

# F161 Series Encapsulated Stacked, Size 2220 – 6560, 50 – 400 VDC

## Overview

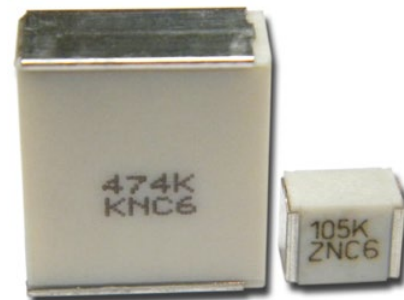
KEMET's F161 Series polyester (PET) film capacitor for surface mounting is encapsulated in self-extinguishing material meeting the requirements of UL 94 V-0.

## Applications

Typical applications include bypassing and signal coupling. F161 is a general purpose series designed for the highest reliability.

## Benefits

- Rated voltage: 50 – 400 VDC
- Rated voltage: 30 – 200 VAC
- Capacitance range: 0.01 – 12  $\mu$ F
- EIA size: 2220 – 6560
- Capacitance tolerance:  $\pm$ 5%,  $\pm$ 10%, other tolerances on request
- Climatic category: 55/125/56
- RoHS Compliant and lead-free terminations
- Operating temperature range of -55°C to +125°C



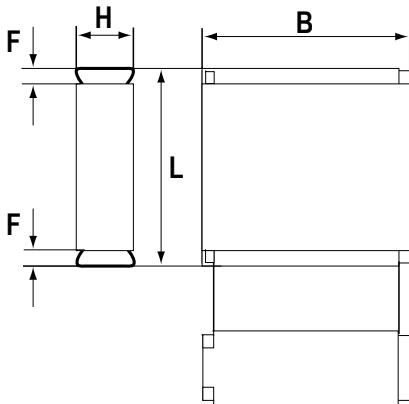
## Part Number System

F	161	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 Stacked Technology	P = 2220 S = 2824 W = 4036 Y = 5045 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.	J = $\pm$ 5 K = $\pm$ 10% Other tolerances on request	050 = 50 063 = 63 100 = 100 250 = 250 400 = 400	See Ordering Options Table

## Ordering Options Table

Chip Size (EIA)	Packaging Type	Packaging Code
2220	<b>Standard Packaging Options</b>	
	Tape & Reel (Standard Reel)	V
	Bulk (Bag)	A
2824	<b>Standard Packaging Options</b>	
	Tape & Reel (Standard Reel)	V
	Bulk (Bag)	A
4036	<b>Standard Packaging Options</b>	
	Tape & Reel (Standard Reel)	V
	Bulk (Bag)	A
	<b>Other Packaging Options</b>	
	Tape & Reel (Vertical Orientation Standard Reel)	Y
5045	<b>Standard Packaging Options</b>	
	Tape & Reel (Standard Reel)	V
	Bulk (Bag)	A
	<b>Other Packaging Options</b>	
	Tape & Reel (Vertical Orientation Standard Reel)	Y
6560	<b>Standard Packaging Options</b>	
	Tape & Reel (Standard Reel)	V
	Bulk (Bag)	A
	<b>Other Packaging Options</b>	
	Tape & Reel (Vertical Orientation Standard Reel)	Y

## Dimensions – Millimeters



Size Code	Chip Size (EIA)	B		H		L		F	
		Nominal	Tolerance	Nominal	Tolerance	Nominal	Tolerance	Nominal	Tolerance
PL	2220	5.0	+/-0.2	2.5	+/-0.2	5.7	+/-0.2	0.5	Nominal
PP	2220	5.0	+/-0.2	3.0	+/-0.2	5.7	+/-0.2	0.5	Nominal
PU	2220	5.0	+/-0.2	4.0	+/-0.2	5.7	+/-0.2	0.5	Nominal
SG	2824	6.0	+/-0.2	2.5	+/-0.2	7.3	+/-0.2	0.5	Nominal
SL	2824	6.0	+/-0.2	3.0	+/-0.2	7.3	+/-0.2	0.5	Nominal
SP	2824	6.0	+/-0.2	3.5	+/-0.2	7.3	+/-0.2	0.5	Nominal
ST	2824	6.0	+/-0.2	4.5	+/-0.2	7.3	+/-0.2	0.5	Nominal
WP	4036	9.1	+/-0.2	5.5	+/-0.2	10.2	+/-0.2	0.5	Nominal
YR	5045	11.5	+/-0.2	6.5	+/-0.2	12.7	+/-0.2	0.5	Nominal
ZS	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.

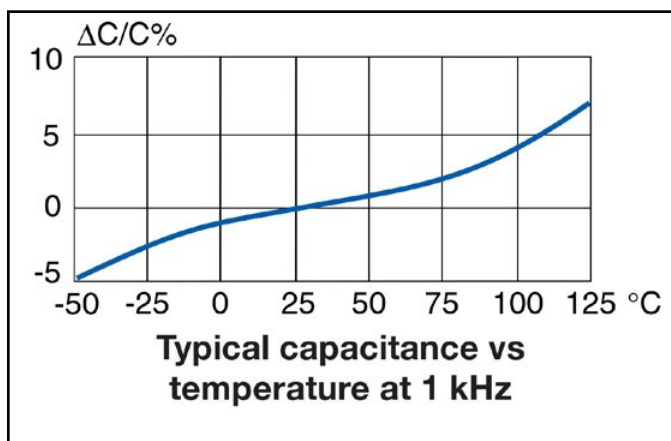


RoHS Compliant

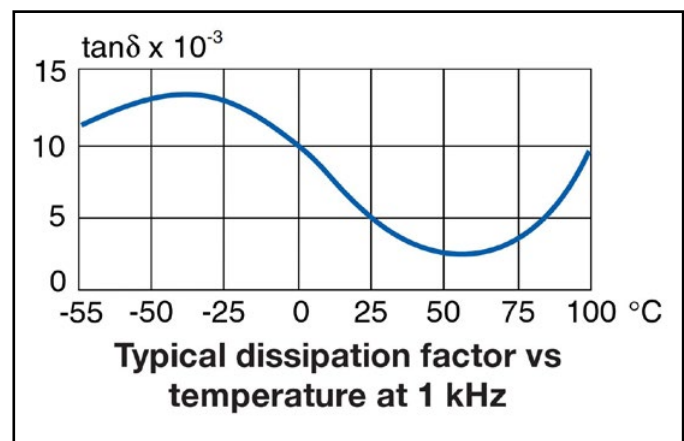
## Performance Characteristics

Rated Voltage (VDC)	50	63	100	250	400	
Rated Voltage (VAC)	30	40	63	160	200	
Capacitance Range (μF)	0.01 – 12	0.01 – 4.7	0.01 – 3.3	0.01 – 1	0.022 – 0.47	
Chip Size (EIA)	2220 – 6560					
Capacitance Tolerance	±5%, ±10%, other tolerances on request					
Category Temperature Range	-55°C to +125°C					
Rated Temperature	+85°C					
Voltage Derating	The rated voltage is decreased with 1.25%/°C from +85°C					
Climatic Category	55/125/56					
Test Voltage	1.6 x V <sub>R</sub> , 60 seconds					
Insulation Resistance	Measured at +20°C, Charging Time 1 Minute					
	Minimum Values Between Terminals					
	Charging Voltage	C ≤ 0.33 μF		C > 0.33 μF		
	10 V for V <sub>R</sub> ≤ 100	1,000 MΩ		400 MΩ · μF		
100 v for V <sub>R</sub> > 100	1,000 MΩ		400 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%				
Maximum Pulse Rise Time	The capacitors can withstand an unlimited number of pulses with a dV/dt according to Table below.					
	Voltage Range	50 VDC	63 VDC	100 VDC	250 VDC	400 VDC
	dV/dt (V/μs)	40	40	50	150	200

### Capacitance vs. Temperature



### Dissipation Factor vs. Temperature



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

VDC	VAC	Capacitance Value (µF)	Size Code	Chip Size	Dimension in mm			dV/dt (V/µs)	Part Number	Remark
					B	H	L			
50	30	0.01	J31	2220	5.0	2.5	5.7	40	F161PL103(1)050(2)	pending
50	30	0.012	J31	2220	5.0	2.5	5.7	40	F161PL123(1)050(2)	pending
50	30	0.015	J31	2220	5.0	2.5	5.7	40	F161PL153(1)050(2)	pending
50	30	0.018	J31	2220	5.0	2.5	5.7	40	F161PL183(1)050(2)	pending
50	30	0.022	J31	2220	5.0	2.5	5.7	40	F161PL223(1)050(2)	pending
50	30	0.027	J31	2220	5.0	2.5	5.7	40	F161PL273(1)050(2)	pending
50	30	0.033	J31	2220	5.0	2.5	5.7	40	F161PL333(1)050(2)	pending
50	30	0.039	J31	2220	5.0	2.5	5.7	40	F161PL393(1)050(2)	pending
50	30	0.047	J31	2220	5.0	2.5	5.7	40	F161PL473(1)050(2)	pending
50	30	0.056	J31	2220	5.0	2.5	5.7	40	F161PL563(1)050(2)	pending
50	30	0.068	J31	2220	5.0	2.5	5.7	40	F161PL683(1)050(2)	pending
50	30	0.082	J31	2220	5.0	2.5	5.7	40	F161PL823(1)050(2)	pending
50	30	0.1	J31	2220	5.0	2.5	5.7	40	F161PL104(1)050(2)	pending
50	30	0.12	J33	2220	5.0	3.0	5.7	40	F161PP124(1)050(2)	pending
50	30	0.15	J33	2220	5.0	3.0	5.7	40	F161PP154(1)050(2)	pending
50	30	0.18	J35	2220	5.0	4.0	5.7	40	F161PU184(1)050(2)	pending
50	30	0.22	J35	2220	5.0	4.0	5.7	40	F161PU224(1)050(2)	pending
50	30	0.01	K31	2824	6.0	2.5	7.3	40	F161SG103(1)050(2)	pending
50	30	0.012	K31	2824	6.0	2.5	7.3	40	F161SG123(1)050(2)	pending
50	30	0.015	K31	2824	6.0	2.5	7.3	40	F161SG153(1)050(2)	pending
50	30	0.018	K31	2824	6.0	2.5	7.3	40	F161SG183(1)050(2)	pending
50	30	0.022	K31	2824	6.0	2.5	7.3	40	F161SG223(1)050(2)	pending
50	30	0.027	K31	2824	6.0	2.5	7.3	40	F161SG273(1)050(2)	pending
50	30	0.033	K31	2824	6.0	2.5	7.3	40	F161SG333(1)050(2)	pending
50	30	0.039	K31	2824	6.0	2.5	7.3	40	F161SG393(1)050(2)	pending
50	30	0.047	K31	2824	6.0	2.5	7.3	40	F161SG473(1)050(2)	pending
50	30	0.056	K31	2824	6.0	2.5	7.3	40	F161SG563(1)050(2)	pending
50	30	0.068	K31	2824	6.0	2.5	7.3	40	F161SG683(1)050(2)	pending
50	30	0.082	K31	2824	6.0	2.5	7.3	40	F161SG823(1)050(2)	pending
50	30	0.1	K31	2824	6.0	2.5	7.3	40	F161SG104(1)050(2)	pending
50	30	0.12	K31	2824	6.0	2.5	7.3	40	F161SG124(1)050(2)	pending
50	30	0.15	K31	2824	6.0	2.5	7.3	40	F161SG154(1)050(2)	pending
50	30	0.18	K33	2824	6.0	3.0	7.3	40	F161SL184(1)050(2)	pending
50	30	0.22	K33	2824	6.0	3.0	7.3	40	F161SL224(1)050(2)	pending
50	30	0.27	K35	2824	6.0	3.5	7.3	40	F161SP274(1)050(2)	pending
50	30	0.33	K35	2824	6.0	3.5	7.3	40	F161SP334(1)050(2)	pending
50	30	0.39	K35	2824	6.0	3.5	7.3	40	F161SP394(1)050(2)	pending
50	30	0.47	K35	2824	6.0	3.5	7.3	40	F161SP474(1)050(2)	pending
50	30	0.56	K37	2824	6.0	4.5	7.3	40	F161ST564(1)050(2)	pending
50	30	0.68	K37	2824	6.0	4.5	7.3	40	F161ST684(1)050(2)	pending
50	30	0.82	K37	2824	6.0	4.5	7.3	40	F161ST824(1)050(2)	pending
50	30	1	K37	2824	6.0	4.5	7.3	40	F161ST105(1)050(2)	pending
50	30	0.022	A31	4036	9.1	5.5	10.2	40	F161WP223(1)050(2)	
50	30	0.027	A31	4036	9.1	5.5	10.2	40	F161WP273(1)050(2)	
50	30	0.033	A31	4036	9.1	5.5	10.2	40	F161WP333(1)050(2)	
50	30	0.039	A31	4036	9.1	5.5	10.2	40	F161WP393(1)050(2)	
50	30	0.047	A31	4036	9.1	5.5	10.2	40	F161WP473(1)050(2)	
50	30	0.056	A31	4036	9.1	5.5	10.2	40	F161WP563(1)050(2)	
50	30	0.068	A31	4036	9.1	5.5	10.2	40	F161WP683(1)050(2)	
50	30	0.082	A31	4036	9.1	5.5	10.2	40	F161WP823(1)050(2)	
50	30	0.1	A31	4036	9.1	5.5	10.2	40	F161WP104(1)050(2)	
50	30	0.12	A31	4036	9.1	5.5	10.2	40	F161WP124(1)050(2)	
50	30	0.15	A31	4036	9.1	5.5	10.2	40	F161WP154(1)050(2)	
50	30	0.18	A31	4036	9.1	5.5	10.2	40	F161WP184(1)050(2)	
50	30	0.22	A31	4036	9.1	5.5	10.2	40	F161WP224(1)050(2)	
50	30	0.27	A31	4036	9.1	5.5	10.2	40	F161WP274(1)050(2)	
50	30	0.33	A31	4036	9.1	5.5	10.2	40	F161WP334(1)050(2)	
50	30	0.39	A31	4036	9.1	5.5	10.2	40	F161WP394(1)050(2)	
VDC	VAC	Capacitance Value (µF)	Size Code	Chip Size	B (mm)	H (mm)	L (mm)	dV/dt (Vµs)	Part Number	Remark

(1) J = ±5%, K = ±10%, other tolerances on request.

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

Pending: Available in approximately 6 months. Please check our web site regularly for updates.

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

VDC	VAC	Capacitance Value (µF)	Size Code	Chip Size	Dimension in mm			dV/dt (V/µs)	Part Number	Remark
					B	H	L			
50	30	0.47	A31	4036	9.1	5.5	10.2	40	F161WP474(1)050(2)	
50	30	0.56	A31	4036	9.1	5.5	10.2	40	F161WP564(1)050(2)	
50	30	0.68	A31	4036	9.1	5.5	10.2	40	F161WP684(1)050(2)	
50	30	0.82	A31	4036	9.1	5.5	10.2	40	F161WP824(1)050(2)	
50	30	1	A31	4036	9.1	5.5	10.2	40	F161WP105(1)050(2)	
50	30	1.2	A31	4036	9.1	5.5	10.2	40	F161WP125(1)050(2)	
50	30	1.5	A31	4036	9.1	5.5	10.2	40	F161WP155(1)050(2)	
50	30	1.8	A31	4036	9.1	5.5	10.2	40	F161WP185(1)050(2)	
50	30	2.2	A31	4036	9.1	5.5	10.2	40	F161WP225(1)050(2)	
50	30	2.7	B31	5045	11.5	6.5	12.7	40	F161YR275(1)050(2)	pending
50	30	3.3	B31	5045	11.5	6.5	12.7	40	F161YR335(1)050(2)	pending
50	30	3.9	B31	5045	11.5	6.5	12.7	40	F161YR395(1)050(2)	pending
50	30	4.7	B31	5045	11.5	6.5	12.7	40	F161YR475(1)050(2)	pending
50	30	5.6	C31	6560	15.0	7.0	16.5	40	F161ZS565(1)050(2)	pending
50	30	6.8	C31	6560	15.0	7.0	16.5	40	F161ZS685(1)050(2)	pending
50	30	8.2	C31	6560	15.0	7.0	16.5	40	F161ZS825(1)050(2)	pending
50	30	10.0	C31	6560	15.0	7.0	16.5	40	F161ZS106(1)050(2)	pending
50	30	12.0	C31	6560	15.0	7.0	16.5	40	F161ZS126(1)050(2)	pending
63	40	0.01	K31	2824	6.0	2.5	7.3	40	F161SG103(1)063(2)	pending
63	40	0.012	K31	2824	6.0	2.5	7.3	40	F161SG123(1)063(2)	pending
63	40	0.015	K31	2824	6.0	2.5	7.3	40	F161SG153(1)063(2)	pending
63	40	0.018	K31	2824	6.0	2.5	7.3	40	F161SG183(1)063(2)	pending
63	40	0.022	K31	2824	6.0	2.5	7.3	40	F161SG223(1)063(2)	pending
63	40	0.027	K31	2824	6.0	2.5	7.3	40	F161SG273(1)063(2)	pending
63	40	0.033	K31	2824	6.0	2.5	7.3	40	F161SG333(1)063(2)	pending
63	40	0.039	K31	2824	6.0	2.5	7.3	40	F161SG393(1)063(2)	pending
63	40	0.047	K31	2824	6.0	2.5	7.3	40	F161SG473(1)063(2)	pending
63	40	0.056	K31	2824	6.0	2.5	7.3	40	F161SG563(1)063(2)	pending
63	40	0.068	K31	2824	6.0	2.5	7.3	40	F161SG683(1)063(2)	pending
63	40	0.082	K31	2824	6.0	2.5	7.3	40	F161SG823(1)063(2)	pending
63	40	0.1	K31	2824	6.0	2.5	7.3	40	F161SG104(1)063(2)	pending
63	40	0.12	K31	2824	6.0	2.5	7.3	40	F161SG124(1)063(2)	pending
63	40	0.15	K31	2824	6.0	2.5	7.3	40	F161SG154(1)063(2)	pending
63	40	0.18	K33	2824	6.0	3.0	7.3	40	F161SL184(1)063(2)	pending
63	40	0.22	K33	2824	6.0	3.0	7.3	40	F161SL224(1)063(2)	pending
63	40	0.27	K35	2824	6.0	3.5	7.3	40	F161SP274(1)063(2)	pending
63	40	0.33	K35	2824	6.0	3.5	7.3	40	F161SP334(1)063(2)	pending
63	40	0.39	K35	2824	6.0	3.5	7.3	40	F161SP394(1)063(2)	pending
63	40	0.47	K35	2824	6.0	3.5	7.3	40	F161SP474(1)063(2)	pending
63	40	0.022	A31	4036	9.1	5.5	10.2	40	F161WP223(1)063(2)	
63	40	0.027	A31	4036	9.1	5.5	10.2	40	F161WP273(1)063(2)	
63	40	0.033	A31	4036	9.1	5.5	10.2	40	F161WP333(1)063(2)	
63	40	0.039	A31	4036	9.1	5.5	10.2	40	F161WP393(1)063(2)	
63	40	0.047	A31	4036	9.1	5.5	10.2	40	F161WP473(1)063(2)	
63	40	0.056	A31	4036	9.1	5.5	10.2	40	F161WP563(1)063(2)	
63	40	0.068	A31	4036	9.1	5.5	10.2	40	F161WP683(1)063(2)	
63	40	0.082	A31	4036	9.1	5.5	10.2	40	F161WP823(1)063(2)	
63	40	0.1	A31	4036	9.1	5.5	10.2	40	F161WP104(1)063(2)	
63	40	0.12	A31	4036	9.1	5.5	10.2	40	F161WP124(1)063(2)	
63	40	0.15	A31	4036	9.1	5.5	10.2	40	F161WP154(1)063(2)	
63	40	0.18	A31	4036	9.1	5.5	10.2	40	F161WP184(1)063(2)	
63	40	0.22	A31	4036	9.1	5.5	10.2	40	F161WP224(1)063(2)	
63	40	0.27	A31	4036	9.1	5.5	10.2	40	F161WP274(1)063(2)	
63	40	0.33	A31	4036	9.1	5.5	10.2	40	F161WP334(1)063(2)	
63	40	0.39	A31	4036	9.1	5.5	10.2	40	F161WP394(1)063(2)	
63	40	0.47	A31	4036	9.1	5.5	10.2	40	F161WP474(1)063(2)	
63	40	0.56	A31	4036	9.1	5.5	10.2	40	F161WP564(1)063(2)	
63	40	0.68	A31	4036	9.1	5.5	10.2	40	F161WP684(1)063(2)	
VDC	VAC	Capacitance Value (µF)	Size Code	Chip Size	B (mm)	H (mm)	L (mm)	dV/dt (V/µs)	Part Number	Remark

(1) J = ±5%, K = ±10%, other tolerances on request.

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

Pending: Available in approximately 6 months. Please check our web site regularly for updates.

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

VDC	VAC	Capacitance Value (µF)	Size Code	Chip Size	Dimension in mm			dV/dt (V/µs)	Part Number	Remark
					B	H	L			
63	40	0.82	A31	4036	9.1	5.5	10.2	40	F161WP824(1)063(2)	
63	40	1	A31	4036	9.1	5.5	10.2	40	F161WP105(1)063(2)	
63	40	1.2	A31	4036	9.1	5.5	10.2	40	F161WP125(1)063(2)	
63	40	1.5	A31	4036	9.1	5.5	10.2	40	F161WP155(1)063(2)	
63	40	1.8	B31	5045	11.5	6.5	12.7	40	F161YR185(1)063(2)	pending
63	40	2.2	B31	5045	11.5	6.5	12.7	40	F161YR225(1)063(2)	pending
63	40	2.7	B31	5045	11.5	6.5	12.7	40	F161YR275(1)063(2)	pending
63	40	3.3	B31	5045	11.5	6.5	12.7	40	F161YR335(1)063(2)	pending
63	40	3.9	C31	6560	15.0	7.0	16.5	40	F161ZS395(1)063(2)	pending
63	40	4.7	C31	6560	15.0	7.0	16.5	40	F161ZS475(1)063(2)	pending
100	63	0.01	J31	2220	5.0	2.5	5.7	50	F161PL103(1)100(2)	pending
100	63	0.012	J31	2220	5.0	2.5	5.7	50	F161PL123(1)100(2)	pending
100	63	0.015	J31	2220	5.0	2.5	5.7	50	F161PL153(1)100(2)	pending
100	63	0.018	J31	2220	5.0	2.5	5.7	50	F161PL183(1)100(2)	pending
100	63	0.022	J31	2220	5.0	2.5	5.7	50	F161PL223(1)100(2)	pending
100	63	0.027	J31	2220	5.0	2.5	5.7	50	F161PL273(1)100(2)	pending
100	63	0.033	J31	2220	5.0	2.5	5.7	50	F161PL333(1)100(2)	pending
100	63	0.039	J31	2220	5.0	2.5	5.7	50	F161PL393(1)100(2)	pending
100	63	0.047	J31	2220	5.0	2.5	5.7	50	F161PL473(1)100(2)	pending
100	63	0.056	J33	2220	5.0	3.0	5.7	50	F161PP563(1)100(2)	pending
100	63	0.068	J33	2220	5.0	3.0	5.7	50	F161PP683(1)100(2)	pending
100	63	0.082	J35	2220	5.0	4.0	5.7	50	F161PU823(1)100(2)	pending
100	63	0.1	J35	2220	5.0	4.0	5.7	50	F161PU104(1)100(2)	pending
100	63	0.01	K31	2824	6.0	2.5	7.3	50	F161SG103(1)100(2)	pending
100	63	0.012	K31	2824	6.0	2.5	7.3	50	F161SG123(1)100(2)	pending
100	63	0.015	K31	2824	6.0	2.5	7.3	50	F161SG153(1)100(2)	pending
100	63	0.018	K31	2824	6.0	2.5	7.3	50	F161SG183(1)100(2)	pending
100	63	0.022	K31	2824	6.0	2.5	7.3	50	F161SG223(1)100(2)	pending
100	63	0.027	K31	2824	6.0	2.5	7.3	50	F161SG273(1)100(2)	pending
100	63	0.033	K31	2824	6.0	2.5	7.3	50	F161SG333(1)100(2)	pending
100	63	0.039	K31	2824	6.0	2.5	7.3	50	F161SG393(1)100(2)	pending
100	63	0.047	K31	2824	6.0	2.5	7.3	50	F161SG473(1)100(2)	pending
100	63	0.056	K31	2824	6.0	2.5	7.3	50	F161SG563(1)100(2)	pending
100	63	0.068	K31	2824	6.0	2.5	7.3	50	F161SG683(1)100(2)	pending
100	63	0.082	K31	2824	6.0	2.5	7.3	50	F161SG823(1)100(2)	pending
100	63	0.1	K31	2824	6.0	2.5	7.3	50	F161SG104(1)100(2)	pending
100	63	0.12	K33	2824	6.0	3.0	7.3	50	F161SL124(1)100(2)	pending
100	63	0.15	K35	2824	6.0	3.5	7.3	50	F161SP154(1)100(2)	pending
100	63	0.18	K35	2824	6.0	3.5	7.3	50	F161SP184(1)100(2)	pending
100	63	0.22	K35	2824	6.0	4.5	7.3	50	F161ST224(1)100(2)	pending
100	63	0.022	A31	4036	9.1	5.5	10.2	50	F161WP223(1)100(2)	
100	63	0.027	A31	4036	9.1	5.5	10.2	50	F161WP273(1)100(2)	
100	63	0.033	A31	4036	9.1	5.5	10.2	50	F161WP333(1)100(2)	
100	63	0.039	A31	4036	9.1	5.5	10.2	50	F161WP393(1)100(2)	
100	63	0.047	A31	4036	9.1	5.5	10.2	50	F161WP473(1)100(2)	
100	63	0.056	A31	4036	9.1	5.5	10.2	50	F161WP563(1)100(2)	
100	63	0.068	A31	4036	9.1	5.5	10.2	50	F161WP683(1)100(2)	
100	63	0.082	A31	4036	9.1	5.5	10.2	50	F161WP823(1)100(2)	
100	63	0.1	A31	4036	9.1	5.5	10.2	50	F161WP104(1)100(2)	
100	63	0.12	A31	4036	9.1	5.5	10.2	50	F161WP124(1)100(2)	
100	63	0.15	A31	4036	9.1	5.5	10.2	50	F161WP154(1)100(2)	
100	63	0.18	A31	4036	9.1	5.5	10.2	50	F161WP184(1)100(2)	
100	63	0.22	A31	4036	9.1	5.5	10.2	50	F161WP224(1)100(2)	
100	63	0.27	A31	4036	9.1	5.5	10.2	50	F161WP274(1)100(2)	
100	63	0.33	A31	4036	9.1	5.5	10.2	50	F161WP334(1)100(2)	
100	63	0.39	A31	4036	9.1	5.5	10.2	50	F161WP394(1)100(2)	
100	63	0.47	A31	4036	9.1	5.5	10.2	50	F161WP474(1)100(2)	
100	63	0.56	B31	5045	11.5	6.5	12.7	50	F161YR564(1)100(2)	pending
VDC	VAC	Capacitance Value (µF)	Size Code	Chip Size	B (mm)	H (mm)	L (mm)	dV/dt (Vµs)	Part Number	Remark

(1) J = ±5%, K = ±10%, other tolerances on request.

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

Pending: Available in approximately 6 months. Please check our web site regularly for updates.



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

VDC	VAC	Capacitance Value (µF)	Size Code	Chip Size	Dimension in mm			dV/dt (V/µs)	Part Number	Remark
					B	H	L			
100	63	0.68	B31	5045	11.5	6.5	12.7	50	F161YR684(1)100(2)	pending
100	63	0.82	B31	5045	11.5	6.5	12.7	50	F161YR824(1)100(2)	pending
100	63	1	B31	5045	11.5	6.5	12.7	50	F161YR105(1)100(2)	pending
100	63	1.2	C31	6560	15.0	7.0	16.5	50	F161ZS125(1)100(2)	pending
100	63	1.5	C31	6560	15.0	7.0	16.5	50	F161ZS155(1)100(2)	pending
100	63	1.8	C31	6560	15.0	7.0	16.5	50	F161ZS185(1)100(2)	pending
100	63	2.2	C31	6560	15.0	7.0	16.5	50	F161ZS225(1)100(2)	pending
100	63	2.7	C31	6560	15.0	7.0	16.5	50	F161ZS275(1)100(2)	pending
100	63	3.3	C31	6560	15.0	7.0	16.5	50	F161ZS335(1)100(2)	pending
250	160	0.01	K31	2824	6.0	2.5	7.3	150	F161SG103(1)250(2)	pending
250	160	0.012	K31	2824	6.0	2.5	7.3	150	F161SG123(1)250(2)	pending
250	160	0.015	K31	2824	6.0	2.5	7.3	150	F161SG153(1)250(2)	pending
250	160	0.018	K33	2824	6.0	3.0	7.3	150	F161SL183(1)250(2)	pending
250	160	0.022	K33	2824	6.0	3.0	7.3	150	F161SL223(1)250(2)	pending
250	160	0.027	K35	2824	6.0	3.5	7.3	150	F161SP273(1)250(2)	pending
250	160	0.033	K35	2824	6.0	3.5	7.3	150	F161SP333(1)250(2)	pending
250	160	0.039	K35	2824	6.0	3.5	7.3	150	F161SP393(1)250(2)	pending
250	160	0.047	K37	2824	6.0	4.5	7.3	150	F161ST473(1)250(2)	pending
250	160	0.022	A31	4036	9.1	5.5	10.2	150	F161WP223(1)250(2)	
250	160	0.027	A31	4036	9.1	5.5	10.2	150	F161WP273(1)250(2)	
250	160	0.033	A31	4036	9.1	5.5	10.2	150	F161WP333(1)250(2)	
250	160	0.039	A31	4036	9.1	5.5	10.2	150	F161WP393(1)250(2)	
250	160	0.047	A31	4036	9.1	5.5	10.2	150	F161WP473(1)250(2)	
250	160	0.056	A31	4036	9.1	5.5	10.2	150	F161WP563(1)250(2)	
250	160	0.068	A31	4036	9.1	5.5	10.2	150	F161WP683(1)250(2)	
250	160	0.082	A31	4036	9.1	5.5	10.2	150	F161WP823(1)250(2)	
250	160	0.1	A31	4036	9.1	5.5	10.2	150	F161WP104(1)250(2)	
250	160	0.12	A31	4036	9.1	5.5	10.2	150	F161WP124(1)250(2)	
250	160	0.15	A31	4036	9.1	5.5	10.2	150	F161WP154(1)250(2)	
250	160	0.18	B31	5045	11.5	6.5	12.7	150	F161YR184(1)250(2)	pending
250	160	0.22	B31	5045	11.5	6.5	12.7	150	F161YR224(1)250(2)	pending
250	160	0.27	B31	5045	11.5	6.5	12.7	150	F161YR274(1)250(2)	pending
250	160	0.33	B31	5045	11.5	6.5	12.7	150	F161YR334(1)250(2)	pending
250	160	0.39	B31	5045	11.5	6.5	12.7	150	F161YR394(1)250(2)	pending
250	160	0.47	B31	5045	11.5	6.5	12.7	150	F161YR474(1)250(2)	pending
250	160	0.56	C31	6560	15.0	7.0	16.5	150	F161ZS564(1)250(2)	pending
250	160	0.68	C31	6560	15.0	7.0	16.5	150	F161ZS684(1)250(2)	pending
250	160	0.82	C31	6560	15.0	7.0	16.5	150	F161ZS824(1)250(2)	pending
250	160	1	C31	6560	15.0	7.0	16.5	150	F161ZS105(1)250(2)	pending
400	200	0.022	A31	4036	9.1	5.5	10.2	200	F161WP223(1)400(2)	pending
400	200	0.027	A31	4036	9.1	5.5	10.2	200	F161WP273(1)400(2)	pending
400	200	0.033	A31	4036	9.1	5.5	10.2	200	F161WP333(1)400(2)	pending
400	200	0.039	A31	4036	9.1	5.5	10.2	200	F161WP393(1)400(2)	pending
400	200	0.047	A31	4036	9.1	5.5	10.2	200	F161WP473(1)400(2)	pending
400	200	0.056	A31	4036	9.1	5.5	10.2	200	F161WP563(1)400(2)	pending
400	200	0.068	A31	4036	9.1	5.5	10.2	200	F161WP683(1)400(2)	pending
400	200	0.082	B31	5045	11.5	6.5	12.7	200	F161YR823(1)400(2)	pending
400	200	0.1	B31	5045	11.5	6.5	12.7	200	F161YR104(1)400(2)	pending
400	200	0.12	B31	5045	11.5	6.5	12.7	200	F161YR124(1)400(2)	pending
400	200	0.15	B31	5045	11.5	6.5	12.7	200	F161YR154(1)400(2)	pending
400	200	0.18	C31	6560	15.0	7.0	16.5	200	F161ZS184(1)400(2)	
400	200	0.22	C31	6560	15.0	7.0	16.5	200	F161ZS224(1)400(2)	
400	200	0.27	C31	6560	15.0	7.0	16.5	200	F161ZS274(1)400(2)	
400	200	0.33	C31	6560	15.0	7.0	16.5	200	F161ZS334(1)400(2)	
400	200	0.39	C31	6560	15.0	7.0	16.5	200	F161ZS394(1)400(2)	
400	200	0.47	C31	6560	15.0	7.0	16.5	200	F161ZS474(1)400(2)	
VDC	VAC	Capacitance Value (µF)	Size Code	Chip Size	B (mm)	H (mm)	L (mm)	dV/dt (Vµs)	Part Number	Remark

(1) J = ±5%, K = ±10%, other tolerances on request.

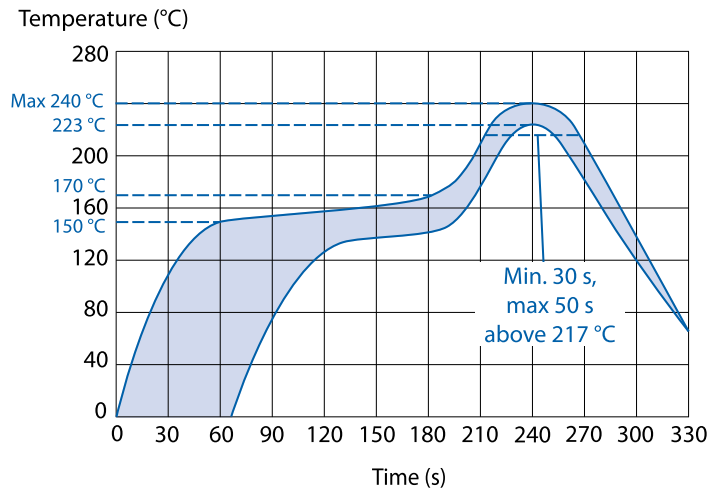
(2) Insert ordering code for lead type and packaging. See Ordering Options Table for available options.

Pending: Available in approximately 6 months. Please check our web site regularly for updates.



## 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

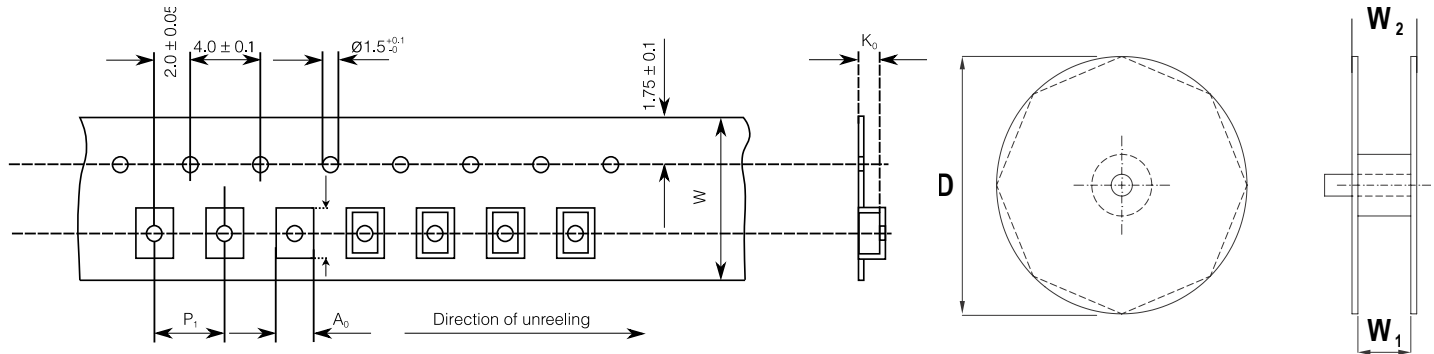
- Capacitance
- Capacitance tolerance code
- Rated voltage code
- Capacitor type N for F161
- Manufacturing date code

## 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)

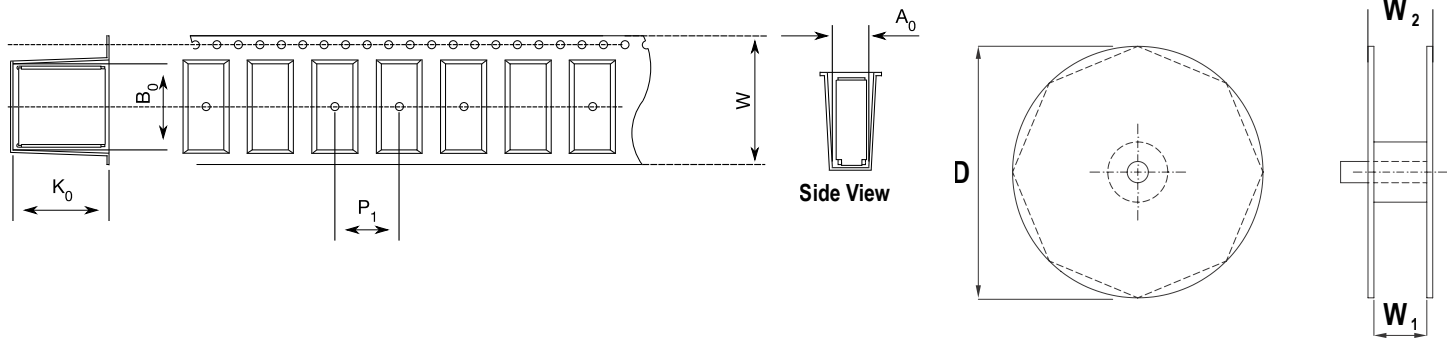
### Horizontal Taping Orientation



EIA Size Code Horizontal Mounting	Dimensions in mm			Taping Specification							
	B	H	L	W	P <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	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 <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.**

## KEMET Corporation World Headquarters

2835 KEMET Way  
Simpsonville, SC 29681

Mailing Address:  
P.O. Box 5928  
Greenville, SC 29606

www.kemet.com  
Tel: 864-963-6300  
Fax: 864-963-6521

**Corporate Offices**  
Fort Lauderdale, FL  
Tel: 954-766-2800

## North America

**Southeast**  
Lake Mary, FL  
Tel: 407-855-8886

**Northeast**  
Wilmington, MA  
Tel: 978-658-1663

**Central**  
Novi, MI  
Tel: 248-306-9353

**West**  
Milpitas, CA  
Tel: 408-433-9950

**Mexico**  
Guadalajara, Jalisco  
Tel: 52-33-3123-2141

## Europe

**Southern Europe**  
Paris, France  
Tel: 33-1-4646-1006

Sasso Marconi, Italy  
Tel: 39-051-939111

**Central Europe**  
Landsberg, Germany  
Tel: 49-8191-3350800

Kamen, Germany  
Tel: 49-2307-438110

**Northern Europe**  
Bishop's Stortford, United Kingdom  
Tel: 44-1279-460122

Espoo, Finland  
Tel: 358-9-5406-5000

## Asia

**Northeast Asia**  
Hong Kong  
Tel: 852-2305-1168

Shenzhen, China  
Tel: 86-755-2518-1306

Beijing, China  
Tel: 86-10-5829-1711

Shanghai, China  
Tel: 86-21-6447-0707

Taipei, Taiwan  
Tel: 886-2-27528585

**Southeast Asia**  
Singapore  
Tel: 65-6586-1900

Penang, Malaysia  
Tel: 60-4-6430200

Bangalore, India  
Tel: 91-806-53-76817

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