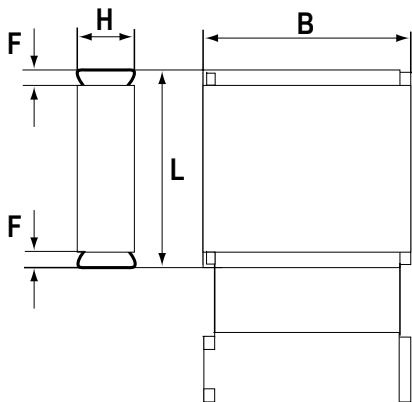


Ordering Options Table

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

Dimensions – Millimeters



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

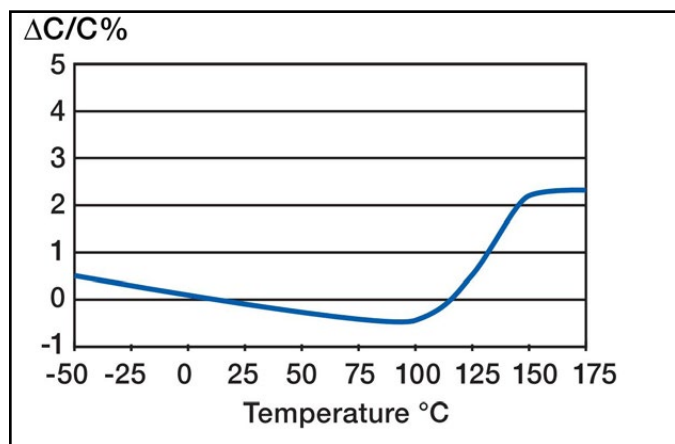
Environmental Compliance

All KEMET surface mount capacitors are RoHS Compliant.

Performance Characteristics

Rated Voltage (VDC)	100	250	400	630
Rated Voltage (VAC)	63	160	250	350
Capacitance Range (μF)	0.00047 – 0.68	0.00047 – 0.33	0.00047 – 0.15	0.00047 – 0.10
Chip Size (EIA)	2824 – 6560			
Capacitance Tolerance	±2%, ±2.5%, ±5%, ±10%			
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 _R , 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 _R ≤ 100	50,000 MΩ		16,500 MΩ • μF
	V _R > 100	100,000 MΩ		
Dissipation Factor	Maximum Values at +23°C			
		C ≤ 0.1 μF		0.1 < C < 0.68 μF
	1 kHz	0.10%		0.10%
	10 kHz	0.15%		0.15%
	100 kHz	0.20%		0.40%
Pulse Rise Time	The capacitors can withstand an unlimited number of pulses with a dV/dt according to Table 1. For voltages (V) lower than the rated voltage (V _R), the specified dV/dt can be multiplied by V _R /V.			

Capacitance vs. Temperature



Dissipation Factor vs. Temperature

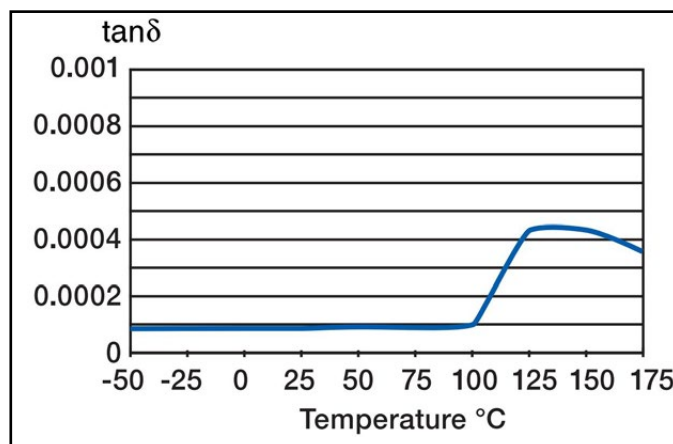


Table 1 – Ratings & Part Number Reference

VDC	VAC	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	0.00047	SG/K31	6.0	2.5	7.3	2824	800	F127SG471(1)100(2)	SPC7.3471(1)100K31(2)
100	63	0.00068	SG/K31	6.0	2.5	7.3	2824	800	F127SG681(1)100(2)	SPC7.3681(1)100K31(2)
100	63	0.0010	SG/K31	6.0	2.5	7.3	2824	800	F127SG102(1)100(2)	SPC7.3102(1)100K31(2)
100	63	0.0015	SG/K31	6.0	2.5	7.3	2824	800	F127SG152(1)100(2)	SPC7.3152(1)100K31(2)
100	63	0.0022	SG/K31	6.0	2.5	7.3	2824	800	F127SG222(1)100(2)	SPC7.3222(1)100K31(2)
100	63	0.0033	SG/K31	6.0	2.5	7.3	2824	800	F127SG332(1)100(2)	SPC7.3332(1)100K31(2)
100	63	0.0047	SG/K31	6.0	2.5	7.3	2824	800	F127SG472(1)100(2)	SPC7.3472(1)100K31(2)
100	63	0.0068	SG/K31	6.0	2.5	7.3	2824	800	F127SG682(1)100(2)	SPC7.3682(1)100K31(2)
100	63	0.010	SG/K31	6.0	2.5	7.3	2824	800	F127SG103(1)100(2)	SPC7.3103(1)100K31(2)
100	63	0.015	SL/K33	6.0	3.0	7.3	2824	800	F127SL153(1)100(2)	SPC7.3153(1)100K33(2)
100	63	0.022	SP/K35	6.0	3.5	7.3	2824	800	F127SP223(1)100(2)	SPC7.3223(1)100K35(2)
100	63	0.033	ST/K37	6.0	4.5	7.3	2824	800	F127ST333(1)100(2)	SPC7.3333(1)100K37(2)
100	63	0.0068	WP/A31	9.1	5.5	10.2	4036	600	F127WP682(1)100(2)	SPC10.2682(1)100A31(2)
100	63	0.010	WP/A31	9.1	5.5	10.2	4036	600	F127WP103(1)100(2)	SPC10.2103(1)100A31(2)
100	63	0.015	WP/A31	9.1	5.5	10.2	4036	600	F127WP153(1)100(2)	SPC10.2153(1)100A31(2)
100	63	0.022	WP/A31	9.1	5.5	10.2	4036	600	F127WP223(1)100(2)	SPC10.2223(1)100A31(2)
100	63	0.033	WP/A31	9.1	5.5	10.2	4036	600	F127WP333(1)100(2)	SPC10.2333(1)100A31(2)
100	63	0.047	WP/A31	9.1	5.5	10.2	4036	600	F127WP473(1)100(2)	SPC10.2473(1)100A31(2)
100	63	0.068	WP/A31	9.1	5.5	10.2	4036	600	F127WP683(1)100(2)	SPC10.2683(1)100A31(2)
100	63	0.10	WP/A31	9.1	5.5	10.2	4036	600	F127WP104(1)100(2)	SPC10.2104(1)100A31(2)
100	63	0.15	YR/B31	11.5	6.5	12.7	5045	400	F127YR154(1)100(2)	SPC12.7154(1)100B31(2)
100	63	0.22	YR/B31	11.5	6.5	12.7	5045	400	F127YR224(1)100(2)	SPC12.7224(1)100B31(2)
100	63	0.33	ZS/C31	15.0	7.0	16.5	6560	150	F127ZS334(1)100(2)	SPC16.5334(1)100C31(2)
100	63	0.47	ZS/C31	15.0	7.0	16.5	6560	150	F127ZS474(1)100(2)	SPC16.5474(1)100C31(2)
100	63	0.68	ZS/C31	15.0	7.0	16.5	6560	150	F127ZS684(1)100(2)	SPC16.5684(1)100C31(2)
250	160	0.00047	SG/K31	6.0	2.5	7.3	2824	1200	F127SG471(1)250(2)	SPC7.3471(1)250K31(2)
250	160	0.00068	SG/K31	6.0	2.5	7.3	2824	1200	F127SG681(1)250(2)	SPC7.3681(1)250K31(2)
250	160	0.0010	SG/K31	6.0	2.5	7.3	2824	1200	F127SG102(1)250(2)	SPC7.3102(1)250K31(2)
250	160	0.0015	SG/K31	6.0	2.5	7.3	2824	1200	F127SG152(1)250(2)	SPC7.3152(1)250K31(2)
250	160	0.0022	SG/K31	6.0	2.5	7.3	2824	1200	F127SG222(1)250(2)	SPC7.3222(1)250K31(2)
250	160	0.0033	SG/K31	6.0	2.5	7.3	2824	1200	F127SG332(1)250(2)	SPC7.3332(1)250K31(2)
250	160	0.0047	SG/K31	6.0	2.5	7.3	2824	1200	F127SG472(1)250(2)	SPC7.3472(1)250K31(2)
250	160	0.0068	SL/K33	6.0	3.0	7.3	2824	1200	F127SL682(1)250(2)	SPC7.3682(1)250K33(2)
250	160	0.010	SP/K35	6.0	3.5	7.3	2824	1200	F127SP103(1)250(2)	SPC7.3103(1)250K35(2)
250	160	0.015	ST/K37	6.0	4.5	7.3	2824	1200	F127ST153(1)250(2)	SPC7.3153(1)250K37(2)
250	160	0.0068	WP/A31	9.1	5.5	10.2	4036	1000	F127WP682(1)250(2)	SPC10.2682(1)250A31(2)
250	160	0.010	WP/A31	9.1	5.5	10.2	4036	1000	F127WP103(1)250(2)	SPC10.2103(1)250A31(2)
250	160	0.015	WP/A31	9.1	5.5	10.2	4036	1000	F127WP153(1)250(2)	SPC10.2153(1)250A31(2)
250	160	0.022	WP/A31	9.1	5.5	10.2	4036	1000	F127WP223(1)250(2)	SPC10.2223(1)250A31(2)
250	160	0.033	WP/A31	9.1	5.5	10.2	4036	1000	F127WP333(1)250(2)	SPC10.2333(1)250A31(2)
250	160	0.047	WP/A31	9.1	5.5	10.2	4036	1000	F127WP473(1)250(2)	SPC10.2473(1)250A31(2)
250	160	0.068	YR/B31	11.5	6.5	12.7	5045	700	F127YR683(1)250(2)	SPC12.7683(1)250B31(2)
250	160	0.10	YR/B31	11.5	6.5	12.7	5045	700	F127YR104(1)250(2)	SPC12.7104(1)250B31(2)
250	160	0.15	ZS/C31	15.0	7.0	16.5	6560	350	F127ZS154(1)250(2)	SPC16.5154(1)250C31(2)
250	160	0.22	ZS/C31	15.0	7.0	16.5	6560	350	F127ZS224(1)250(2)	SPC16.5224(1)250C31(2)
250	160	0.33	ZS/C31	15.0	7.0	16.5	6560	350	F127ZS334(1)250(2)	SPC16.5334(1)250C31(2)
400	250	0.00047	SG/K31	6.0	2.5	7.3	2824	1600	F127SG471(1)400(2)	SPC7.3471(1)400K31(2)
400	250	0.00068	SG/K31	6.0	2.5	7.3	2824	1600	F127SG681(1)400(2)	SPC7.3681(1)400K31(2)
400	250	0.0010	SG/K31	6.0	2.5	7.3	2824	1600	F127SG102(1)400(2)	SPC7.3102(1)400K31(2)
400	250	0.0015	SG/K31	6.0	2.5	7.3	2824	1600	F127SG152(1)400(2)	SPC7.3152(1)400K31(2)
400	250	0.0022	SG/K31	6.0	2.5	7.3	2824	1600	F127SG222(1)400(2)	SPC7.3222(1)400K31(2)
400	250	0.0033	SL/K33	6.0	3.0	7.3	2824	1600	F127SL332(1)400(2)	SPC7.3332(1)400K33(2)
400	250	0.0047	SP/K35	6.0	3.5	7.3	2824	1600	F127SP472(1)400(2)	SPC7.3472(1)400K35(2)
400	250	0.0068	ST/K37	6.0	4.5	7.3	2824	1600	F127ST682(1)400(2)	SPC7.3682(1)400K37(2)
400	250	0.0068	WP/A31	9.1	5.5	10.2	4036	1300	F127WP682(1)400(2)	SPC10.2682(1)400A31(2)
400	250	0.010	WP/A31	9.1	5.5	10.2	4036	1300	F127WP103(1)400(2)	SPC10.2103(1)400A31(2)
400	250	0.015	WP/A31	9.1	5.5	10.2	4036	1300	F127WP153(1)400(2)	SPC10.2153(1)400A31(2)
400	250	0.022	WP/A31	9.1	5.5	10.2	4036	1300	F127WP223(1)400(2)	SPC10.2223(1)400A31(2)
400	250	0.033	YR/B31	11.5	6.5	12.7	5045	900	F127YR333(1)400(2)	SPC12.7333(1)400B31(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%, K = ±10%.

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

Table 1 – Ratings & Part Number Reference cont'd

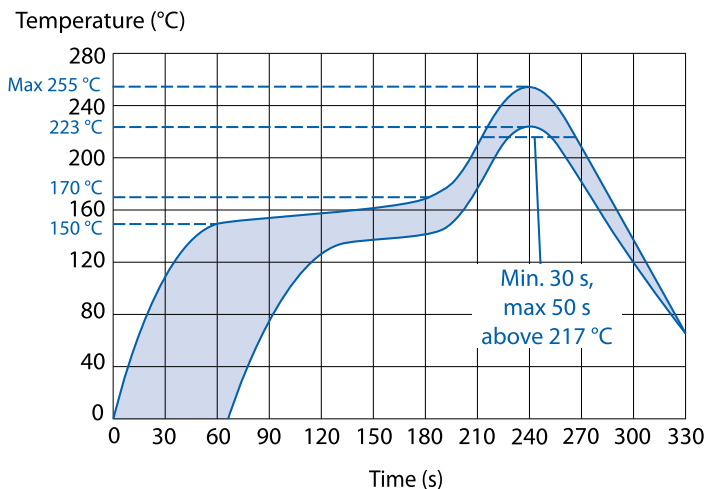
VDC	VAC	Capacitance Value (µF)	Size Code (New/Legacy)	Dimensions in mm			Chip Size	dV/dt (V/µs)	New KEMET Part Number	Legacy Part Number
				B	H	L				
400	250	0.047	YR/B31	11.5	6.5	12.7	5045	900	F127YR473(1)400(2)	SPC12.7473(1)400B31(2)
400	250	0.068	ZS/C31	15.0	7.0	16.5	6560	450	F127ZS683(1)400(2)	SPC16.5683(1)400C31(2)
400	250	0.10	ZS/C31	15.0	7.0	16.5	6560	450	F127ZS104(1)400(2)	SPC16.5104(1)400C31(2)
400	250	0.15	ZS/C31	15.0	7.0	16.5	6560	450	F127ZS154(1)400(2)	SPC16.5154(1)400C31(2)
630	350	0.00047	SG/K31	6.0	2.5	7.3	2824	2000	F127SG471(1)630(2)	SPC7.3471(1)630K31(2)
630	350	0.00068	SG/K31	6.0	2.5	7.3	2824	2000	F127SG681(1)630(2)	SPC7.3681(1)630K31(2)
630	350	0.0010	SG/K31	6.0	2.5	7.3	2824	2000	F127SG102(1)630(2)	SPC7.3102(1)630K31(2)
630	350	0.0015	SG/K31	6.0	2.5	7.3	2824	2000	F127SG152(1)630(2)	SPC7.3152(1)630K31(2)
630	350	0.0022	SL/K33	6.0	3.0	7.3	2824	2000	F127SL222(1)630(2)	SPC7.3222(1)630K33(2)
630	350	0.0033	SP/K35	6.0	3.5	7.3	2824	2000	F127SP332(1)630(2)	SPC7.3332(1)630K35(2)
630	350	0.0047	ST/K37	6.0	4.5	7.3	2824	2000	F127ST472(1)630(2)	SPC7.3472(1)630K37(2)
630	350	0.0068	WP/A31	9.1	5.5	10.2	4036	1600	F127WP682(1)630(2)	SPC10.2682(1)630A31(2)
630	350	0.010	WP/A31	9.1	5.5	10.2	4036	1600	F127WP103(1)630(2)	SPC10.2103(1)630A31(2)
630	350	0.015	WP/A31	9.1	5.5	10.2	4036	1600	F127WP153(1)630(2)	SPC10.2153(1)630A31(2)
630	350	0.022	YR/B31	11.5	6.5	12.7	5045	1100	F127YR223(1)630(2)	SPC12.7223(1)630B31(2)
630	350	0.033	YR/B31	11.5	6.5	12.7	5045	1100	F127YR333(1)630(2)	SPC12.7333(1)630B31(2)
630	350	0.047	ZS/C31	15.0	7.0	16.5	6560	550	F127ZS473(1)630(2)	SPC16.5473(1)630C31(2)
630	350	0.068	ZS/C31	15.0	7.0	16.5	6560	550	F127ZS683(1)630(2)	SPC16.5683(1)630C31(2)
630	350	0.10	ZS/C31	15.0	7.0	16.5	6560	550	F127ZS104(1)630(2)	SPC16.5104(1)630C31(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%, K = ±10%.

(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 D for SPC
- Manufacturing date code

Rated Voltage	Code
100 VDC	D
250 VDC	H
400 VDC	K
630 VDC	M

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	O
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		

Storage and Moisture Recommendations

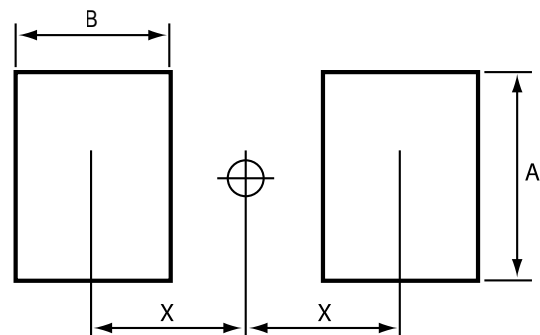
KEMET SMD Film Capacitors are supplied in a MBB (Moisture Barrier Bag) Class 1. We can guarantee a 24 months shelf life (temperature $\leq 40^{\circ}\text{C}$ /relative humidity $\leq 90\%$). After the MBB has been opened, components may stay in areas with controlled temperature and humidity (temperature $\leq 30^{\circ}\text{C}$ /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 (EIA)	Base (mm)	Height (mm)	Length (mm)	Bulk	Reel Horizontal Orientation	Reel Vertical Orientation
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

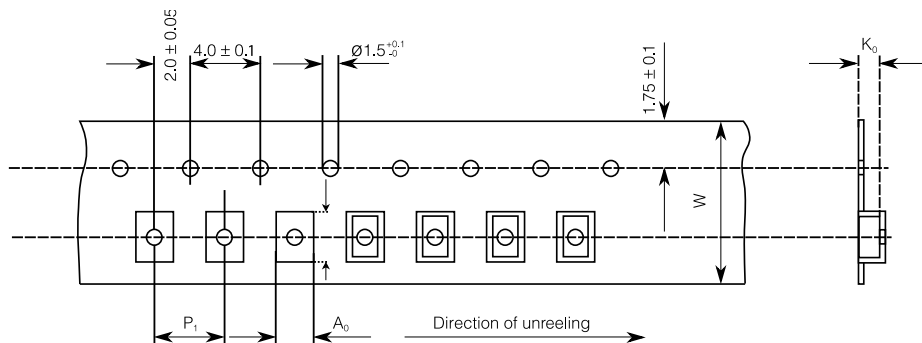
Landing

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)

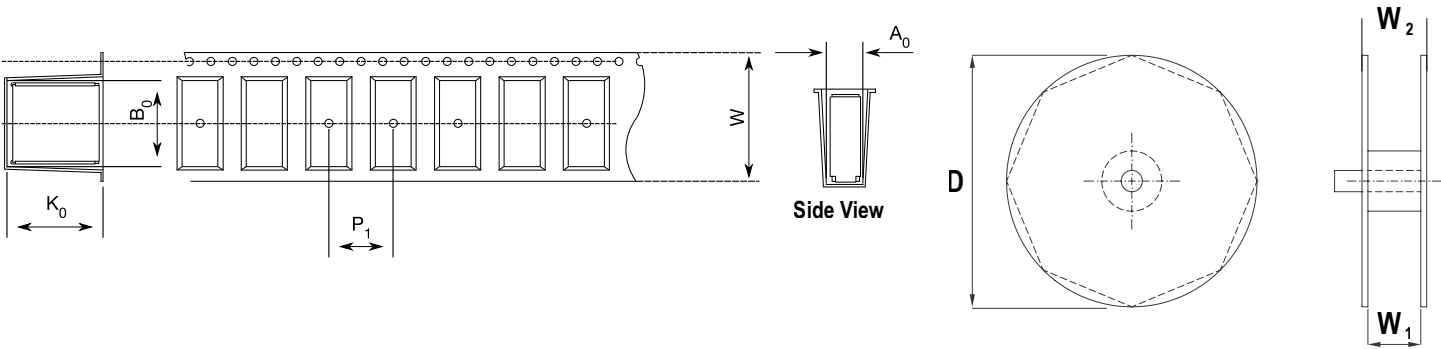
Horizontal Taping Orientation



Chip Size (EIA) Horizontal Mounting	Dimensions in mm			Taping Specification							
	B	H	L	W	P ₁	A ₀	B ₀	K ₀	D	W ₁	W ₂
	Nominal	Nominal	Nominal	-0/+0.3	+/-0.1	Nominal	Nominal	Nominal	-/+2.0	-0/+2	Maximum
2220	5.0	2.5	5.7	12.0	8.0	5.5	6.0	2.8	330	12.4	22.0
2220	5.0	3.0	5.7	12.0	8.0	5.5	6.0	3.3	330	12.4	22.0
2220	5.0	4.0	5.7	12.0	8.0	5.5	6.0	4.3	330	12.4	22.0
2824	6.0	2.5	7.3	12.0	8.0	6.5	7.5	2.8	330	12.4	22.0
2824	6.0	3.0	7.3	12.0	8.0	6.5	7.5	3.3	330	12.4	22.0
2824	6.0	3.5	7.3	12.0	8.0	6.5	7.5	3.8	330	12.4	22.0
2824	6.0	4.5	7.3	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 Vertical Mounting	Dimensions in mm			Taping Specification							
	B	H	L	W	P ₁	A ₀	B ₀	K ₀	D	W ₁	W ₂
	Nominal	Nominal	Nominal	-0/+0.3	+/-0.1	Nominal	Nominal	Nominal	-/+2.0	-0/+2	Maximum
4022	5.5	9.1	10.2	24.0	16.0	6.0	10.5	9.3	330	24.4	30.0
5026	6.5	11.5	12.7	24.0	16.0	6.9	13.1	11.8	330	24.4	30.0
6528	7.0	15.0	16.5	44.0	20.0	7.5	17.0	15.3	330	44.5	49.5
Note: Chip dimensions B and H correspond to dimensions H and B in the horizontal mounting table.											

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