

# SMC Series Encapsulated, Size 2220 – 6560, 50 – 400 VDC

**KEMET**  
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## Overview

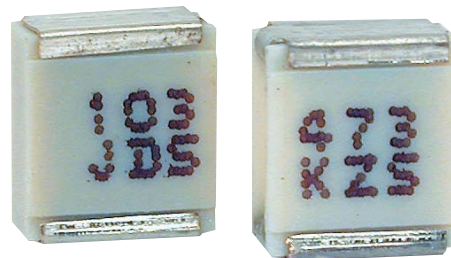
Polyphenylene sulphide (PPS) film capacitor for surface mounting. Encapsulation in self-extinguishing material meeting the requirements of UL 94 V-0. SMC capacitors meet the standards according to IEC 60384-20.

## Applications

Typical applications include timing, filtering and use as a memory capacitor. The SMC Series is designed for high stability, accuracy and temperature. Not suitable for across-the-line application (see suppressor capacitors).

## Benefits

- Rated voltage: 50 – 400 VDC
- Rated voltage: 30 – 200 VAC
- Capacitance range: 0.001 – 3.3  $\mu$ F
- EIA size: 2220 – 6560
- Capacitance tolerance:  $\pm 2\%$ ,  $\pm 2.5\%$ ,  $\pm 5\%$
- Climatic category: 55/125/56
- RoHS Compliant and lead-free terminations
- Operating temperature range of  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$



## Legacy Part Number System

| SMC            | 5.7                                | 102                                                                                        | J                                                 | 50                      | J33                 | TR12                       |
|----------------|------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------|-------------------------|---------------------|----------------------------|
| Series         | Chip Length (mm)                   | Capacitance Code (pF)                                                                      | Capacitance Tolerance                             | Rated Voltage (VDC)     | Size Code           | Packaging                  |
| Metallized PPS | 5.7<br>7.3<br>10.2<br>12.7<br>16.5 | First two digits represent significant figures. The third digit specifies number of zeros. | G = $\pm 2\%$<br>H = $\pm 2.5\%$<br>J = $\pm 5\%$ | 50<br>100<br>250<br>400 | See Dimension Table | See Ordering Options Table |

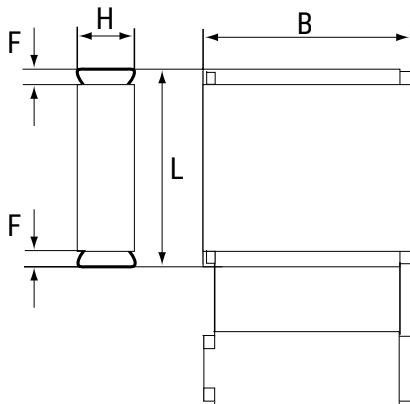
## New KEMET Part Number System

| F               | 125            | P                                                        | P                   | 102                                                                                        | J                                                 | 050                                             | V                          |
|-----------------|----------------|----------------------------------------------------------|---------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------|-------------------------------------------------|----------------------------|
| Capacitor Class | Series         | Chip Size                                                | Size Code           | Capacitance Code (pF)                                                                      | Capacitance Tolerance                             | Rated Voltage (VDC)                             | Packaging                  |
| F = Film        | Metallized PPS | P = 2220<br>S = 2820<br>W = 4036<br>Y = 5045<br>Z = 6560 | See Dimension Table | First two digits represent significant figures. The third digit specifies number of zeros. | G = $\pm 2\%$<br>R = $\pm 2.5\%$<br>J = $\pm 5\%$ | 050 = 50<br>100 = 100<br>250 = 250<br>400 = 400 | See Ordering Options Table |

## Ordering Options Table

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

## Dimensions – Millimeters



| KEMET<br>Size Code | Legacy<br>Size Code | Chip Size<br>(EIA) | B       |           | H       |           | L       |           | F       |           |
|--------------------|---------------------|--------------------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|
|                    |                     |                    | Nominal | Tolerance | Nominal | Tolerance | Nominal | Tolerance | Nominal | Tolerance |
| 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   |
| 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   |

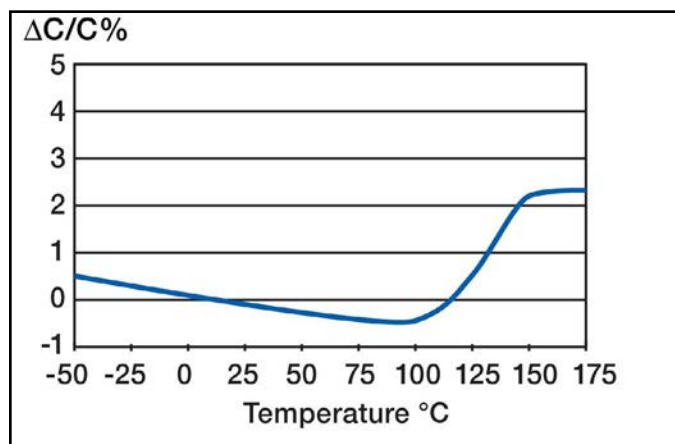
## Environmental Compliance

All KEMET surface mount capacitors are RoHS Compliant.

## Performance Characteristics

|                            |                                                                                                                                                                                                                            |             |                |                |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------------|----------------|
| Rated Voltage (VDC)        | 50                                                                                                                                                                                                                         | 100         | 250            | 400            |
| Rated Voltage (VAC)        | 30                                                                                                                                                                                                                         | 63          | 160            | 200            |
| Capacitance Range (μF)     | 0.001 – 3.3                                                                                                                                                                                                                | 0.001 – 1.5 | 0.001 – 0.47   | 0.001 – 0.22   |
| Chip Size (EIA)            | 2220 – 6560                                                                                                                                                                                                                |             |                |                |
| Capacitance Tolerance      | ±2%, ±2.5%, ±5%                                                                                                                                                                                                            |             |                |                |
| Category Temperature Range | -55°C to +125°C                                                                                                                                                                                                            |             |                |                |
| Rated Temperature          | +100°C                                                                                                                                                                                                                     |             |                |                |
| Voltage Derating           | The rated voltage should be decreased with 1.25%/°C from +100°C to +125°C and 1.5%/°C from +125°C to 175°C                                                                                                                 |             |                |                |
| Climatic Category          | 55/125/56                                                                                                                                                                                                                  |             |                |                |
| Test Voltage               | 1.6 x V <sub>R</sub> , 60 seconds                                                                                                                                                                                          |             |                |                |
| Insulation Resistance      | Measured at +20°C According to IEC 60384-19                                                                                                                                                                                |             |                |                |
|                            | Minimum Value Between Terminals                                                                                                                                                                                            |             |                |                |
|                            |                                                                                                                                                                                                                            |             | C ≤ 0.33 μF    | C > 0.33 μF    |
|                            | V <sub>R</sub> ≤ 100                                                                                                                                                                                                       |             | 15,000 MΩ      | 5,000 MΩ • μF  |
|                            | V <sub>R</sub> > 100                                                                                                                                                                                                       |             | 30,000 MΩ      | 10,000 MΩ • μF |
| Dissipation Factor         | Maximum Values at +23°C                                                                                                                                                                                                    |             |                |                |
|                            |                                                                                                                                                                                                                            | C ≤ 0.1 μF  | 0.1 < C ≤ 1 μF | C > 1 μF       |
|                            | 1 kHz                                                                                                                                                                                                                      | 0.15%       | 0.15%          | 0.15%          |
|                            | 10 kHz                                                                                                                                                                                                                     | 0.25%       | 0.25%          | 0.30%          |
|                            | 100 kHz                                                                                                                                                                                                                    | 0.50%       | 0.60%          |                |
| 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 <sub>R</sub> ), the specified dV/dt can be multiplied by V <sub>R</sub> /V. |             |                |                |

### Capacitance vs. Temperature



### Dissipation Factor vs. Temperature

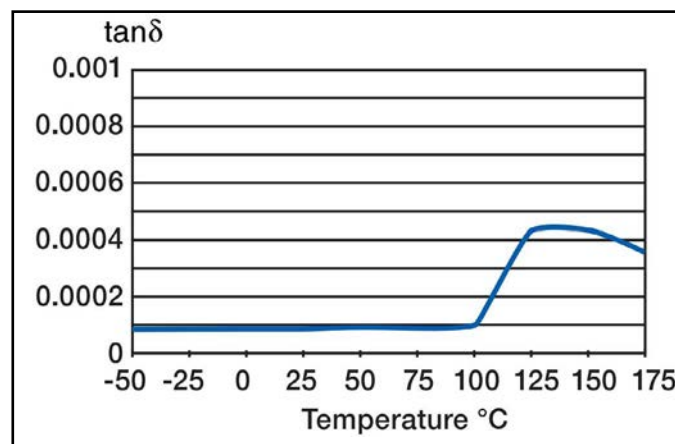


**Table 1 – Ratings & Part Number Reference**

| VDC | VAC | Capacitance 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                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP102(1)050(2)    | SMC5.7102(1)50J33(2)  |
| 50  | 30  | 0.0012                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP122(1)050(2)    | SMC5.7122(1)50J33(2)  |
| 50  | 30  | 0.0015                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP152(1)050(2)    | SMC5.7152(1)50J33(2)  |
| 50  | 30  | 0.0018                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP182(1)050(2)    | SMC5.7182(1)50J33(2)  |
| 50  | 30  | 0.0022                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP222(1)050(2)    | SMC5.7222(1)50J33(2)  |
| 50  | 30  | 0.0027                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP272(1)050(2)    | SMC5.7272(1)50J33(2)  |
| 50  | 30  | 0.0033                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP332(1)050(2)    | SMC5.7332(1)50J33(2)  |
| 50  | 30  | 0.0039                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP392(1)050(2)    | SMC5.7392(1)50J33(2)  |
| 50  | 30  | 0.0047                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP472(1)050(2)    | SMC5.7472(1)50J33(2)  |
| 50  | 30  | 0.0056                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP562(1)050(2)    | SMC5.7562(1)50J33(2)  |
| 50  | 30  | 0.0068                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP682(1)050(2)    | SMC5.7682(1)50J33(2)  |
| 50  | 30  | 0.0082                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP822(1)050(2)    | SMC5.7822(1)50J33(2)  |
| 50  | 30  | 0.010                  | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP103(1)050(2)    | SMC5.7103(1)50J33(2)  |
| 50  | 30  | 0.012                  | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP123(1)050(2)    | SMC5.7123(1)50J33(2)  |
| 50  | 30  | 0.015                  | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 15           | F125PP153(1)050(2)    | SMC5.7153(1)50J33(2)  |
| 50  | 30  | 0.018                  | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 15           | F125PP183(1)050(2)    | SMC5.7183(1)50J33(2)  |
| 50  | 30  | 0.022                  | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 15           | F125PP223(1)050(2)    | SMC5.7223(1)50J33(2)  |
| 50  | 30  | 0.027                  | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 15           | F125PP273(1)050(2)    | SMC5.7273(1)50J33(2)  |
| 50  | 30  | 0.033                  | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 15           | F125PP333(1)050(2)    | SMC5.7333(1)50J33(2)  |
| 50  | 30  | 0.039                  | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 6            | F125PP393(1)050(2)    | SMC5.7393(1)50J33(2)  |
| 50  | 30  | 0.047                  | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 6            | F125PP473(1)050(2)    | SMC5.7473(1)50J33(2)  |
| 50  | 30  | 0.056                  | PU/J35                 | 5.0              | 4.0    | 5.7    | 2220      | 6            | F125PU563(1)050(2)    | SMC5.7563(1)50J35(2)  |
| 50  | 30  | 0.068                  | PU/J35                 | 5.0              | 4.0    | 5.7    | 2220      | 6            | F125PU683(1)050(2)    | SMC5.7683(1)50J35(2)  |
| 50  | 30  | 0.082                  | PU/J35                 | 5.0              | 4.0    | 5.7    | 2220      | 6            | F125PU823(1)050(2)    | SMC5.7823(1)50J35(2)  |
| 50  | 30  | 0.10                   | PU/J35                 | 5.0              | 4.0    | 5.7    | 2220      | 6            | F125PU104(1)050(2)    | SMC5.7104(1)50J35(2)  |
| 50  | 30  | 0.0010                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL102(1)050(2)    | SMC7.3102(1)50K33(2)  |
| 50  | 30  | 0.0012                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL122(1)050(2)    | SMC7.3122(1)50K33(2)  |
| 50  | 30  | 0.0015                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL152(1)050(2)    | SMC7.3152(1)50K33(2)  |
| 50  | 30  | 0.0018                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL182(1)050(2)    | SMC7.3182(1)50K33(2)  |
| 50  | 30  | 0.0022                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL222(1)050(2)    | SMC7.3222(1)50K33(2)  |
| 50  | 30  | 0.0027                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL272(1)050(2)    | SMC7.3272(1)50K33(2)  |
| 50  | 30  | 0.0033                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL332(1)050(2)    | SMC7.3332(1)50K33(2)  |
| 50  | 30  | 0.0039                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL392(1)050(2)    | SMC7.3392(1)50K33(2)  |
| 50  | 30  | 0.0047                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL472(1)050(2)    | SMC7.3472(1)50K33(2)  |
| 50  | 30  | 0.0056                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL562(1)050(2)    | SMC7.3562(1)50K33(2)  |
| 50  | 30  | 0.0068                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL682(1)050(2)    | SMC7.3682(1)50K33(2)  |
| 50  | 30  | 0.0082                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL822(1)050(2)    | SMC7.3822(1)50K33(2)  |
| 50  | 30  | 0.010                  | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL103(1)050(2)    | SMC7.3103(1)50K33(2)  |
| 50  | 30  | 0.012                  | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL123(1)050(2)    | SMC7.3123(1)50K33(2)  |
| 50  | 30  | 0.015                  | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL153(1)050(2)    | SMC7.3153(1)50K33(2)  |
| 50  | 30  | 0.018                  | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL183(1)050(2)    | SMC7.3183(1)50K33(2)  |
| 50  | 30  | 0.022                  | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL223(1)050(2)    | SMC7.3223(1)50K33(2)  |
| 50  | 30  | 0.027                  | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL273(1)050(2)    | SMC7.3273(1)50K33(2)  |
| 50  | 30  | 0.033                  | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 15           | F125SL333(1)050(2)    | SMC7.3333(1)50K33(2)  |
| 50  | 30  | 0.039                  | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 15           | F125SL393(1)050(2)    | SMC7.3393(1)50K33(2)  |
| 50  | 30  | 0.047                  | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 15           | F125SL473(1)050(2)    | SMC7.3473(1)50K33(2)  |
| 50  | 30  | 0.056                  | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 15           | F125SL563(1)050(2)    | SMC7.3563(1)50K33(2)  |
| 50  | 30  | 0.068                  | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 15           | F125SL683(1)050(2)    | SMC7.3683(1)50K33(2)  |
| 50  | 30  | 0.082                  | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 6            | F125SL823(1)050(2)    | SMC7.3823(1)50K33(2)  |
| 50  | 30  | 0.10                   | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 6            | F125SL104(1)050(2)    | SMC7.3104(1)50K33(2)  |
| 50  | 30  | 0.12                   | SP/K35                 | 6.0              | 3.5    | 7.3    | 2824      | 6            | F125SP124(1)050(2)    | SMC7.3124(1)50K35(2)  |
| 50  | 30  | 0.15                   | SP/K35                 | 6.0              | 3.5    | 7.3    | 2824      | 6            | F125SP154(1)050(2)    | SMC7.3154(1)50K35(2)  |
| 50  | 30  | 0.18                   | SP/K35                 | 6.0              | 3.5    | 7.3    | 2824      | 6            | F125SP184(1)050(2)    | SMC7.3184(1)50K35(2)  |
| 50  | 30  | 0.22                   | ST/K37                 | 6.0              | 4.5    | 7.3    | 2824      | 6            | F125ST224(1)050(2)    | SMC7.3224(1)50K37(2)  |
| 50  | 30  | 0.010                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 4            | F125WP103(1)050(2)    | SMC10.2103(1)50A31(2) |
| 50  | 30  | 0.012                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 4            | F125WP123(1)050(2)    | SMC10.2123(1)50A31(2) |
| 50  | 30  | 0.015                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 4            | F125WP153(1)050(2)    | SMC10.2153(1)50A31(2) |
| 50  | 30  | 0.018                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 4            | F125WP183(1)050(2)    | SMC10.2183(1)50A31(2) |
| VDC | VAC | Capacitance 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) G = ±2%, R = ±2.5% (Legacy code = H), J = ±5%.

(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 | Capacitance 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  | 0.022                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 4            | F125WP223(1)050(2)    | SMC10.2223(1)50A31(2) |
| 50  | 30  | 0.027                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 4            | F125WP273(1)050(2)    | SMC10.2273(1)50A31(2) |
| 50  | 30  | 0.033                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 4            | F125WP333(1)050(2)    | SMC10.2333(1)50A31(2) |
| 50  | 30  | 0.039                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 4            | F125WP393(1)050(2)    | SMC10.2393(1)50A31(2) |
| 50  | 30  | 0.047                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 4            | F125WP473(1)050(2)    | SMC10.2473(1)50A31(2) |
| 50  | 30  | 0.056                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 4            | F125WP563(1)050(2)    | SMC10.2563(1)50A31(2) |
| 50  | 30  | 0.068                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 4            | F125WP683(1)050(2)    | SMC10.2683(1)50A31(2) |
| 50  | 30  | 0.082                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 4            | F125WP823(1)050(2)    | SMC10.2823(1)50A31(2) |
| 50  | 30  | 0.10                   | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 4            | F125WP104(1)050(2)    | SMC10.2104(1)50A31(2) |
| 50  | 30  | 0.12                   | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 4            | F125WP124(1)050(2)    | SMC10.2124(1)50A31(2) |
| 50  | 30  | 0.15                   | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 4            | F125WP154(1)050(2)    | SMC10.2154(1)50A31(2) |
| 50  | 30  | 0.18                   | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 4            | F125WP184(1)050(2)    | SMC10.2184(1)50A31(2) |
| 50  | 30  | 0.22                   | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 4            | F125WP224(1)050(2)    | SMC10.2224(1)50A31(2) |
| 50  | 30  | 0.27                   | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 4            | F125WP274(1)050(2)    | SMC10.2274(1)50A31(2) |
| 50  | 30  | 0.33                   | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 4            | F125WP334(1)050(2)    | SMC10.2334(1)50A31(2) |
| 50  | 30  | 0.39                   | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 4            | F125WP394(1)050(2)    | SMC10.2394(1)50A31(2) |
| 50  | 30  | 0.47                   | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 4            | F125WP474(1)050(2)    | SMC10.2474(1)50A31(2) |
| 50  | 30  | 0.56                   | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 4            | F125WP564(1)050(2)    | SMC10.2564(1)50A31(2) |
| 50  | 30  | 0.68                   | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 4            | F125WP684(1)050(2)    | SMC10.2684(1)50A31(2) |
| 50  | 30  | 0.82                   | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 4            | F125WP824(1)050(2)    | SMC10.2824(1)50A31(2) |
| 50  | 30  | 1.0                    | YR/B31                 | 11.5             | 6.5    | 12.7   | 5045      | 3            | F125YR105(1)050(2)    | SMC12.7105(1)50B31(2) |
| 50  | 30  | 1.2                    | YR/B31                 | 11.5             | 6.5    | 12.7   | 5045      | 3            | F125YR125(1)050(2)    | SMC12.7125(1)50B31(2) |
| 50  | 30  | 1.5                    | YR/B31                 | 11.5             | 6.5    | 12.7   | 5045      | 3            | F125YR155(1)050(2)    | SMC12.7155(1)50B31(2) |
| 50  | 30  | 1.8                    | ZS/C31                 | 15.0             | 7.0    | 16.5   | 6560      | 2            | F125ZS185(1)050(2)    | SMC16.5185(1)50C31(2) |
| 50  | 30  | 2.2                    | ZS/C31                 | 15.0             | 7.0    | 16.5   | 6560      | 2            | F125ZS225(1)050(2)    | SMC16.5225(1)50C31(2) |
| 50  | 30  | 2.7                    | ZS/C31                 | 15.0             | 7.0    | 16.5   | 6560      | 2            | F125ZS275(1)050(2)    | SMC16.5275(1)50C31(2) |
| 50  | 30  | 3.3                    | ZS/C31                 | 15.0             | 7.0    | 16.5   | 6560      | 2            | F125ZS335(1)050(2)    | SMC16.5335(1)50C31(2) |
| 100 | 63  | 0.0010                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP102(1)100(2)    | SMC5.7102(1)100J33(2) |
| 100 | 63  | 0.0012                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP122(1)100(2)    | SMC5.7122(1)100J33(2) |
| 100 | 63  | 0.0015                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP152(1)100(2)    | SMC5.7152(1)100J33(2) |
| 100 | 63  | 0.0018                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP182(1)100(2)    | SMC5.7182(1)100J33(2) |
| 100 | 63  | 0.0022                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP222(1)100(2)    | SMC5.7222(1)100J33(2) |
| 100 | 63  | 0.0027                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP272(1)100(2)    | SMC5.7272(1)100J33(2) |
| 100 | 63  | 0.0033                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP332(1)100(2)    | SMC5.7332(1)100J33(2) |
| 100 | 63  | 0.0039                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP392(1)100(2)    | SMC5.7392(1)100J33(2) |
| 100 | 63  | 0.0047                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP472(1)100(2)    | SMC5.7472(1)100J33(2) |
| 100 | 63  | 0.0056                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP562(1)100(2)    | SMC5.7562(1)100J33(2) |
| 100 | 63  | 0.0068                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP682(1)100(2)    | SMC5.7682(1)100J33(2) |
| 100 | 63  | 0.0082                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP822(1)100(2)    | SMC5.7822(1)100J33(2) |
| 100 | 63  | 0.010                  | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP103(1)100(2)    | SMC5.7103(1)100J33(2) |
| 100 | 63  | 0.012                  | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP123(1)100(2)    | SMC5.7123(1)100J33(2) |
| 100 | 63  | 0.015                  | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 15           | F125PP153(1)100(2)    | SMC5.7153(1)100J33(2) |
| 100 | 63  | 0.018                  | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 15           | F125PP183(1)100(2)    | SMC5.7183(1)100J33(2) |
| 100 | 63  | 0.022                  | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 15           | F125PP223(1)100(2)    | SMC5.7223(1)100J33(2) |
| 100 | 63  | 0.027                  | PU/J35                 | 5.0              | 4.0    | 5.7    | 2220      | 15           | F125PU273(1)100(2)    | SMC5.7273(1)100J35(2) |
| 100 | 63  | 0.033                  | PU/J35                 | 5.0              | 4.0    | 5.7    | 2220      | 15           | F125PU333(1)100(2)    | SMC5.7333(1)100J35(2) |
| 100 | 63  | 0.0010                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL102(1)100(2)    | SMC7.3102(1)100K33(2) |
| 100 | 63  | 0.0012                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL122(1)100(2)    | SMC7.3122(1)100K33(2) |
| 100 | 63  | 0.0015                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL152(1)100(2)    | SMC7.3152(1)100K33(2) |
| 100 | 63  | 0.0018                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL182(1)100(2)    | SMC7.3182(1)100K33(2) |
| 100 | 63  | 0.0022                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL222(1)100(2)    | SMC7.3222(1)100K33(2) |
| 100 | 63  | 0.0027                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL272(1)100(2)    | SMC7.3272(1)100K33(2) |
| 100 | 63  | 0.0033                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL332(1)100(2)    | SMC7.3332(1)100K33(2) |
| 100 | 63  | 0.0039                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL392(1)100(2)    | SMC7.3392(1)100K33(2) |
| 100 | 63  | 0.0047                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL472(1)100(2)    | SMC7.3472(1)100K33(2) |
| 100 | 63  | 0.0056                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL562(1)100(2)    | SMC7.3562(1)100K33(2) |
| 100 | 63  | 0.0068                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL682(1)100(2)    | SMC7.3682(1)100K33(2) |
| 100 | 63  | 0.0082                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL822(1)100(2)    | SMC7.3822(1)100K33(2) |
| VDC | VAC | Capacitance 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) G = ±2%, R = ±2.5% (Legacy code = H), J = ±5%.

(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 | Capacitance 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  | 0.010                  | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL103(1)100(2)    | SMC7.3103(1)100K33(2)  |
| 100 | 63  | 0.012                  | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL123(1)100(2)    | SMC7.3123(1)100K33(2)  |
| 100 | 63  | 0.015                  | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL153(1)100(2)    | SMC7.3153(1)100K33(2)  |
| 100 | 63  | 0.018                  | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL183(1)100(2)    | SMC7.3183(1)100K33(2)  |
| 100 | 63  | 0.022                  | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL223(1)100(2)    | SMC7.3223(1)100K33(2)  |
| 100 | 63  | 0.027                  | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 15           | F125SL273(1)100(2)    | SMC7.3273(1)100K33(2)  |
| 100 | 63  | 0.033                  | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 15           | F125SL333(1)100(2)    | SMC7.3333(1)100K33(2)  |
| 100 | 63  | 0.039                  | SP/K35                 | 6.0              | 3.5    | 7.3    | 2824      | 15           | F125SP393(1)100(2)    | SMC7.3393(1)100K35(2)  |
| 100 | 63  | 0.047                  | SP/K35                 | 6.0              | 3.5    | 7.3    | 2824      | 15           | F125SP473(1)100(2)    | SMC7.3473(1)100K35(2)  |
| 100 | 63  | 0.056                  | ST/K37                 | 6.0              | 4.5    | 7.3    | 2824      | 15           | F125ST563(1)100(2)    | SMC7.3563(1)100K37(2)  |
| 100 | 63  | 0.068                  | ST/K37                 | 6.0              | 4.5    | 7.3    | 2824      | 15           | F125ST683(1)100(2)    | SMC7.3683(1)100K37(2)  |
| 100 | 63  | 0.010                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 6            | F125WP103(1)100(2)    | SMC10.2103(1)100A31(2) |
| 100 | 63  | 0.012                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 6            | F125WP123(1)100(2)    | SMC10.2123(1)100A31(2) |
| 100 | 63  | 0.015                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 6            | F125WP153(1)100(2)    | SMC10.2153(1)100A31(2) |
| 100 | 63  | 0.018                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 6            | F125WP183(1)100(2)    | SMC10.2183(1)100A31(2) |
| 100 | 63  | 0.022                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 6            | F125WP223(1)100(2)    | SMC10.2223(1)100A31(2) |
| 100 | 63  | 0.027                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 6            | F125WP273(1)100(2)    | SMC10.2273(1)100A31(2) |
| 100 | 63  | 0.033                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 6            | F125WP333(1)100(2)    | SMC10.2333(1)100A31(2) |
| 100 | 63  | 0.039                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 6            | F125WP393(1)100(2)    | SMC10.2393(1)100A31(2) |
| 100 | 63  | 0.047                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 6            | F125WP473(1)100(2)    | SMC10.2473(1)100A31(2) |
| 100 | 63  | 0.056                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 6            | F125WP563(1)100(2)    | SMC10.2563(1)100A31(2) |
| 100 | 63  | 0.068                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 6            | F125WP683(1)100(2)    | SMC10.2683(1)100A31(2) |
| 100 | 63  | 0.082                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 6            | F125WP823(1)100(2)    | SMC10.2823(1)100A31(2) |
| 100 | 63  | 0.10                   | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 6            | F125WP104(1)100(2)    | SMC10.2104(1)100A31(2) |
| 100 | 63  | 0.12                   | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 6            | F125WP124(1)100(2)    | SMC10.2124(1)100A31(2) |
| 100 | 63  | 0.15                   | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 6            | F125WP154(1)100(2)    | SMC10.2154(1)100A31(2) |
| 100 | 63  | 0.18                   | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 6            | F125WP184(1)100(2)    | SMC10.2184(1)100A31(2) |
| 100 | 63  | 0.22                   | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 6            | F125WP224(1)100(2)    | SMC10.2224(1)100A31(2) |
| 100 | 63  | 0.27                   | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 6            | F125WP274(1)100(2)    | SMC10.2274(1)100A31(2) |
| 100 | 63  | 0.33                   | YR/B31                 | 11.5             | 6.5    | 12.7   | 5045      | 5            | F125YR334(1)100(2)    | SMC12.7334(1)100B31(2) |
| 100 | 63  | 0.39                   | YR/B31                 | 11.5             | 6.5    | 12.7   | 5045      | 5            | F125YR394(1)100(2)    | SMC12.7394(1)100B31(2) |
| 100 | 63  | 0.47                   | YR/B31                 | 11.5             | 6.5    | 12.7   | 5045      | 5            | F125YR474(1)100(2)    | SMC12.7474(1)100B31(2) |
| 100 | 63  | 0.56                   | YR/B31                 | 11.5             | 6.5    | 12.7   | 5045      | 5            | F125YR564(1)100(2)    | SMC12.7564(1)100B31(2) |
| 100 | 63  | 0.68                   | ZS/C31                 | 15.0             | 7.0    | 16.5   | 6560      | 3            | F125ZS684(1)100(2)    | SMC16.5684(1)100C31(2) |
| 100 | 63  | 0.82                   | ZS/C31                 | 15.0             | 7.0    | 16.5   | 6560      | 3            | F125ZS824(1)100(2)    | SMC16.5824(1)100C31(2) |
| 100 | 63  | 1.0                    | ZS/C31                 | 15.0             | 7.0    | 16.5   | 6560      | 3            | F125ZS105(1)100(2)    | SMC16.5105(1)100C31(2) |
| 100 | 63  | 1.2                    | ZS/C31                 | 15.0             | 7.0    | 16.5   | 6560      | 3            | F125ZS125(1)100(2)    | SMC16.5125(1)100C31(2) |
| 100 | 63  | 1.5                    | ZS/C31                 | 15.0             | 7.0    | 16.5   | 6560      | 3            | F125ZS155(1)100(2)    | SMC16.5155(1)100C31(2) |
| 250 | 160 | 0.0010                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP102(1)250(2)    | SMC5.7102(1)250J33(2)  |
| 250 | 160 | 0.0012                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP122(1)250(2)    | SMC5.7122(1)250J33(2)  |
| 250 | 160 | 0.0015                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP152(1)250(2)    | SMC5.7152(1)250J33(2)  |
| 250 | 160 | 0.0018                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP182(1)250(2)    | SMC5.7182(1)250J33(2)  |
| 250 | 160 | 0.0022                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP222(1)250(2)    | SMC5.7222(1)250J33(2)  |
| 250 | 160 | 0.0027                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP272(1)250(2)    | SMC5.7272(1)250J33(2)  |
| 250 | 160 | 0.0033                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP332(1)250(2)    | SMC5.7332(1)250J33(2)  |
| 250 | 160 | 0.0039                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP392(1)250(2)    | SMC5.7392(1)250J33(2)  |
| 250 | 160 | 0.0047                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP472(1)250(2)    | SMC5.7472(1)250J33(2)  |
| 250 | 160 | 0.0056                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP562(1)250(2)    | SMC5.7562(1)250J33(2)  |
| 250 | 160 | 0.0068                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 20           | F125PP682(1)250(2)    | SMC5.7682(1)250J33(2)  |
| 250 | 160 | 0.0082                 | PU/J35                 | 5.0              | 4.0    | 5.7    | 2220      | 20           | F125PU822(1)250(2)    | SMC5.7822(1)250J35(2)  |
| 250 | 160 | 0.010                  | PU/J35                 | 5.0              | 4.0    | 5.7    | 2220      | 20           | F125PU103(1)250(2)    | SMC5.7103(1)250J35(2)  |
| 250 | 160 | 0.0010                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL102(1)250(2)    | SMC7.3102(1)250K33(2)  |
| 250 | 160 | 0.0012                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL122(1)250(2)    | SMC7.3122(1)250K33(2)  |
| 250 | 160 | 0.0015                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL152(1)250(2)    | SMC7.3152(1)250K33(2)  |
| 250 | 160 | 0.0018                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL182(1)250(2)    | SMC7.3182(1)250K33(2)  |
| 250 | 160 | 0.0022                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL222(1)250(2)    | SMC7.3222(1)250K33(2)  |
| 250 | 160 | 0.0027                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL272(1)250(2)    | SMC7.3272(1)250K33(2)  |
| 250 | 160 | 0.0033                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL332(1)250(2)    | SMC7.3332(1)250K33(2)  |
| VDC | VAC | Capacitance 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) G = ±2%, R = ±2.5% (Legacy code = H), J = ±5%.

(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 | Capacitance 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 | 0.0039                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL392(1)250(2)    | SMC7.3392(1)250K33(2)  |
| 250 | 160 | 0.0047                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL472(1)250(2)    | SMC7.3472(1)250K33(2)  |
| 250 | 160 | 0.0056                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL562(1)250(2)    | SMC7.3562(1)250K33(2)  |
| 250 | 160 | 0.0068                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL682(1)250(2)    | SMC7.3682(1)250K33(2)  |
| 250 | 160 | 0.0082                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL822(1)250(2)    | SMC7.3822(1)250K33(2)  |
| 250 | 160 | 0.010                  | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL103(1)250(2)    | SMC7.3103(1)250K33(2)  |
| 250 | 160 | 0.012                  | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL123(1)250(2)    | SMC7.3123(1)250K33(2)  |
| 250 | 160 | 0.015                  | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 20           | F125SL153(1)250(2)    | SMC7.3153(1)250K33(2)  |
| 250 | 160 | 0.018                  | SP/K35                 | 6.0              | 3.5    | 7.3    | 2824      | 20           | F125SP183(1)250(2)    | SMC7.3183(1)250K35(2)  |
| 250 | 160 | 0.022                  | SP/K35                 | 6.0              | 3.5    | 7.3    | 2824      | 20           | F125SP223(1)250(2)    | SMC7.3223(1)250K35(2)  |
| 250 | 160 | 0.010                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 10           | F125WP103(1)250(2)    | SMC10.2103(1)250A31(2) |
| 250 | 160 | 0.012                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 10           | F125WP123(1)250(2)    | SMC10.2123(1)250A31(2) |
| 250 | 160 | 0.015                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 10           | F125WP153(1)250(2)    | SMC10.2153(1)250A31(2) |
| 250 | 160 | 0.018                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 10           | F125WP183(1)250(2)    | SMC10.2183(1)250A31(2) |
| 250 | 160 | 0.022                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 10           | F125WP223(1)250(2)    | SMC10.2223(1)250A31(2) |
| 250 | 160 | 0.027                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 10           | F125WP273(1)250(2)    | SMC10.2273(1)250A31(2) |
| 250 | 160 | 0.033                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 10           | F125WP333(1)250(2)    | SMC10.2333(1)250A31(2) |
| 250 | 160 | 0.039                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 10           | F125WP393(1)250(2)    | SMC10.2393(1)250A31(2) |
| 250 | 160 | 0.047                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 10           | F125WP473(1)250(2)    | SMC10.2473(1)250A31(2) |
| 250 | 160 | 0.056                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 10           | F125WP563(1)250(2)    | SMC10.2563(1)250A31(2) |
| 250 | 160 | 0.068                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 10           | F125WP683(1)250(2)    | SMC10.2683(1)250A31(2) |
| 250 | 160 | 0.082                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 10           | F125WP823(1)250(2)    | SMC10.2823(1)250A31(2) |
| 250 | 160 | 0.10                   | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 10           | F125WP104(1)250(2)    | SMC10.2104(1)250A31(2) |
| 250 | 160 | 0.12                   | YR/B31                 | 11.5             | 6.5    | 12.7   | 5045      | 8            | F125YR124(1)250(2)    | SMC12.7124(1)250B31(2) |
| 250 | 160 | 0.15                   | YR/B31                 | 11.5             | 6.5    | 12.7   | 5045      | 8            | F125YR154(1)250(2)    | SMC12.7154(1)250B31(2) |
| 250 | 160 | 0.18                   | YR/B31                 | 11.5             | 6.5    | 12.7   | 5045      | 8            | F125YR184(1)250(2)    | SMC12.7184(1)250B31(2) |
| 250 | 160 | 0.22                   | ZS/C31                 | 15.0             | 7.0    | 16.5   | 6560      | 5            | F125ZS224(1)250(2)    | SMC16.5224(1)250C31(2) |
| 250 | 160 | 0.27                   | ZS/C31                 | 15.0             | 7.0    | 16.5   | 6560      | 5            | F125ZS274(1)250(2)    | SMC16.5274(1)250C31(2) |
| 250 | 160 | 0.33                   | ZS/C31                 | 15.0             | 7.0    | 16.5   | 6560      | 5            | F125ZS334(1)250(2)    | SMC16.5334(1)250C31(2) |
| 250 | 160 | 0.39                   | ZS/C31                 | 15.0             | 7.0    | 16.5   | 6560      | 5            | F125ZS394(1)250(2)    | SMC16.5394(1)250C31(2) |
| 250 | 160 | 0.47                   | ZS/C31                 | 15.0             | 7.0    | 16.5   | 6560      | 5            | F125ZS474(1)250(2)    | SMC16.5474(1)250C31(2) |
| 400 | 200 | 0.0010                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 40           | F125PP102(1)400(2)    | SMC5.7102(1)400J33(2)  |
| 400 | 200 | 0.0012                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 40           | F125PP122(1)400(2)    | SMC5.7122(1)400J33(2)  |
| 400 | 200 | 0.0015                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 40           | F125PP152(1)400(2)    | SMC5.7152(1)400J33(2)  |
| 400 | 200 | 0.0018                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 40           | F125PP182(1)400(2)    | SMC5.7182(1)400J33(2)  |
| 400 | 200 | 0.0022                 | PP/J33                 | 5.0              | 3.0    | 5.7    | 2220      | 40           | F125PP222(1)400(2)    | SMC5.7222(1)400J33(2)  |
| 400 | 200 | 0.0027                 | PU/J35                 | 5.0              | 4.0    | 5.7    | 2220      | 40           | F125PU272(1)400(2)    | SMC5.7272(1)400J35(2)  |
| 400 | 200 | 0.0033                 | PU/J35                 | 5.0              | 4.0    | 5.7    | 2220      | 40           | F125PU332(1)400(2)    | SMC5.7332(1)400J35(2)  |
| 400 | 200 | 0.0010                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 25           | F125SL102(1)400(2)    | SMC7.3102(1)400K33(2)  |
| 400 | 200 | 0.0012                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 25           | F125SL122(1)400(2)    | SMC7.3122(1)400K33(2)  |
| 400 | 200 | 0.0015                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 25           | F125SL152(1)400(2)    | SMC7.3152(1)400K33(2)  |
| 400 | 200 | 0.0018                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 25           | F125SL182(1)400(2)    | SMC7.3182(1)400K33(2)  |
| 400 | 200 | 0.0022                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 25           | F125SL222(1)400(2)    | SMC7.3222(1)400K33(2)  |
| 400 | 200 | 0.0027                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 25           | F125SL272(1)400(2)    | SMC7.3272(1)400K33(2)  |
| 400 | 200 | 0.0033                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 25           | F125SL332(1)400(2)    | SMC7.3332(1)400K33(2)  |
| 400 | 200 | 0.0039                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 25           | F125SL392(1)400(2)    | SMC7.3392(1)400K33(2)  |
| 400 | 200 | 0.0047                 | SL/K33                 | 6.0              | 3.0    | 7.3    | 2824      | 25           | F125SL472(1)400(2)    | SMC7.3472(1)400K33(2)  |
| 400 | 200 | 0.0056                 | SP/K35                 | 6.0              | 3.5    | 7.3    | 2824      | 25           | F125SP562(1)400(2)    | SMC7.3562(1)400K35(2)  |
| 400 | 200 | 0.0068                 | SP/K35                 | 6.0              | 3.5    | 7.3    | 2824      | 25           | F125SP682(1)400(2)    | SMC7.3682(1)400K35(2)  |
| 400 | 200 | 0.0082                 | ST/K37                 | 6.0              | 4.5    | 7.3    | 2824      | 25           | F125ST822(1)400(2)    | SMC7.3822(1)400K37(2)  |
| 400 | 200 | 0.010                  | ST/K37                 | 6.0              | 4.5    | 7.3    | 2824      | 25           | F125ST103(1)400(2)    | SMC7.3103(1)400K37(2)  |
| 400 | 200 | 0.010                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 15           | F125WP103(1)400(2)    | SMC10.2103(1)400A31(2) |
| 400 | 200 | 0.012                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 15           | F125WP123(1)400(2)    | SMC10.2123(1)400A31(2) |
| 400 | 200 | 0.015                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 15           | F125WP153(1)400(2)    | SMC10.2153(1)400A31(2) |
| 400 | 200 | 0.018                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 15           | F125WP183(1)400(2)    | SMC10.2183(1)400A31(2) |
| 400 | 200 | 0.022                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 15           | F125WP223(1)400(2)    | SMC10.2223(1)400A31(2) |
| 400 | 200 | 0.027                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 15           | F125WP273(1)400(2)    | SMC10.2273(1)400A31(2) |
| 400 | 200 | 0.033                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 15           | F125WP333(1)400(2)    | SMC10.2333(1)400A31(2) |
| VDC | VAC | Capacitance 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) G = ±2%, R = ±2.5% (Legacy code = H), J = ±5%.

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

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

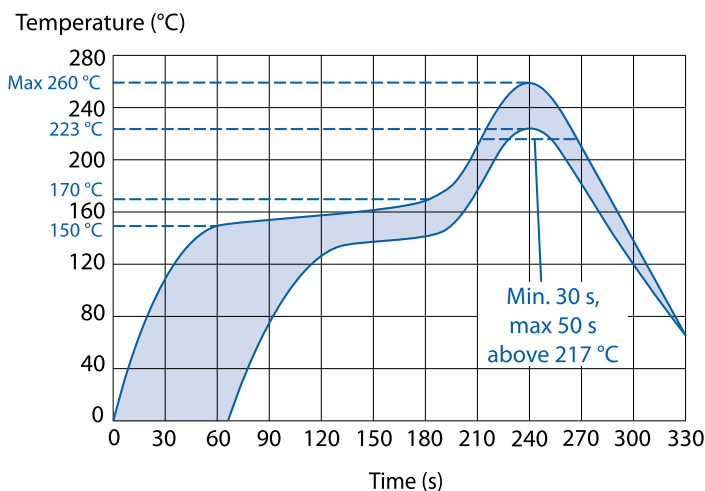
| VDC | VAC | Capacitance Value (µF) | Size Code (New/Legacy) | Dimensions in mm |        |        | Chip Size | dV/dt (V/µs) | New KEMET Part Number | Legacy Part Number     |
|-----|-----|------------------------|------------------------|------------------|--------|--------|-----------|--------------|-----------------------|------------------------|
|     |     |                        |                        | B                | H      | L      |           |              |                       |                        |
| 400 | 200 | 0.039                  | WP/A31                 | 9.1              | 5.5    | 10.2   | 4036      | 15           | F125WP393(1)400(2)    | SMC10.2393(1)400A31(2) |
| 400 | 200 | 0.047                  | YR/B31                 | 11.5             | 6.5    | 12.7   | 5045      | 10           | F125YR473(1)400(2)    | SMC12.7473(1)400B31(2) |
| 400 | 200 | 0.056                  | YR/B31                 | 11.5             | 6.5    | 12.7   | 5045      | 10           | F125YR563(1)400(2)    | SMC12.7563(1)400B31(2) |
| 400 | 200 | 0.068                  | YR/B31                 | 11.5             | 6.5    | 12.7   | 5045      | 10           | F125YR683(1)400(2)    | SMC12.7683(1)400B31(2) |
| 400 | 200 | 0.082                  | YR/B31                 | 11.5             | 6.5    | 12.7   | 5045      | 10           | F125YR823(1)400(2)    | SMC12.7823(1)400B31(2) |
| 400 | 200 | 0.10                   | ZS/C31                 | 15.0             | 7.0    | 16.5   | 6560      | 8            | F125ZS104(1)400(2)    | SMC16.5104(1)400C31(2) |
| 400 | 200 | 0.12                   | ZS/C31                 | 15.0             | 7.0    | 16.5   | 6560      | 8            | F125ZS124(1)400(2)    | SMC16.5124(1)400C31(2) |
| 400 | 200 | 0.15                   | ZS/C31                 | 15.0             | 7.0    | 16.5   | 6560      | 8            | F125ZS154(1)400(2)    | SMC16.5154(1)400C31(2) |
| 400 | 200 | 0.18                   | ZS/C31                 | 15.0             | 7.0    | 16.5   | 6560      | 8            | F125ZS184(1)400(2)    | SMC16.5184(1)400C31(2) |
| 400 | 200 | 0.22                   | ZS/C31                 | 15.0             | 7.0    | 16.5   | 6560      | 8            | F125ZS224(1)400(2)    | SMC16.5224(1)400C31(2) |
| VDC | VAC | Capacitance 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) G = ±2%, R = ±2.5% (Legacy code = H), J = ±5%.

(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 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 260°C.



## Marking

- Capacitance
- Capacitance tolerance code
- Rated voltage code
- Capacitor type S for SMC
- Manufacturing date code

| Rated Voltage | Code |
|---------------|------|
| 50 VDC        | Z    |
| 100 VDC       | D    |
| 250 VDC       | H    |
| 400 VDC       | K    |

### Manufacturing Date Code (IEC 60062)

Y = Year, Z = Month

| Year | Code | Month     | Code |
|------|------|-----------|------|
| 2000 | M    | January   | 1    |
| 2001 | N    | February  | 2    |
| 2002 | P    | March     | 3    |
| 2003 | R    | April     | 4    |
| 2004 | S    | May       | 5    |
| 2005 | T    | June      | 6    |
| 2006 | U    | July      | 7    |
| 2007 | V    | August    | 8    |
| 2008 | W    | September | 9    |
| 2009 | X    | October   | 0    |
| 2010 | A    | November  | N    |
| 2011 | B    | December  | D    |
| 2012 | C    |           |      |
| 2013 | D    |           |      |
| 2014 | E    |           |      |
| 2015 | F    |           |      |
| 2016 | H    |           |      |
| 2017 | J    |           |      |
| 2018 | K    |           |      |
| 2019 | L    |           |      |
| 2020 | M    |           |      |

## Flux & Cleaning

KEMET recommends to use a no-clean flux with a halogen content lower than 0.1%.

To clean the PCB assembly KEMET recommends to use a suitable solvent like Isopropyl alcohol, deionized water or neutral pH detergents. Aggressive solvents shall not be used. For any different cleaning solvent used please contact KEMET Technical Services to analyze the potential impact on KEMET products.

## Storage and Moisture Recommendations

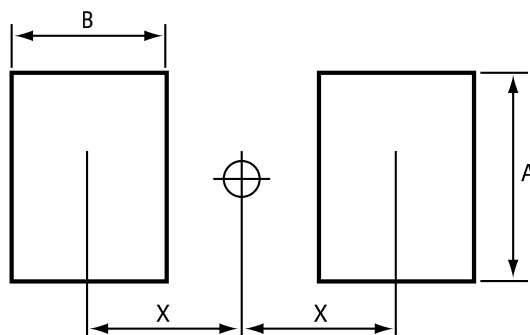
KEMET SMD Film Capacitors are supplied in a MBB (Moisture Barrier Bag) Class 1. We can guarantee a 24 months shelf life (temperature  $\leq 40^{\circ}\text{C}$ /relative humidity  $\leq 90\%$ ). After the MBB has been opened, components may stay in areas with controlled temperature and humidity (temperature  $\leq 30^{\circ}\text{C}$ /relative humidity  $\leq 60\%$ ) for 696 hours [MSL 2a]. For longer periods of time and/or higher temperature and/or higher relative humidity values, it is absolutely necessary to protect the components against humidity. If the reel inside the MBB is partially used, KEMET recommends to re-use the same MBB or to avoid areas without controlled temperature and humidity (see above). If the above conditions are not respected, components require a baking (minimum time: 48 hours at  $55 \pm 5^{\circ}\text{C}$ ) before the reflow.

## Packaging Quantities

| Chip Size<br>(EIA) | Base<br>(mm) | Height<br>(mm) | Length<br>(mm) | Bulk | Reel<br>Horizontal<br>Orientation | Reel<br>Vertical<br>Orientation |
|--------------------|--------------|----------------|----------------|------|-----------------------------------|---------------------------------|
| 2220               | 5            | 3              | 5.7            | 2000 | 2400                              |                                 |
| 2220               | 5            | 4              | 5.7            | 2000 | 2100                              |                                 |
| 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                             |

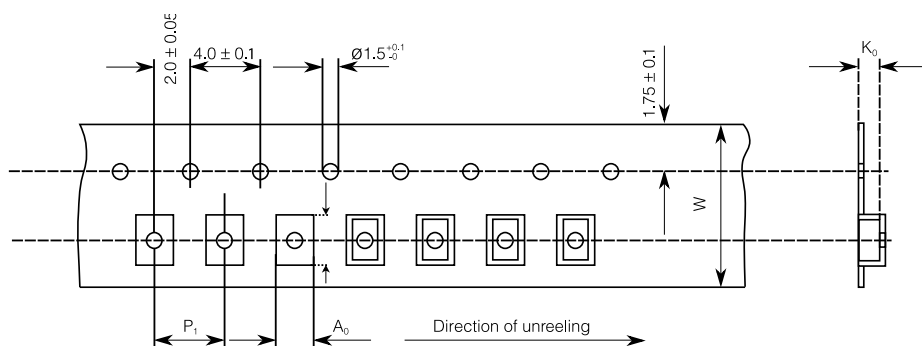
## Landing

| Mounting   | Chip Size | Dimensions in mm |     |     |
|------------|-----------|------------------|-----|-----|
|            |           | A                | B   | X   |
| Horizontal | 2220      | 5.1              | 1.5 | 3.0 |
|            | 2824      | 6.1              | 1.5 | 3.8 |
|            | 4036      | 9.1              | 2.0 | 5.5 |
|            | 5045      | 11.6             | 2.5 | 7.0 |
|            | 6560      | 15.0             | 3.0 | 9.0 |
| Vertical   | 4022      | 5.6              | 2.0 | 5.5 |
|            | 5026      | 6.6              | 2.5 | 7.0 |
|            | 6528      | 7.1              | 3.0 | 9.0 |



## Carrier Taping & Packaging (IEC 60286-2)

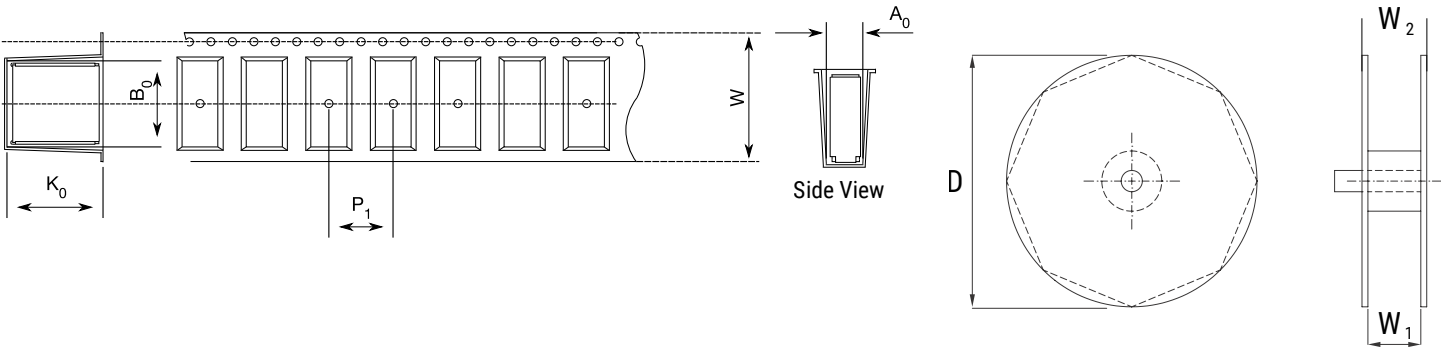
### Horizontal Taping Orientation



| Chip Size (EIA)<br>Horizontal<br>Mounting | Dimensions in mm |         |         | Taping Specification |                |                |                |                |        |                |                |
|-------------------------------------------|------------------|---------|---------|----------------------|----------------|----------------|----------------|----------------|--------|----------------|----------------|
|                                           | B                | H       | L       | W                    | P <sub>1</sub> | A <sub>0</sub> | B <sub>0</sub> | K <sub>0</sub> | D      | W <sub>1</sub> | W <sub>2</sub> |
|                                           | Nominal          | Nominal | Nominal | -0/+0.3              | +/-0.1         | Nominal        | Nominal        | Nominal        | -/+2.0 | -0/+2          | Maximum        |
| 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              | 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     | 16.0                 | 8.0            | 6.6            | 7.9            | 5.5            | 330    | 16.0           | 20.0           |
| 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<br>Vertical<br>Mounting                                                                | Dimensions in mm |         |         | Taping Specification |                |                |                |                |        |                |                |
|--------------------------------------------------------------------------------------------------|------------------|---------|---------|----------------------|----------------|----------------|----------------|----------------|--------|----------------|----------------|
|                                                                                                  | B                | H       | L       | W                    | P <sub>1</sub> | A <sub>0</sub> | B <sub>0</sub> | K <sub>0</sub> | D      | W <sub>1</sub> | W <sub>2</sub> |
|                                                                                                  | 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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