

Construction

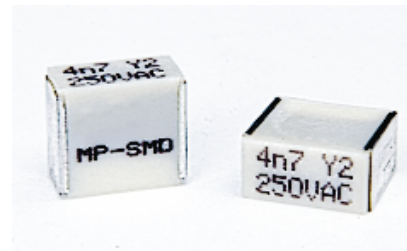
Multilayer metallized paper, encapsulated and impregnated in self-extinguishing material meeting the requirements of UL 94V-0.

Benefits

- Approvals: S, UL, CSA
- Rated Voltage: 250VAC 50/60Hz
- Capacitance Range: 0.001 μ F–0.0047 μ F
- Size Code: 5045, 12.7 mm
- Capacitance Tolerance: \pm 20% standard
- Climatic Category: 40/100/56/B, IEC 60068-1
- Tape and reel packaging in accordance with IEC 60286-3
- RoHS compliance and lead-free terminations
- Operating temperature range of -40°C to +100°C
- 100% screening factory test at 3000VDC
- Highest possible safety regarding active and passive flammability
- Excellent self-healing properties ensure long life even when subjected to frequent overvoltages
- Good resistance to ionization due to impregnated dielectric
- High dU/dt capability
- Impregnated paper ensures excellent stability and reliability properties, particularly in applications with continuous operation

Applications

For worldwide use as electromagnetic interference suppressor in all Y2 applications, line-to-earth.



Ordering Information

SMP253	M	A	4100	M	TR24
Series	Rated Voltage	Chip Length (mm)	Capacitance Code (pF)	Capacitance Tolerance	Packing Option
Y2, Metallized Paper	M = 250VAC	A = 12.7	Digits 2-4(3) indicates the first three digits of the capacitance value. First digit indicates the total number of digits in the capacitance value.	M = \pm 20%	see Ordering Options Table

Ordering Options Table

Standard Packaging Style	Lead Length	Ordering Code
	(mm)	
Loose in a box	12.7	BULK
Horizontally taped	12.7	TR24
Vertically taped	12.7	TV24
Other options available on request		

Dimension Table

Outer Dimension		
B	H	L
11.5	6.5	12.7

Technical Data

Rated Voltage	250 VAC 50/60Hz	
Capacitance Range	0.001 μ F–0.0047 μ F	
Capacitance Tolerance	\pm 20%	
Temperature Range	-40 to +100°C	
Climatic Category	40/100/56/B	
Approvals	S, UL, CSA	
Dissipation Factor	Maximum Values at +23°C	
	1 kHz	1.3%
Test Voltage Between Terminals	The 100% screening factory test is carried out at 3000 VDC. The voltage level is selected to meet the requirements in applicable equipment standards. All electrical characteristics are checked after the test. It is not permitted to repeat this test as there is a risk to damage the capacitor. KEMET is not liable in such case for any failures.	
Insulation Resistance	12,000M Ω	

Environmental Test Data

Test	IEC Publication	Procedure
Vibration	IEC 60068–2–6 Test Fc	3 directions at 2 hours each 10 - 500 Hz at 0.75 mm or 98m/s ²
Active Flammability	IEC 60384-14	
Passive Flammability	IEC 60384-14	
Humidity	IEC 60068-2-3 Test Ca	+40°C and 90-95% R.H.

Environmental Compliance

All KEMET EMI capacitors are RoHS compliant



RoHS Compliant

Approvals

Mark	Specification	File Number
	EN/IEC 60384-14	9949069/01
	UL 1283 (250VAC)	E100117
	CSA-C22.2 No. 8 (250VAC)	E100117

Table 1 – Ratings & Part Number Reference

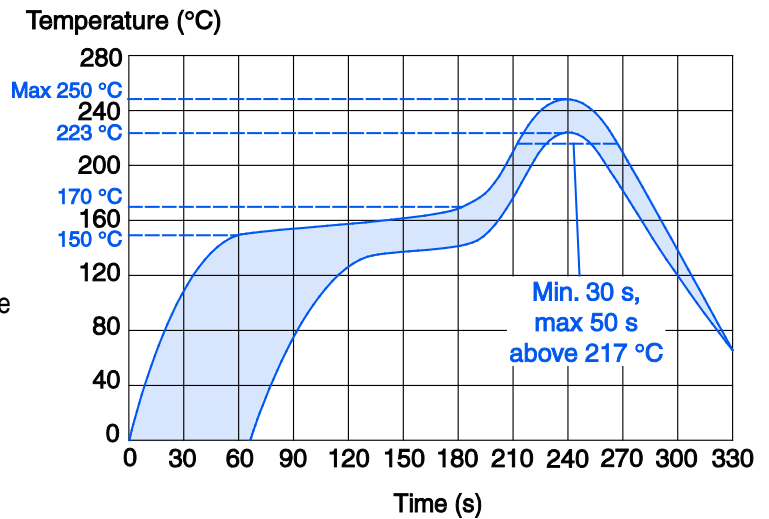
Cap Value (μF)	B (mm)	H (mm)	L (mm)	dV/dt ($\text{V}/\mu\text{sec}$)	F Article Code	Part Number
0.0010	11.5	6.5	12.7	2000	P101AA102M250V	SMP253MA4100MTR24
0.0015	11.5	6.5	12.7	2000	P101AA152M250V	SMP253MA4150MTR24
0.0022	11.5	6.5	12.7	2000	P101AA222M250V	SMP253MA4220MTR24
0.0025	11.5	6.5	12.7	2000	P101AA252M250V	SMP253MA4250MTR24
0.0033	11.5	6.5	12.7	2000	P101AA332M250V	SMP253MA4330MTR24
0.0039	11.5	6.5	12.7	2000	P101AA392M250V	SMP253MA4390MTR24
0.0047	11.5	6.5	12.7	2000	P101AA472M250V	SMP253MA4470MTR24
Cap Value (μF)	B (mm)	H (mm)	L (mm)	dV/dt ($\text{V}/\mu\text{sec}$)	F Article Code	Part Number

Other part number options:

(1) Where the 14th character equal to, J ($\pm 5\%$ tolerance), K ($\pm 10\%$ tolerance) and M ($\pm 20\%$ tolerance).

Soldering Process

Reflow soldering temperature shall be measured on the top body surface of the component. The profiles herewith are recommended soldering profiles for convection reflow ovens and IR reflow ovens. If vapor phase reflow oven is used, please consult KEMET. Exceeding the manufacturer's process recommendations may harm the component. KEMET is not liable for any defect caused by exceeding recommendations. According to international standards, the maximum temperature capability shall be measured on the top surface of a component. The international standards do not define how the thermocouple should be fastened on the component. Our recommendation for attaching the thermocouple on the top surface of the component is to glue it with high temperature resistant glue.



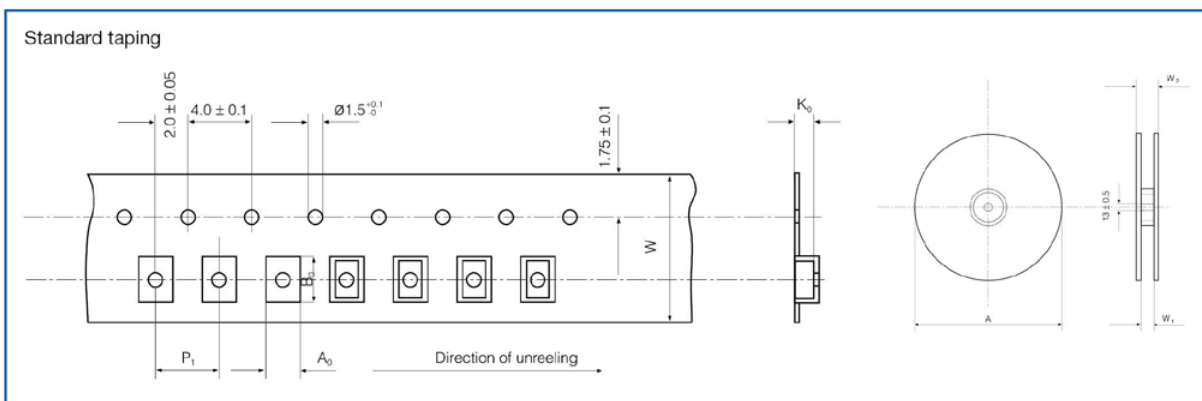
Marking

- Manufacturer's logo
- Article series
- Rated capacitance
- Rated voltage
- Capacitor class
- Manufacturing date code

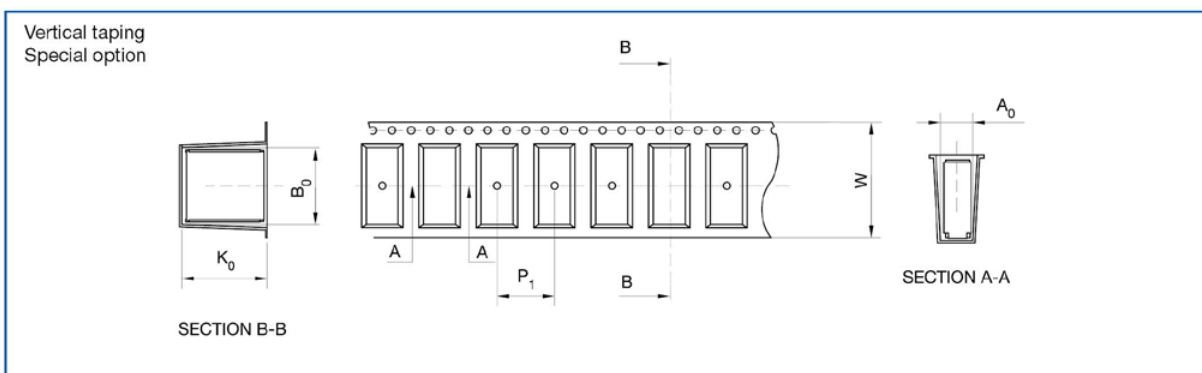
Tape Packaging of wound SMD Capacitors

According to IEC 60286-3

Carrier Tape



EIA size code, horizontal mounting	Size of capacitor, mm		W	$P_1 \pm 0.1$	A_0	B_0	K_0	$A \pm 2.0$	$W_1^{+2}_{-0}$	$W_2 \text{ max}$	Qty/pcs
2220	5.7	5.0	2.5	8.0	5.5	6.0	2.8	330	12.4	22.0	3100
2220	5.7	5.0	3.0	8.0	5.5	6.0	3.3	330	12.4	22.0	2400
2220	5.7	5.0	4.0	8.0	5.5	6.0	4.3	330	12.4	22.0	2100
2824	7.3	6.0	2.5	8.0	6.5	7.5	2.8	330	12.4	22.0	3100
2824	7.3	6.0	3.0	8.0	6.5	7.5	3.3	330	12.4	22.0	2500
2824	7.3	6.0	3.5	8.0	6.5	7.5	3.8	330	12.4	22.0	2300
2824	7.3	6.0	4.5	8.0	6.5	7.5	4.8	330	12.4	22.0	1700
4036	10.2	9.1	5.5	16.0	9.5	10.5	5.8	330	16.4	22.0	800
5045	12.7	11.5	6.5	16.0	11.9	13.1	6.8	330	24.4	30.0	600
6560	16.5	15.0	7.0	20.0	15.4	16.8	7.3	330	24.4	30.0	500



EIA size code, vertical mounting	Size of capacitor, mm		W	$P_1 \pm 0.1$	A_0	B_0	K_0	$A \pm 2.0$	$W_1^{+2}_{-0}$	$W_2 \text{ max}$	Qty/pcs
4022	10.2	5.5	9.1	16.0	6.0	10.5	9.3	330	24.4	30.0	500
5026	12.7	6.5	11.5	16.0	6.9	13.1	11.8	330	24.4	30.0	400
6528	16.5	7.0	15.0	44.0	20.0	17.0	15.3	330	44.5	49.5	200

* Dimensions B and H in vertical mounting correspond H and B in the standard mounting and in the article tables.

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

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

Taipei, Taiwan
Tel: 886-2-27528585

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Singapore
Tel: 65-6586-1900

Penang, Malaysia
Tel: 60-4-6430200

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

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Other KEMET Resources

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

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

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

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

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Although we design and manufacture our products to the most stringent quality and safety standards, given the current state of the art, isolated component failures may still occur. Accordingly, customer applications which require a high degree of reliability or safety should employ suitable designs or other safeguards (such as installation of protective circuitry or redundancies) in order to ensure that the failure of an electrical component does not result in a risk of personal injury or property damage.

Although all product-related warnings, cautions and notes must be observed, the customer should not assume that all safety measures are indicated or that other measures may not be required.

