100J31(2) |
| 100 | 63 | 0.010 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL103(1)100(2) | MMC5.7103(1)100J31(2) |
| 100 | 63 | 0.012 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL123(1)100(2) | MMC5.7123(1)100J31(2) |
| VDC | VAC | Cap Value (µF) | Size Code (New/Legacy) | B (mm) | H (mm) | L (mm) | Chip Size | dV/dt (V/µs) | New KEMET Part Number | Legacy Part Number |

*(1) K = ±10%, M = ±20%, other tolerances on request.*

*(2) Insert ordering code for lead type and packaging. See Ordering Options Table for available options.*

## Table 1 – Ratings & Part Number Reference cont'd

| VDC | VAC | Cap Value (µF) | Size Code (New/Legacy) | Dimensions in mm | | | Chip Size | dV/dt (V/µs) | New KEMET Part Number | Legacy Part Number |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | B | H | L | | | | |
| 100 | 63 | 0.015 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 30 | F160PL153(1)100(2) | MMC5.7153(1)100J31(2) |
| 100 | 63 | 0.018 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 30 | F160PL183(1)100(2) | MMC5.7183(1)100J31(2) |
| 100 | 63 | 0.022 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 30 | F160PL223(1)100(2) | MMC5.7223(1)100J31(2) |
| 100 | 63 | 0.027 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 30 | F160PL273(1)100(2) | MMC5.7273(1)100J31(2) |
| 100 | 63 | 0.033 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 30 | F160PL333(1)100(2) | MMC5.7333(1)100J31(2) |
| 100 | 63 | 0.039 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 30 | F160PL393(1)100(2) | MMC5.7393(1)100J31(2) |
| 100 | 63 | 0.047 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 30 | F160PL473(1)100(2) | MMC5.7473(1)100J31(2) |
| 100 | 63 | 0.056 | PP/J33 | 5.0 | 3.0 | 5.7 | 2220 | 30 | F160PP563(1)100(2) | MMC5.7563(1)100J33(2) |
| 100 | 63 | 0.068 | PP/J33 | 5.0 | 3.0 | 5.7 | 2220 | 30 | F160PP683(1)100(2) | MMC5.7683(1)100J33(2) |
| 100 | 63 | 0.082 | PU/J35 | 5.0 | 4.0 | 5.7 | 2220 | 30 | F160PU823(1)100(2) | MMC5.7823(1)100J35(2) |
| 100 | 63 | 0.10 | PU/J35 | 5.0 | 4.0 | 5.7 | 2220 | 30 | F160PU104(1)100(2) | MMC5.7104(1)100J35(2) |
| 100 | 63 | 0.0010 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG102(1)100(2) | MMC7.3102(1)100K31(2) |
| 100 | 63 | 0.0012 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG122(1)100(2) | MMC7.3122(1)100K31(2) |
| 100 | 63 | 0.0015 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG152(1)100(2) | MMC7.3152(1)100K31(2) |
| 100 | 63 | 0.0018 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG182(1)100(2) | MMC7.3182(1)100K31(2) |
| 100 | 63 | 0.0022 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG222(1)100(2) | MMC7.3222(1)100K31(2) |
| 100 | 63 | 0.0027 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG272(1)100(2) | MMC7.3272(1)100K31(2) |
| 100 | 63 | 0.0033 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG332(1)100(2) | MMC7.3332(1)100K31(2) |
| 100 | 63 | 0.0039 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG392(1)100(2) | MMC7.3392(1)100K31(2) |
| 100 | 63 | 0.0047 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG472(1)100(2) | MMC7.3472(1)100K31(2) |
| 100 | 63 | 0.0056 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG562(1)100(2) | MMC7.3562(1)100K31(2) |
| 100 | 63 | 0.0068 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 40 | F160SG682(1)100(2) | MMC7.3682(1)100K31(2) |
| 100 | 63 | 0.0082 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 40 | F160SG822(1)100(2) | MMC7.3822(1)100K31(2) |
| 100 | 63 | 0.010 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 40 | F160SG103(1)100(2) | MMC7.3103(1)100K31(2) |
| 100 | 63 | 0.012 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 40 | F160SG123(1)100(2) | MMC7.3123(1)100K31(2) |
| 100 | 63 | 0.015 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 40 | F160SG153(1)100(2) | MMC7.3153(1)100K31(2) |
| 100 | 63 | 0.018 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 40 | F160SG183(1)100(2) | MMC7.3183(1)100K31(2) |
| 100 | 63 | 0.022 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG223(1)100(2) | MMC7.3223(1)100K31(2) |
| 100 | 63 | 0.027 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG273(1)100(2) | MMC7.3273(1)100K31(2) |
| 100 | 63 | 0.033 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG333(1)100(2) | MMC7.3333(1)100K31(2) |
| 100 | 63 | 0.039 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG393(1)100(2) | MMC7.3393(1)100K31(2) |
| 100 | 63 | 0.047 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG473(1)100(2) | MMC7.3473(1)100K31(2) |
| 100 | 63 | 0.056 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG563(1)100(2) | MMC7.3563(1)100K31(2) |
| 100 | 63 | 0.068 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG683(1)100(2) | MMC7.3683(1)100K31(2) |
| 100 | 63 | 0.082 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG823(1)100(2) | MMC7.3823(1)100K31(2) |
| 100 | 63 | 0.10 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 30 | F160SG104(1)100(2) | MMC7.3104(1)100K31(2) |
| 100 | 63 | 0.12 | SL/K33 | 6.0 | 3.0 | 7.3 | 2824 | 30 | F160SL124(1)100(2) | MMC7.3124(1)100K33(2) |
| 100 | 63 | 0.15 | SP/K35 | 6.0 | 3.5 | 7.3 | 2824 | 30 | F160SP154(1)100(2) | MMC7.3154(1)100K35(2) |
| 100 | 63 | 0.18 | SP/K35 | 6.0 | 3.5 | 7.3 | 2824 | 30 | F160SP184(1)100(2) | MMC7.3184(1)100K35(2) |
| 100 | 63 | 0.22 | ST/K35 | 6.0 | 4.5 | 7.3 | 2824 | 30 | F160ST224(1)100(2) | MMC7.3224(1)100K37(2) |
| 100 | 63 | 0.022 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP223(1)100(2) | MMC10.2223(1)100A31(2) |
| 100 | 63 | 0.027 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP273(1)100(2) | MMC10.2273(1)100A31(2) |
| 100 | 63 | 0.033 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP333(1)100(2) | MMC10.2333(1)100A31(2) |
| 100 | 63 | 0.039 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP393(1)100(2) | MMC10.2393(1)100A31(2) |
| 100 | 63 | 0.047 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP473(1)100(2) | MMC10.2473(1)100A31(2) |
| 100 | 63 | 0.056 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP563(1)100(2) | MMC10.2563(1)100A31(2) |
| 100 | 63 | 0.068 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP683(1)100(2) | MMC10.2683(1)100A31(2) |
| 100 | 63 | 0.082 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP823(1)100(2) | MMC10.2823(1)100A31(2) |
| 100 | 63 | 0.10 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 30 | F160WP104(1)100(2) | MMC10.2104(1)100A31(2) |
| 100 | 63 | 0.12 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 30 | F160WP124(1)100(2) | MMC10.2124(1)100A31(2) |
| 100 | 63 | 0.15 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 30 | F160WP154(1)100(2) | MMC10.2154(1)100A31(2) |
| 100 | 63 | 0.18 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 20 | F160WP184(1)100(2) | MMC10.2184(1)100A31(2) |
| 100 | 63 | 0.22 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 20 | F160WP224(1)100(2) | MMC10.2224(1)100A31(2) |
| 100 | 63 | 0.27 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 20 | F160WP274(1)100(2) | MMC10.2274(1)100A31(2) |
| 100 | 63 | 0.33 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 20 | F160WP334(1)100(2) | MMC10.2334(1)100A31(2) |
| 100 | 63 | 0.39 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 20 | F160WP394(1)100(2) | MMC10.2394(1)100A31(2) |
| 100 | 63 | 0.47 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 20 | F160WP474(1)100(2) | MMC10.2474(1)100A31(2) |
| 100 | 63 | 0.56 | YR/B31 | 11.5 | 6.5 | 12.7 | 5045 | 12 | F160YR564(1)100(2) | MMC12.7564(1)100B31(2) |
| 100 | 63 | 0.68 | YR/B31 | 11.5 | 6.5 | 12.7 | 5045 | 12 | F160YR684(1)100(2) | MMC12.7684(1)100B31(2) |
| VDC | VAC | Cap Value (µF) | Size Code (New/Legacy) | B (mm) | H (mm) | L (mm) | Chip Size | dV/dt (V/µs) | New KEMET Part Number | Legacy Part Number |

*(1) K = ±10%, M = ±20%, other tolerances on request.*

*(2) Insert ordering code for lead type and packaging. See Ordering Options Table for available options.*



Roll Over for Order Info.

## Table 1 – Ratings & Part Number Reference cont'd

| VDC | VAC | Cap Value (µF) | Size Code (New/Legacy) | Dimensions in mm | | | Chip Size | dV/dt (V/µs) | New KEMET Part Number | Legacy Part Number |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | B | H | L | | | | |
| 100 | 63 | 0.82 | YR/B31 | 11.5 | 6.5 | 12.7 | 5045 | 12 | F160YR824(1)100(2) | MMC12.7824(1)100B31(2) |
| 100 | 63 | 1.0 | YR/B31 | 11.5 | 6.5 | 12.7 | 5045 | 12 | F160YR105(1)100(2) | MMC12.7105(1)100B31(2) |
| 100 | 63 | 1.2 | ZS/C31 | 15.0 | 7.0 | 16.5 | 6560 | 8 | F160ZS125(1)100(2) | MMC16.5125(1)100C31(2) |
| 100 | 63 | 1.5 | ZS/C31 | 15.0 | 7.0 | 16.5 | 6560 | 8 | F160ZS155(1)100(2) | MMC16.5155(1)100C31(2) |
| 100 | 63 | 1.8 | ZS/C31 | 15.0 | 7.0 | 16.5 | 6560 | 8 | F160ZS185(1)100(2) | MMC16.5185(1)100C31(2) |
| 100 | 63 | 2.2 | ZS/C31 | 15.0 | 7.0 | 16.5 | 6560 | 8 | F160ZS225(1)100(2) | MMC16.5225(1)100C31(2) |
| 100 | 63 | 2.7 | ZS/C31 | 15.0 | 7.0 | 16.5 | 6560 | 8 | F160ZS275(1)100(2) | MMC16.5275(1)100C31(2) |
| 100 | 63 | 3.3 | ZS/C31 | 15.0 | 7.0 | 16.5 | 6560 | 8 | F160ZS335(1)100(2) | MMC16.5335(1)100C31(2) |
| 250 | 160 | 0.0010 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL102(1)250(2) | MMC5.7102(1)250J31(2) |
| 250 | 160 | 0.0012 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL122(1)250(2) | MMC5.7122(1)250J31(2) |
| 250 | 160 | 0.0015 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL152(1)250(2) | MMC5.7152(1)250J31(2) |
| 250 | 160 | 0.0018 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL182(1)250(2) | MMC5.7182(1)250J31(2) |
| 250 | 160 | 0.0022 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL222(1)250(2) | MMC5.7222(1)250J31(2) |
| 250 | 160 | 0.0027 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL272(1)250(2) | MMC5.7272(1)250J31(2) |
| 250 | 160 | 0.0033 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL332(1)250(2) | MMC5.7332(1)250J31(2) |
| 250 | 160 | 0.0039 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL392(1)250(2) | MMC5.7392(1)250J31(2) |
| 250 | 160 | 0.0047 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL472(1)250(2) | MMC5.7472(1)250J31(2) |
| 250 | 160 | 0.0056 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL562(1)250(2) | MMC5.7562(1)250J31(2) |
| 250 | 160 | 0.0068 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL682(1)250(2) | MMC5.7682(1)250J31(2) |
| 250 | 160 | 0.0082 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL822(1)250(2) | MMC5.7822(1)250J31(2) |
| 250 | 160 | 0.010 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL103(1)250(2) | MMC5.7103(1)250J31(2) |
| 250 | 160 | 0.012 | PL/J31 | 5.0 | 2.5 | 5.7 | 2220 | 40 | F160PL123(1)250(2) | MMC5.7123(1)250J31(2) |
| 250 | 160 | 0.015 | PP/J33 | 5.0 | 3.0 | 5.7 | 2220 | 40 | F160PP153(1)250(2) | MMC5.7153(1)250J33(2) |
| 250 | 160 | 0.018 | PU/J35 | 5.0 | 4.0 | 5.7 | 2220 | 40 | F160PU183(1)250(2) | MMC5.7183(1)250J35(2) |
| 250 | 160 | 0.022 | PU/J35 | 5.0 | 4.0 | 5.7 | 2220 | 40 | F160PU223(1)250(2) | MMC5.7223(1)250J35(2) |
| 250 | 160 | 0.0010 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG102(1)250(2) | MMC7.3102(1)250K31(2) |
| 250 | 160 | 0.0012 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG122(1)250(2) | MMC7.3122(1)250K31(2) |
| 250 | 160 | 0.0015 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG152(1)250(2) | MMC7.3152(1)250K31(2) |
| 250 | 160 | 0.0018 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG182(1)250(2) | MMC7.3182(1)250K31(2) |
| 250 | 160 | 0.0022 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG222(1)250(2) | MMC7.3222(1)250K31(2) |
| 250 | 160 | 0.0027 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG272(1)250(2) | MMC7.3272(1)250K31(2) |
| 250 | 160 | 0.0033 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG332(1)250(2) | MMC7.3332(1)250K31(2) |
| 250 | 160 | 0.0039 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG392(1)250(2) | MMC7.3392(1)250K31(2) |
| 250 | 160 | 0.0047 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG472(1)250(2) | MMC7.3472(1)250K31(2) |
| 250 | 160 | 0.0056 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG562(1)250(2) | MMC7.3562(1)250K31(2) |
| 250 | 160 | 0.0068 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 40 | F160SG682(1)250(2) | MMC7.3682(1)250K31(2) |
| 250 | 160 | 0.0082 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 40 | F160SG822(1)250(2) | MMC7.3822(1)250K31(2) |
| 250 | 160 | 0.010 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 40 | F160SG103(1)250(2) | MMC7.3103(1)250K31(2) |
| 250 | 160 | 0.012 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 40 | F160SG123(1)250(2) | MMC7.3123(1)250K31(2) |
| 250 | 160 | 0.015 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 40 | F160SG153(1)250(2) | MMC7.3153(1)250K31(2) |
| 250 | 160 | 0.018 | SL/K33 | 6.0 | 3.0 | 7.3 | 2824 | 40 | F160SL183(1)250(2) | MMC7.3183(1)250K33(2) |
| 250 | 160 | 0.022 | SL/K33 | 6.0 | 3.0 | 7.3 | 2824 | 40 | F160SL223(1)250(2) | MMC7.3223(1)250K33(2) |
| 250 | 160 | 0.027 | SP/K35 | 6.0 | 3.5 | 7.3 | 2824 | 40 | F160SP273(1)250(2) | MMC7.3273(1)250K35(2) |
| 250 | 160 | 0.033 | SP/K35 | 6.0 | 3.5 | 7.3 | 2824 | 40 | F160SP333(1)250(2) | MMC7.3333(1)250K35(2) |
| 250 | 160 | 0.039 | SP/K35 | 6.0 | 3.5 | 7.3 | 2824 | 40 | F160SP393(1)250(2) | MMC7.3393(1)250K35(2) |
| 250 | 160 | 0.047 | ST/K37 | 6.0 | 4.5 | 7.3 | 2824 | 40 | F160ST473(1)250(2) | MMC7.3473(1)250K37(2) |
| 250 | 160 | 0.022 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP223(1)250(2) | MMC10.2223(1)250A31(2) |
| 250 | 160 | 0.027 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP273(1)250(2) | MMC10.2273(1)250A31(2) |
| 250 | 160 | 0.033 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP333(1)250(2) | MMC10.2333(1)250A31(2) |
| 250 | 160 | 0.039 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP393(1)250(2) | MMC10.2393(1)250A31(2) |
| 250 | 160 | 0.047 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP473(1)250(2) | MMC10.2473(1)250A31(2) |
| 250 | 160 | 0.056 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP563(1)250(2) | MMC10.2563(1)250A31(2) |
| 250 | 160 | 0.068 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP683(1)250(2) | MMC10.2683(1)250A31(2) |
| 250 | 160 | 0.082 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP823(1)250(2) | MMC10.2823(1)250A31(2) |
| 250 | 160 | 0.10 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 30 | F160WP104(1)250(2) | MMC10.2104(1)250A31(2) |
| 250 | 160 | 0.12 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 30 | F160WP124(1)250(2) | MMC10.2124(1)250A31(2) |
| 250 | 160 | 0.15 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 30 | F160WP154(1)250(2) | MMC10.2154(1)250A31(2) |
| 250 | 160 | 0.18 | YR/B31 | 11.5 | 6.5 | 12.7 | 5045 | 20 | F160YR184(1)250(2) | MMC12.7184(1)250B31(2) |
| 250 | 160 | 0.22 | YR/B31 | 11.5 | 6.5 | 12.7 | 5045 | 20 | F160YR224(1)250(2) | MMC12.7224(1)250B31(2) |
| VDC | VAC | Cap Value (µF) | Size Code (New/Legacy) | B (mm) | H (mm) | L (mm) | Chip Size | dV/dt (V/µs) | New KEMET Part Number | Legacy Part Number |

*(1) K = ±10%, M = ±20%, other tolerances on request.*

*(2) Insert ordering code for lead type and packaging. See Ordering Options Table for available options.*

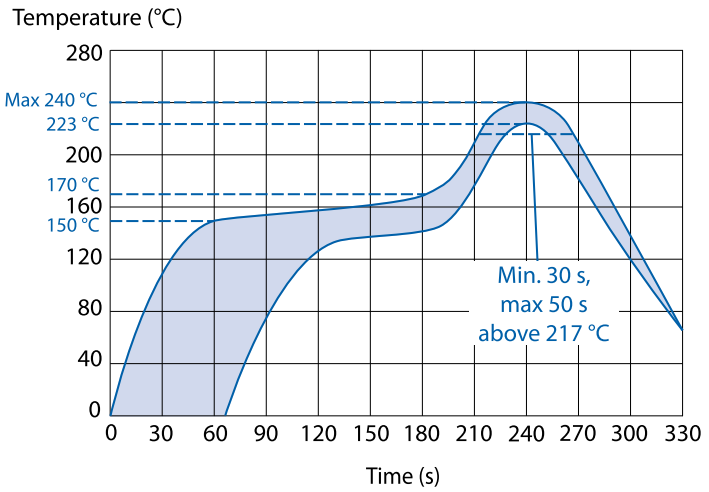
## Table 1 – Ratings & Part Number Reference cont'd

| VDC | VAC | Cap Value (µF) | Size Code (New/Legacy) | Dimensions in mm | | | Chip Size | dV/dt (V/µs) | New KEMET Part Number | Legacy Part Number |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | B | H | L | | | | |
| 250 | 160 | 0.27 | YR/B31 | 11.5 | 6.5 | 12.7 | 5045 | 20 | F160YR274(1)250(2) | MMC12.7274(1)250B31(2) |
| 250 | 160 | 0.33 | YR/B31 | 11.5 | 6.5 | 12.7 | 5045 | 20 | F160YR334(1)250(2) | MMC12.7334(1)250B31(2) |
| 250 | 160 | 0.39 | YR/B31 | 11.5 | 6.5 | 12.7 | 5045 | 20 | F160YR394(1)250(2) | MMC12.7394(1)250B31(2) |
| 250 | 160 | 0.47 | YR/B31 | 11.5 | 6.5 | 12.7 | 5045 | 20 | F160YR474(1)250(2) | MMC12.7474(1)250B31(2) |
| 250 | 160 | 0.56 | ZS/C31 | 15.0 | 7.0 | 16.5 | 6560 | 12 | F160ZS564(1)250(2) | MMC16.5564(1)250C31(2) |
| 250 | 160 | 0.68 | ZS/C31 | 15.0 | 7.0 | 16.5 | 6560 | 12 | F160ZS684(1)250(2) | MMC16.5684(1)250C31(2) |
| 250 | 160 | 0.82 | ZS/C31 | 15.0 | 7.0 | 16.5 | 6560 | 12 | F160ZS824(1)250(2) | MMC16.5824(1)250C31(2) |
| 250 | 160 | 1.0 | ZS/C31 | 15.0 | 7.0 | 16.5 | 6560 | 12 | F160ZS105(1)250(2) | MMC16.5105(1)250C31(2) |
| 400 | 200 | 0.0010 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG102(1)400(2) | MMC7.3102(1)400K31(2) |
| 400 | 200 | 0.0012 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG122(1)400(2) | MMC7.3122(1)400K31(2) |
| 400 | 200 | 0.0015 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG152(1)400(2) | MMC7.3152(1)400K31(2) |
| 400 | 200 | 0.0018 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG182(1)400(2) | MMC7.3182(1)400K31(2) |
| 400 | 200 | 0.0022 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG222(1)400(2) | MMC7.3222(1)400K31(2) |
| 400 | 200 | 0.0027 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG272(1)400(2) | MMC7.3272(1)400K31(2) |
| 400 | 200 | 0.0033 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG332(1)400(2) | MMC7.3332(1)400K31(2) |
| 400 | 200 | 0.0039 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG392(1)400(2) | MMC7.3392(1)400K31(2) |
| 400 | 200 | 0.0047 | SG/K31 | 6.0 | 2.5 | 7.3 | 2824 | 50 | F160SG472(1)400(2) | MMC7.3472(1)400K31(2) |
| 400 | 200 | 0.0056 | SL/K33 | 6.0 | 3.0 | 7.3 | 2824 | 50 | F160SL562(1)400(2) | MMC7.3562(1)400K33(2) |
| 400 | 200 | 0.0068 | SL/K33 | 6.0 | 3.0 | 7.3 | 2824 | 50 | F160SL682(1)400(2) | MMC7.3682(1)400K33(2) |
| 400 | 200 | 0.0082 | SL/K33 | 6.0 | 3.0 | 7.3 | 2824 | 50 | F160SL822(1)400(2) | MMC7.3822(1)400K33(2) |
| 400 | 200 | 0.010 | SP/K35 | 6.0 | 3.5 | 7.3 | 2824 | 50 | F160SP103(1)400(2) | MMC7.3103(1)400K35(2) |
| 400 | 200 | 0.012 | SP/K35 | 6.0 | 3.5 | 7.3 | 2824 | 50 | F160SP123(1)400(2) | MMC7.3123(1)400K35(2) |
| 400 | 200 | 0.015 | ST/K37 | 6.0 | 4.5 | 7.3 | 2824 | 50 | F160ST153(1)400(2) | MMC7.3153(1)400K37(2) |
| 400 | 200 | 0.022 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP223(1)400(2) | MMC10.2223(1)400A31(2) |
| 400 | 200 | 0.027 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP273(1)400(2) | MMC10.2273(1)400A31(2) |
| 400 | 200 | 0.033 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP333(1)400(2) | MMC10.2333(1)400A31(2) |
| 400 | 200 | 0.039 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP393(1)400(2) | MMC10.2393(1)400A31(2) |
| 400 | 200 | 0.047 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP473(1)400(2) | MMC10.2473(1)400A31(2) |
| 400 | 200 | 0.056 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP563(1)400(2) | MMC10.2563(1)400A31(2) |
| 400 | 200 | 0.068 | WP/A31 | 9.1 | 5.5 | 10.2 | 4036 | 40 | F160WP683(1)400(2) | MMC10.2683(1)400A31(2) |
| 400 | 200 | 0.082 | YR/B31 | 11.5 | 6.5 | 12.7 | 5045 | 30 | F160YR823(1)400(2) | MMC12.7823(1)400B31(2) |
| 400 | 200 | 0.10 | YR/B31 | 11.5 | 6.5 | 12.7 | 5045 | 30 | F160YR104(1)400(2) | MMC12.7104(1)400B31(2) |
| 400 | 200 | 0.12 | YR/B31 | 11.5 | 6.5 | 12.7 | 5045 | 30 | F160YR124(1)400(2) | MMC12.7124(1)400B31(2) |
| 400 | 200 | 0.15 | YR/B31 | 11.5 | 6.5 | 12.7 | 5045 | 30 | F160YR154(1)400(2) | MMC12.7154(1)400B31(2) |
| 400 | 200 | 0.18 | ZS/C31 | 15.0 | 7.0 | 16.5 | 6560 | 20 | F160ZS184(1)400(2) | MMC16.5184(1)400C31(2) |
| 400 | 200 | 0.22 | ZS/C31 | 15.0 | 7.0 | 16.5 | 6560 | 20 | F160ZS224(1)400(2) | MMC16.5224(1)400C31(2) |
| 400 | 200 | 0.27 | ZS/C31 | 15.0 | 7.0 | 16.5 | 6560 | 20 | F160ZS274(1)400(2) | MMC16.5274(1)400C31(2) |
| 400 | 200 | 0.33 | ZS/C31 | 15.0 | 7.0 | 16.5 | 6560 | 20 | F160ZS334(1)400(2) | MMC16.5334(1)400C31(2) |
| 400 | 200 | 0.39 | ZS/C31 | 15.0 | 7.0 | 16.5 | 6560 | 20 | F160ZS394(1)400(2) | MMC16.5394(1)400C31(2) |
| 400 | 200 | 0.47 | ZS/C31 | 15.0 | 7.0 | 16.5 | 6560 | 20 | F160ZS474(1)400(2) | MMC16.5474(1)400C31(2) |
| VDC | VAC | Cap Value (µF) | Size Code (New/Legacy) | B (mm) | H (mm) | L (mm) | Chip Size | dV/dt (V/µs) | New KEMET Part Number | Legacy Part Number |

*(1) K = ±10%, M = ±20%, other tolerances on request.*
*(2) Insert ordering code for lead type and packaging. See Ordering Options Table for available options.*

## Soldering Process

Reflow soldering temperature is measured on the top body surface of the component. Preheating temperature should be less than 170°C. The time above 217°C should be less than 50 seconds. The peak temperature must not exceed 240°C.




## Marking

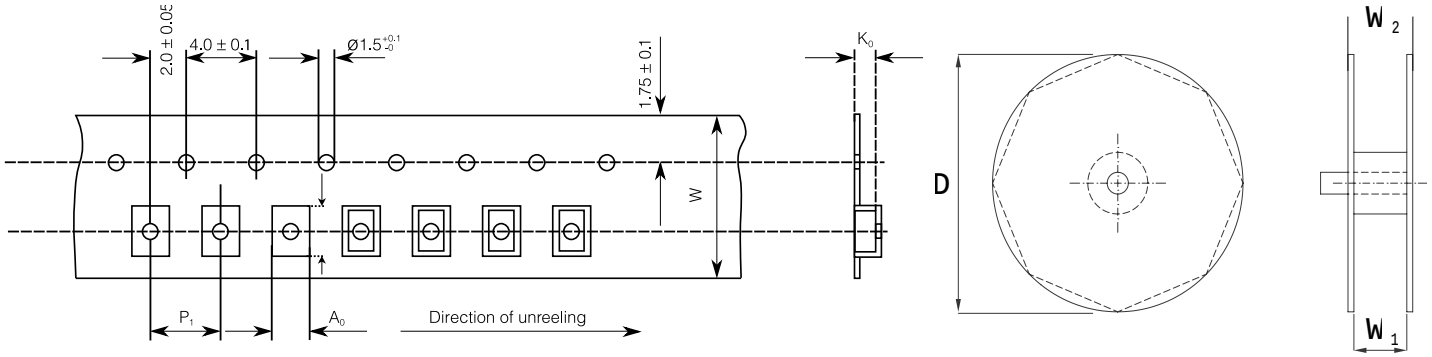
- Capacitance
- Capacitance tolerance code
- Rated voltage code
- Capacitor type M for MMC
- Manufacturing date code

## Packaging Quantities

| Chip Size (EIA) | Base (mm) | Height (mm) | Length (mm) | Bulk | Reel Horizontal Orientation | Reel Vertical Orientation |
|---|---|---|---|---|---|---|
| 2220 | 5 | 2.5 | 5.7 | 2000 | 3100 | |
| 2220 | 5 | 3 | 5.7 | 2000 | 2400 | |
| 2220 | 5 | 4 | 5.7 | 2000 | 2100 | |
| 2824 | 6 | 2.5 | 7.3 | 2000 | 3100 | |
| 2824 | 6 | 3 | 7.3 | 2000 | 2500 | |
| 2824 | 6 | 3.5 | 7.3 | 2000 | 2300 | |
| 2824 | 6 | 4.5 | 7.3 | 1000 | 1700 | |
| 4036 | 9.1 | 5.5 | 10.2 | 1000 | 800 | 500 |
| 5045 | 11.5 | 6.5 | 12.7 | 1000 | 600 | 400 |
| 6560 | 15 | 7 | 16.5 | 800 | 500 | 200 |

# Carrier Taping & Packaging (IEC 60286–2)

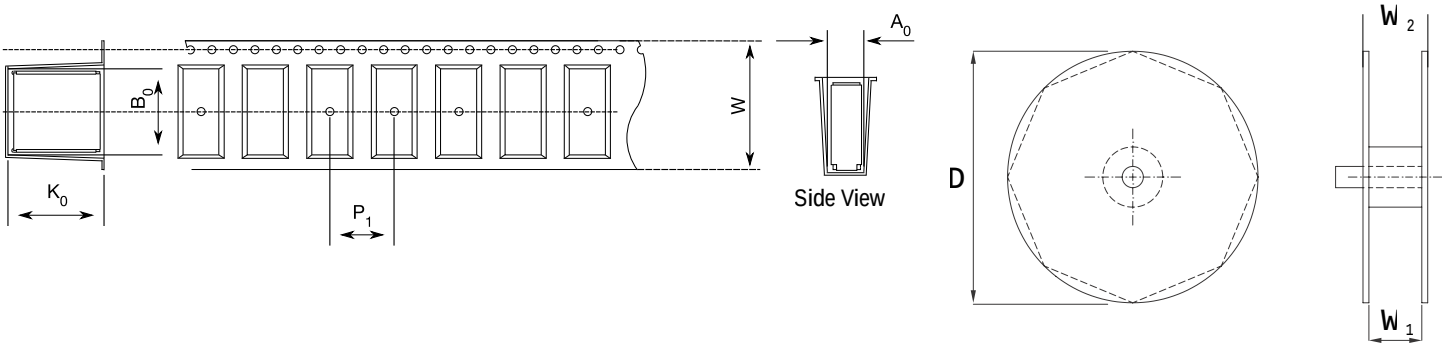
## Horizontal Taping Orientation




| EIA Size Code Horizontal Mounting | Dimensions in mm | | | Taping Specification | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | B | H | L | W | $P_1$ | $A_0$ | $B_0$ | $K_0$ | D | $W_1$ | $W_2$ |
| | Nominal | Nominal | Nominal | -0/+0.3 | +/-0.1 | Nominal | Nominal | Nominal | -/+2.0 | -0/+2 | Maximum |
| 2220 | 5.0 | 2.5 | 5.7 | 12.0 | 8.0 | 5.5 | 6.0 | 2.8 | 330 | 12.4 | 22.0 |
| 2220 | 5.0 | 3.0 | 5.7 | 12.0 | 8.0 | 5.5 | 6.0 | 3.3 | 330 | 12.4 | 22.0 |
| 2220 | 5.0 | 4.0 | 5.7 | 12.0 | 8.0 | 5.5 | 6.0 | 4.3 | 330 | 12.4 | 22.0 |
| 2824 | 6.0 | 2.5 | 7.3 | 12.0 | 8.0 | 6.5 | 7.5 | 2.8 | 330 | 12.4 | 22.0 |
| 2824 | 6.0 | 3.0 | 7.3 | 12.0 | 8.0 | 6.5 | 7.5 | 3.3 | 330 | 12.4 | 22.0 |
| 2824 | 6.0 | 3.5 | 7.3 | 12.0 | 8.0 | 6.5 | 7.5 | 3.8 | 330 | 12.4 | 22.0 |
| 2824 | 6.0 | 4.5 | 7.3 | 12.0 | 8.0 | 6.5 | 7.5 | 4.8 | 330 | 12.4 | 22.0 |
| 4036 | 9.1 | 5.5 | 10.2 | 16.0 | 16.0 | 9.5 | 10.5 | 5.8 | 330 | 16.4 | 22.0 |
| 5045 | 11.5 | 6.5 | 12.7 | 24.0 | 16.0 | 11.9 | 13.1 | 6.8 | 330 | 24.4 | 30.0 |
| 6560 | 15.0 | 7.0 | 16.5 | 24.0 | 20.0 | 15.4 | 16.8 | 7.3 | 330 | 24.4 | 30.0 |

## Carrier Taping & Packaging (IEC 60286–2) cont'd

## Vertical Taping Orientation




| Size Code Vertical Mounting | Dimensions in mm | | | Taping Specification | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | B | H | L | W | $P_1$ | $A_0$ | $B_0$ | $K_0$ | D | $W_1$ | $W_2$ |
| | Nominal | Nominal | Nominal | -0/+0.3 | +/-0.1 | Nominal | Nominal | Nominal | -/+2.0 | -0/+2 | Maximum |
| 4022 | 5.5 | 9.1 | 10.2 | 24.0 | 16.0 | 6.0 | 10.5 | 9.3 | 330 | 24.4 | 30.0 |
| 5026 | 6.5 | 11.5 | 12.7 | 24.0 | 16.0 | 6.9 | 13.1 | 11.8 | 330 | 24.4 | 30.0 |
| 6528 | 7.0 | 15.0 | 16.5 | 44.0 | 20.0 | 7.5 | 17.0 | 15.3 | 330 | 44.5 | 49.5 |

**Note: Chip dimensions B and H correspond to dimensions H and B in the horizontal mounting table.**

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## Other KEMET Resources

| Tools | |
|---|---|
| Resource | Location |
| Configure A Part: CapEdge | http://capacitoredge.kemet.com |
| SPICE & FIT Software | http://www.kemet.com/spice |
| Search Our FAQs: KnowledgeEdge | http://www.kemet.com/keask |

| Product Information | |
|---|---|
| Resource | Location |
| Products | http://www.kemet.com/products |
| Technical Resources (Including Soldering Techniques) | http://www.kemet.com/technicalpapers |
| RoHS Statement | http://www.kemet.com/rohs |
| Quality Documents | http://www.kemet.com/qualitydocuments |

| Product Request | |
|---|---|
| Resource | Location |
| Sample Request | http://www.kemet.com/sample |
| Engineering Kit Request | http://www.kemet.com/kits |

| Contact | |
|---|---|
| Resource | Location |
| Website | www.kemet.com |
| Contact Us | http://www.kemet.com/contact |
| Investor Relations | http://www.kemet.com/ir |
| Call Us | 1-877-MyKEMET |
| Twitter | http://twitter.com/kemetcapacitors |

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