

WIMA MKS 01-SMD

Metallized polyester capacitors



■ Available in 2 ranges:

SMD 5.7

The distance between the soldering surfaces of 5.7 mm is largely identical to Size Code 2220 and/or 2225 for ceramic chip capacitors.

SMD 7.3

The dimension L 7.3 mm has been derived from the tantalum chip capacitors.

■ The excellent electrical properties of both ranges qualify the components for applications where stability and quality are required.

■ As with ceramic chip capacitors, the entire surface of the end sides is used as the soldering surface, giving "shadow-free" soldering quality.

■ Both ranges are available in 12 mm blister pack.

Technical Data

Dielectric: Polyethylene terephthalate film.

Capacitor electrodes: Vacuum-deposited aluminium.

Encapsulation: Flame-retardent plastic case with epoxy resin seal.

Class of application: FME in accordance with DIN 40 040.

Temperature range: -55°C to +100°C.

Failure criteria:

Total failure: Short circuit or open circuit.

Failure due to variation:

Capacitance change $\frac{\Delta C}{C} > \pm 10\%$.

Dissipation factor $\tan \delta > 2 \times$ upper limiting values.

Insulation resistance < 150 megohms.

Test category: in accordance with IEC:

55/100/21 for SMD 5.7

55/100/56 for SMD 7.3

Insulation resistance at +20°C:

V_t	$C \leq 0.33 \mu F$	$0.33 \mu F < C \leq 1.0 \mu F$
50 VDC	$\geq 3.75 \times 10^3 M\Omega$ Mean value: $1 \times 10^4 M\Omega$	$\geq 1,250 \text{ sec} (M\Omega \times \mu F)$ Mean value: 3,000 sec

In accordance with IEC 384-2. Measuring time: 1 min.

Dissipation factors at +20°C: $\tan \delta$

at f	$C \leq 0.1 \mu F$	$0.1 \mu F < C \leq 1.0 \mu F$
1 kHz	$\leq 8 \times 10^{-3}$	$\leq 8 \times 10^{-3}$
10 kHz	$\leq 15 \times 10^{-3}$	$\leq 15 \times 10^{-3}$
100 kHz	$\leq 30 \times 10^{-3}$	-

Capacitance tolerances: $\pm 20\%$ (closer tolerances are available subject to special enquiry.)

Temperature characteristics: See graph page 5.

Maximum pulse rise time:

Capacitance pF/ μF	Pulse rise time V/ μ sec.	
	max. operation	test
1000...6800	35	350
0.01...0.022	30	300
0.033...0.068	20	200
0.1...0.22	10	100
0.33...0.68	8	80
1.0	5	50

for pulses equal to the rated voltage.

General Data

Capacitance	SMD 5.7*			SMD 7.3*		
	L ± 0.2	W ± 0.3	H ± 0.2	L ± 0.2	W ± 0.3	H ± 0.2
50 VDC/30 VAC*						
1000 pF	5.7	6	2.5			
1500 „	5.7	6	2.5			
2200 „	5.7	6	2.5			
3300 „	5.7	6	2.5			
4700 „	5.7	6	2.5			
6800 „	5.7	6	2.5			
0.01 μF	5.7	6	2.5	7.3	6	2.5
0.015 „	5.7	6	2.5	7.3	6	2.5
0.022 „	5.7	6	2.5	7.3	6	2.5
0.033 „	5.7	6	2.5	7.3	6	2.5
0.047 „	5.7	7	3	7.3	6	2.5
0.068 „	5.7	7	3	7.3	6	2.5
0.1 μF	5.7	7	3	7.3	6	2.5
0.15 „				7.3	6	2.5
0.22 „				7.3	7	3
0.33 „				7.3	9	3.5
0.47 „				7.3	9	3.5
0.68 „				7.3	10	4.5
1.0 μF				7.3	10	4.5

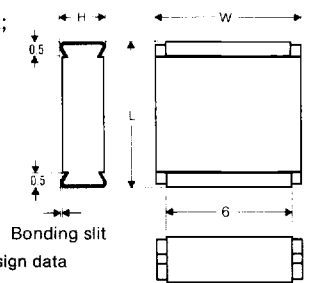
* AC voltage: $f = 50 \text{ Hz}$;
 $1.4 \times V_{rms} + VDC \leq VDC$ (rated)

* Please indicate type requested when ordering!

Dims. in mm.

Supplementary types

Rights reserved to amend design data without prior notification.



Test voltage: $1.6 V_r$, 2 sec.

Resistance to soldering heat:

Solder bath temperature max. 260°C.

Soldering duration max. 5 sec.

Change in capacitance $\frac{\Delta C}{C} < \pm 3\%$.

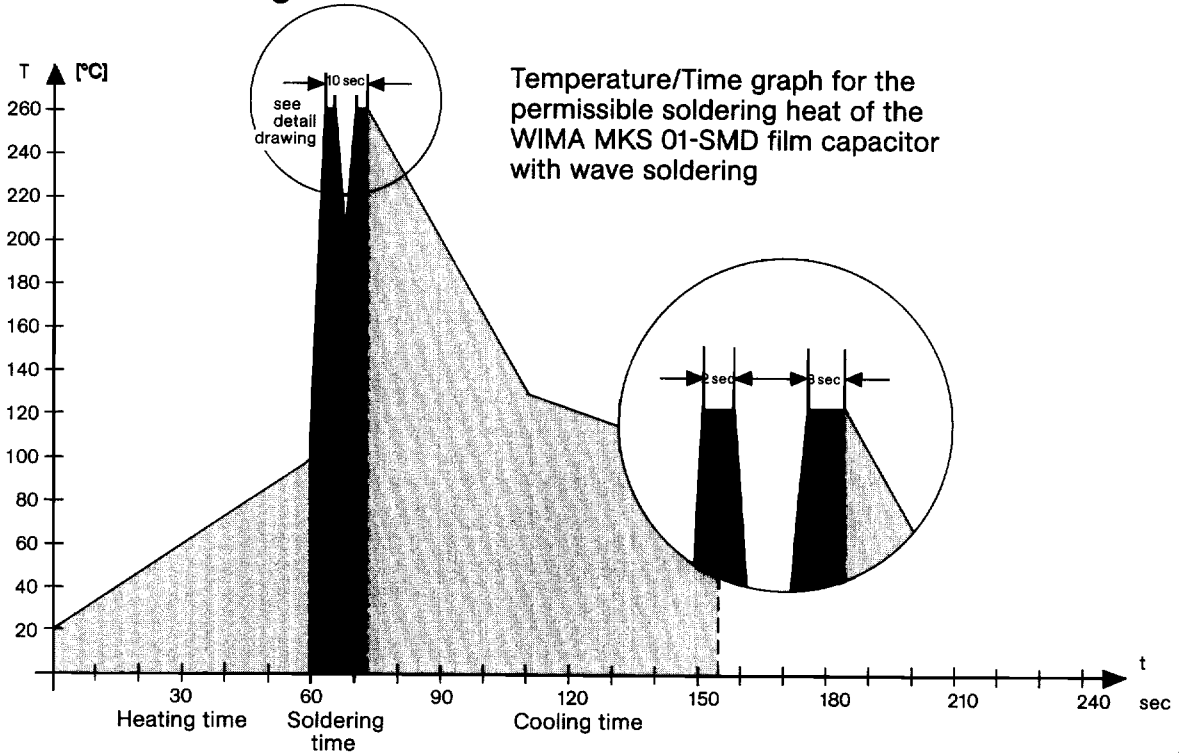
In accordance with DIN IEC 68-2-20 (test Tb.)/CECC 32 200.

Soldering process: wave soldering and re-flow soldering (see temperature/time graph page 14).

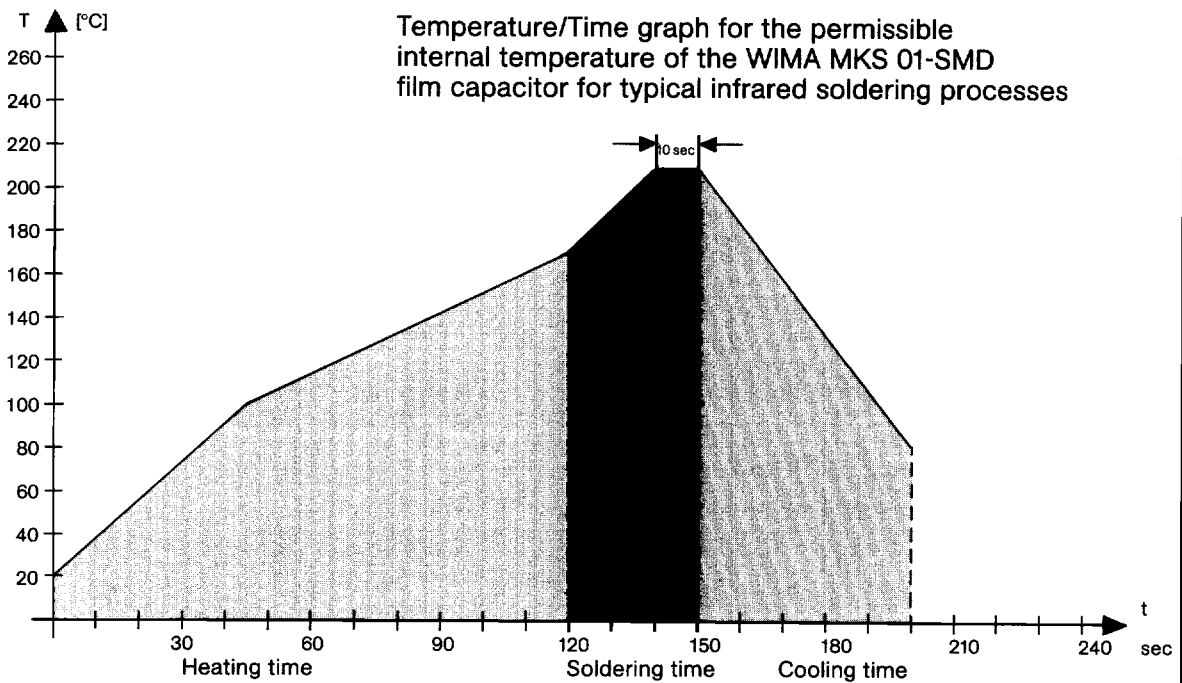
WIMA MKS 01-SMD

Soldering processes

■ Wave soldering

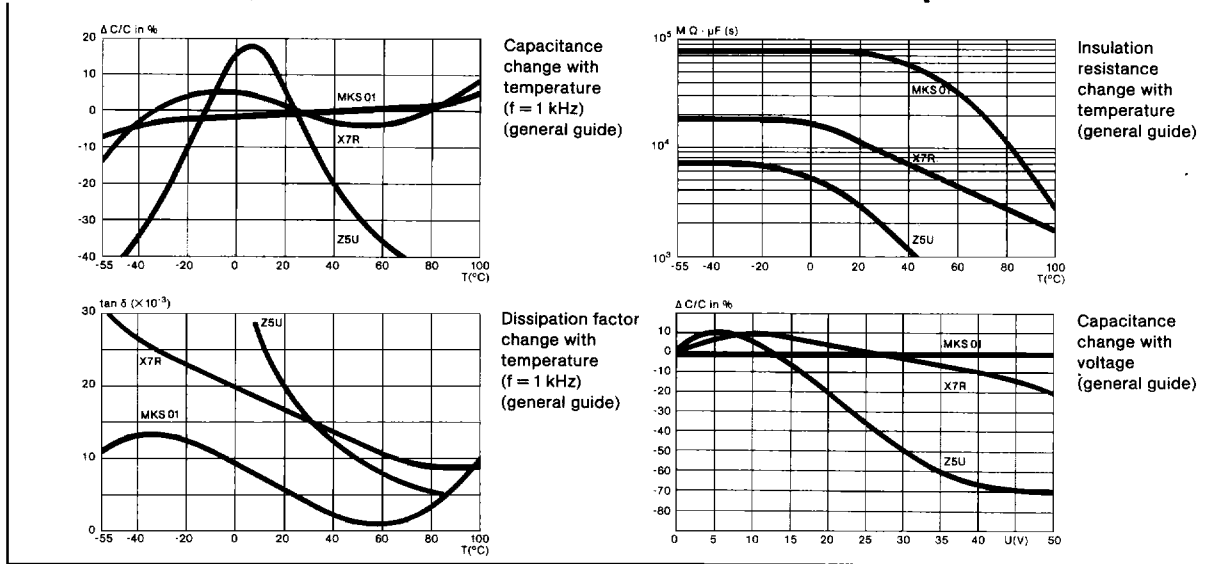


■ Re-flow soldering

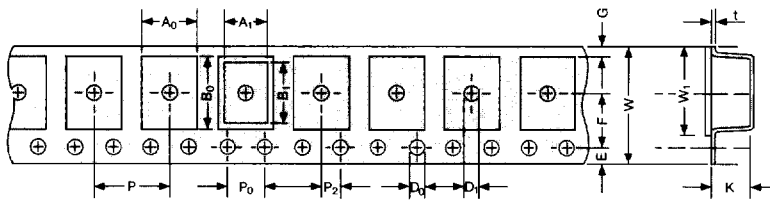


WIMA MKS 01-SMD

Comparison of parameters of MKS 01 with ceramic SMD capacitors



Dimensional specification for blister tape packaging of the SMD capacitors



Capacitance pF/ μ F	A_0 +0.2 -0	A_1	B_0 +0.2 -0	B_1	D_0 +0.1 -0	D_1 +0.1 -0	P	P_0^* ± 0.1	P_2 ± 0.05	E ± 0.1	F ± 0.05	G	W ± 0.3	W_1 ± 0.2	K max.	t ± 0.1
1000...0.033	6.0	5.7	6.5	6.0	$\phi 1.5$	$\phi 1.5$	8.0	4.0	2.0	1.75	5.5	1.5	12.0	9.5	2.8	0.4
0.047...0.1	6.2	5.7	7.7	7.0	$\phi 1.5$	$\phi 1.5$	8.0	4.0	2.0	1.75	5.5	0.9	12.0	9.5	3.5	0.4

* cumulative after 10 steps ± 0.5 mm max.

Capacitance μ F	A_0 +0.2 -0	A_1	B_0 +0.2 -0	B_1	D_0 +0.1 -0	D_1 +0.1 -0	P	P_0^* ± 0.1	P_2 ± 0.05	E ± 0.1	F ± 0.05	G -0.2	W ± 0.3	W_1 ± 0.2	K max.	t ± 0.1
0.01...0.15	6.5	6.0	7.5	7.3	$\phi 1.5$	$\phi 1.5$	8.0	4.0	2.0	1.75	5.5	0.9	12.0	9.5	2.8	0.4
0.22	7.5	7.0	7.5	7.3	$\phi 1.5$	$\phi 1.5$	12.0	4.0	2.0	1.75	5.5	0.9	12.0	9.5	3.5	0.4
0.33...0.47	9.5	9.0	7.5	7.3	$\phi 1.5$	$\phi 1.5$	12.0	4.0	2.0	1.75	5.5	0.9	12.0	9.5	4.0	0.4
0.68...1.0	10.5	10.0	7.5	7.3	$\phi 1.5$	$\phi 1.5$	12.0	4.0	2.0	1.75	5.5	0.9	12.0	9.5	5.0	0.4

* cumulative after 10 steps ± 0.5 mm max.

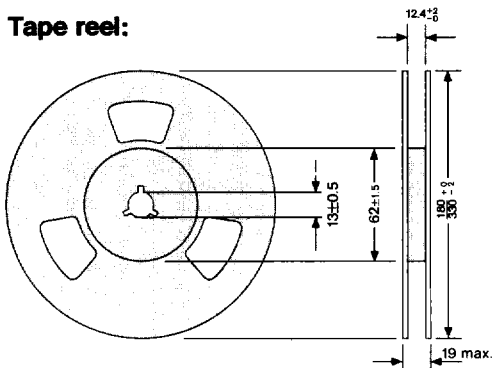
Packing units:

Capacitance pF/ μ F	Reel 180 mm ϕ	Reel 330 mm ϕ
1000...0.033	800	3000
0.047...0.1	650	2400

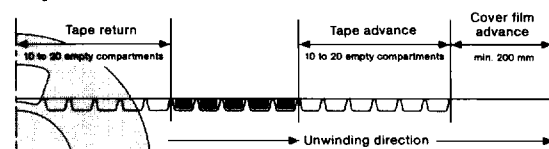
Capacitance μ F	Reel 180 mm ϕ	Reel 330 mm ϕ
0.01...0.15	-	3000
0.22	-	1500
0.33...0.47	-	1200
0.68...1.0	-	1000

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Tape reel:



Tape advance and return:



All dims in mm