



## Product Range

SMD  
PCM 2.5 mm  
PCM 5.0 mm  
PCM 7.5 - 37.5 mm  
metallized  
PCM 7.5 - 15 mm  
film/foil  
For high current  
ratings  
Snubber capacitors  
RFI-capacitors

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Technical Information

SMD-Sample Box

## TECHNICAL SPOTLIGHT

# WIMA SMD 2220

## Metallized polyester SMD capacitors with plastic box encapsulation

■ For general applications e. g. coupling, decoupling and by-pass applications. ■ Capacitance range: 1000 pF through 1.0  $\mu$ F. ■ Full size soldering surfaces. ■ Available taped and reeled in 12 mm blister pack.

### Technical Data

**Dielectric:** Polyethylene terephthalate film.  
**Capacitor electrodes:** Vacuum-deposited aluminium.  
**Encapsulation:** Flame retardant plastic case, UL 94 V-0. Colour: Black.  
**Temperature range:** -55° C to +100° C.  
**Test specifications:** In accordance with IEC 60384-19 and EN 132200.  
**Test category:** 55/100/21 in accordance with IEC.  
**Insulation resistance** at +20° C:

Ur	Utest	$C \leq 0.33 \mu\text{F}$	$0.33 \mu\text{F} < C \leq 1 \mu\text{F}$
63 VDC $\geq 100\text{VDC}$	50 V 100V	$\geq 3.75 \times 10^3 \text{ M}\Omega$ Mean value: $1 \times 10^4 \text{ M}\Omega$	$\geq 1250 \text{ sec}$ ( $\text{M}\Omega \times \mu\text{F}$ ) Mean value: 3000 sec

In accordance with IEC 60384-19 and EN 132200.  
Measuring time: 1 min.  
**Maximum pulse rise time:**

Capacitance pF/ $\mu$ F	Pulse rise time V/ $\mu$ sec max.operation/test		
	63 VDC	100 VDC	250 VDC
1000 ...6800	-	35/350	40/400
0.01 ...0.022	-	30/300	35/350
0.033...0.068	-	20/200	25/250
0.1 ...0.22	5/50	10/100	15/150
0.33 ...1.0	2/20	6/60	10/100

for pulses equal to the rated voltage.

**Capacitance tolerances:**  $\pm 20\%$ ,  $\pm 10\%$ ,  
( $\pm 5\%$  available subject to special enquiry).  
**Dissipation factors** at +20° C: tan delta

at f	$C \leq 0.1 \mu\text{F}$	$0.1 \mu\text{F} < C \leq 1 \mu\text{F}$
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	$\leq 30 \times 10^{-3}$	-

### General Data

**Test voltage:** 1.6 Ur, 2 sec.

**Vibration:** 6 hours at 10...2000 Hz and 0.75 mm displacement amplitude or 10 g in accordance with IEC 60068-2-6.

**Low air density:** 1 kPa = 10 mbar in accordance with IEC 60068-2-13.

**Bump test:** 4000 bumps at 390 m/sec<sup>2</sup> in accordance with IEC 60068-2-29.

**Voltage derating:** A voltage derating factor of 1.25% per K must be applied from +85° C for DC voltages and from +75° C for AC voltages.

**Resistance to soldering heat:**

Solder bath temperature max. 260° C.  
Soldering duration max. 5 sec.

Change in capacitance  $\Delta C/C < 3\%$   
In accordance with DIN IEC 60068-2-20  
(test Tb.)/EN 132200.

**Temperature characteristics:**

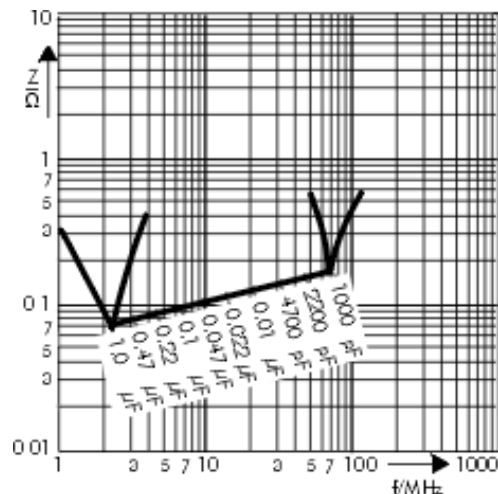
**Soldering process:** Wave soldering and re-flow soldering.

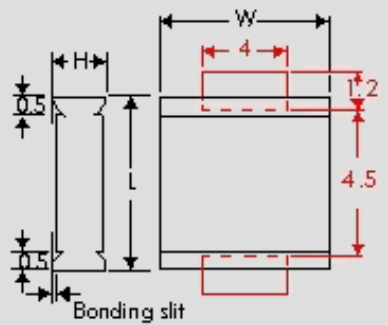
**Taping:**

**Processing and application:**

**Example for ordering/Part number:**

Impedance change with frequency  
(general guide)



Capacitance	63VDC/40VAC*			100VDC/63VAC*			250VDC/160VAC*			*AC voltage: f = 50 Hz; 1.4 x Urms + UDC ≤ Ur
	L ±0.3	L ±0.3	L ±0.3	L ±0.3	W ±0.3	H ±0.3	L ±0.3	W ±0.3	H ±0.3	
1000pF				5.7	5.1	2.5	5.7	5.1	2.5	<p>Dims. in mm.</p>  <p>Solder pad recommendation</p> <p>Rights reserved to amend design data without prior notification.</p>
1500 "				5.7	5.1	2.5	5.7	5.1	2.5	
2200 "				5.7	5.1	2.5	5.7	5.1	2.5	
3300 "				5.7	5.1	2.5	5.7	5.1	2.5	
4700 "				5.7	5.1	2.5	5.7	5.1	2.5	
6800 "				5.7	5.1	2.5	5.7	5.1	2.5	
0.01µF				5.7	5.1	2.5	5.7	5.1	2.5	
0.015 "				5.7	5.1	2.5	5.7	5.1	2.5	
0.022 "				5.7	5.1	2.5	5.7	5.1	2.5	
0.033 "				5.7	5.1	2.5	5.7	5.1	2.5	
0.047 "				5.7	5.1	2.5	5.7	5.1	2.5	
0.068 "				5.7	5.1	2.5	5.7	5.1	2.5	
0.1 µF	5.7	5.1	2.5	5.7	5.1	3.5	5.7	5.1	3.5	
0.15 "	5.7	5.1	2.5	5.7	5.1	3.5	5.7	5.1	4.5	
0.22 "	5.7	5.1	2.5	5.7	5.1	3.5	5.7	5.1	4.5	
0.33 "	5.7	5.1	3.5	5.7	5.1	4.5				
0.47 "	5.7	5.1	3.5	5.7	5.1	4.5				
0.68 "	5.7	5.1	4.5							
1.0 µF	5.7	5.1	4.5							