

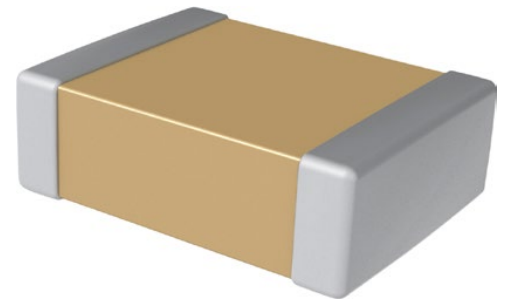
Multilayer Capacitors, SMD

Multilayer Ceramic Capacitors, 0805, NPO



Features

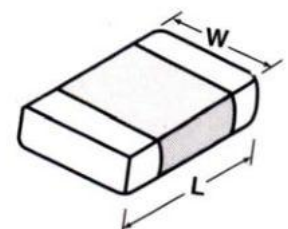
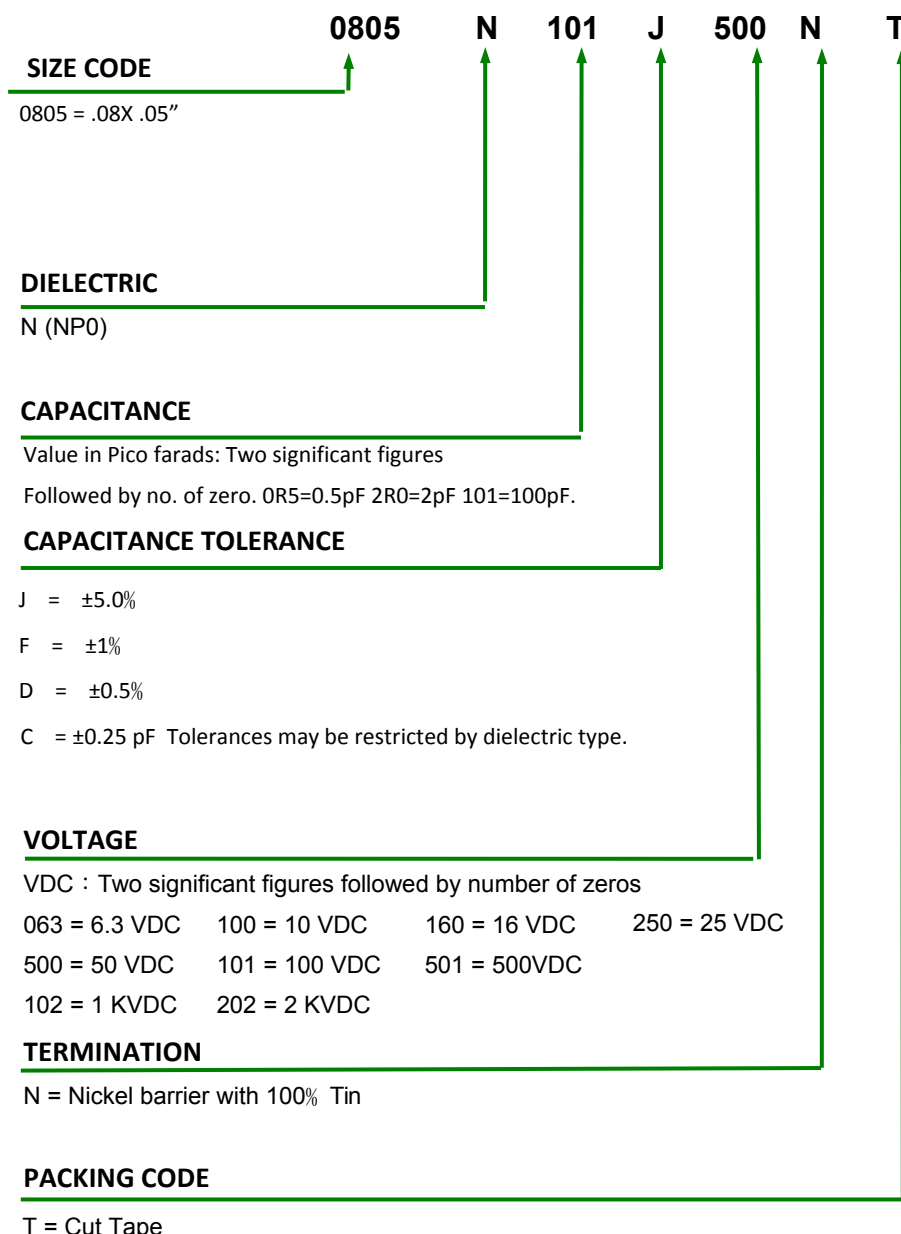
- Various temperature characteristics cover a wide range in small size
- Mounted either by flow or reflow soldering methods
- Excellent dielectric strength due to uniform structure of dielectric layers



Applications

- MLCC are used extensively in computers, communicative products, and the detail applications which including the followings:
- Discharge of stored energy
- Blockage of direct current
- Coupling of circuit components
- By-passing of an AC signal
- Frequency discrimination
- Transient voltage and Arc suppression
- Surge protection

Part Numbering



Dimension : (UNIT mm)

	0805
L	2±0.20
W	1.25±0.20

Multilayer Capacitors, SMD

Multilayer Ceramic Capacitors, 0805, NPO



SPECIFICATION:

Construction orm	0805
Ceramic type	NPO
Dimensions L x H x W	2.0 x 1.25 x 1.25 mm
Temperature range	-55..+125 °C
Height	1.25 mm
Length	2.0 mm
Width	1.25 mm

PRODUCT RANGE:

Art. Nr.	Capacitance	Rated voltage	Capacitance tolerance
RND 150-0805N0R5C500NT	0.5 pF	50 VDC	±0.25 pF
RND 150-0805N100D500NT	10 pF	50 VDC	±0.5 pF
RND 150-0805N100F500NT	10 pF	50 VDC	±1%
RND 150-0805N100J101NT	10 pF	100 VDC	±5%
RND 150-0805N100J500NT	10 pF	50 VDC	±5%
RND 150-0805N100J501NT	10 pF	500 VDC	±5%
RND 150-0805N101F101NT	100 pF	100 VDC	±1%
RND 150-0805N101F500NT	100 pF	50 VDC	±1%
RND 150-0805N101J101NT	100 pF	100 VDC	±5%
RND 150-0805N101J201NT	100 pF	200 VDC	±5%
RND 150-0805N101J500NT	100 pF	50 VDC	±5%
RND 150-0805N101J501NT	100 pF	500 VDC	±5%
RND 150-0805N102F500NT	1.0 nF	50 VDC	±1%
RND 150-0805N102J101NT	1.0 nF	100 VDC	±5%
RND 150-0805N102J500NT	1.0 nF	50 VDC	±5%
RND 150-0805N120J500NT	12 pF	50 VDC	±5%
RND 150-0805N121J500NT	120 pF	50 VDC	±5%
RND 150-0805N122J500NT	1.2 nF	50 VDC	±5%
RND 150-0805N150F101NT	15 pF	100 VDC	±1%
RND 150-0805N150F500NT	15 pF	50 VDC	±1%
RND 150-0805N150J101NT	15 pF	100 VDC	±5%
RND 150-0805N150J500NT	15 pF	50 VDC	±5%
RND 150-0805N151J101NT	150 pF	100 VDC	±5%
RND 150-0805N151J500NT	150 pF	50 VDC	±5%
RND 150-0805N152J500NT	1.5 nF	50 VDC	±5%
RND 150-0805N180J101NT	18 pF	100 VDC	±5%
RND 150-0805N180J500NT	18 pF	50 VDC	±5%
RND 150-0805N182J500NT	1.8 nF	50 VDC	±5%
RND 150-0805N1R0C201NT	1.0 pF	200 VDC	±0.25 pF
RND 150-0805N1R0C500NT	1.0 pF	50 VDC	±0.25 pF
RND 150-0805N1R0C501NT	1.0 pF	500 VDC	±0.25 pF

Art. Nr.	Capacitance	Rated voltage	Capacitance tolerance
RND 150-0805N1R5C500NT	1.5 pF	50 VDC	±0.25 pF
RND 150-0805N1R5C501NT	1.5 pF	100 VDC	±0.25 pF
RND 150-0805N220F500NT	22 pF	50 VDC	±1%
RND 150-0805N220J101NT	22 pF	100 VDC	±5%
RND 150-0805N220J201NT	22 pF	200 VDC	±5%
RND 150-0805N220J500NT	22 pF	50 VDC	±5%
RND 150-0805N221F101NT	220 pF	100 VDC	±1%
RND 150-0805N221F500NT	220 pF	50 VDC	±1%
RND 150-0805N221J101NT	220 pF	100 VDC	±5%
RND 150-0805N221J500NT	220 pF	50 VDC	±5%
RND 150-0805N221J501N3	220 pF	500 VDC	±5%
RND 150-0805N222J500NT	2.2 nF	50 VDC	±5%
RND 150-0805N270J500NT	27 pF	50 VDC	±5%
RND 150-0805N271J500NT	270 pF	50 VDC	±5%
RND 150-0805N272J500N3	2.7 nF	50 VDC	±5%
RND 150-0805N2R0C500NT	2 pF	50 VDC	±0.25 pF
RND 150-0805N2R2C101NT	2.2 pF	100 VDC	±0.25 pF
RND 150-0805N2R2C201NT	2.2 pF	200 VDC	±0.25 pF
RND 150-0805N2R2C500NT	2.2 pF	50 VDC	±0.25 pF
RND 150-0805N330F101NT	33 pF	100 VDC	±1%
RND 150-0805N330F500NT	33 pF	50 VDC	±1%
RND 150-0805N330J101NT	33 pF	100 VDC	±5%
RND 150-0805N330J201NT	33 pF	200 VDC	±5%
RND 150-0805N330J500NT	33 pF	50 VDC	±5%
RND 150-0805N330J501NT	33 pF	500 VDC	±5%
RND 150-0805N331F500NT	330 pF	50 VDC	±1%
RND 150-0805N331J101NT	330 pF	100 VDC	±5%
RND 150-0805N331J201NT	330 pF	200 VDC	±5%
RND 150-0805N331J500NT	330 pF	50 VDC	±5%
RND 150-0805N331J501N3	330 pF	500 VDC	±5%
RND 150-0805N391J500NT	390 pF	50 VDC	±5%
RND 150-0805N3R0C500NT	3 pF	50 VDC	±0.25 pF
RND 150-0805N3R3C201NT	3.3 pF	200 VDC	±0.25 pF
RND 150-0805N3R3C500NT	3.3 pF	50 VDC	±0.25 pF
RND 150-0805N3R3C501NT	3.3 pF	500 VDC	±0.25 pF
RND 150-0805N470F500NT	47 pF	50 VDC	±1%
RND 150-0805N470J101NT	47 pF	100 VDC	±5%
RND 150-0805N470J201NT	47 pF	200 VDC	±5%
RND 150-0805N470J500NT	47 pF	50 VDC	±5%
RND 150-0805N471F101NT	470 pF	100 VDC	±1%
RND 150-0805N471J101NT	470 pF	100 VDC	±5%
RND 150-0805N471J500NT	470 pF	50 VDC	±5%
RND 150-0805N4R7C101NT	4.7 pF	100 VDC	±0.25 pF
RND 150-0805N4R7C201NT	4.7 pF	200 VDC	±0.25 pF
RND 150-0805N4R7C500NT	4.7 pF	50 VDC	±0.25 pF
RND 150-0805N4R7C501NT	4.7 pF	500 VDC	±0.25 pF
RND 150-0805N511J500NT	510 pF	50 VDC	±5%
RND 150-0805N560J500NT	56 pF	50 VDC	±5%
RND 150-0805N561J500NT	560 pF	50 VDC	±5%
RND 150-0805N680F500NT	68 pF	50 VDC	±1%
RND 150-0805N680J101NT	68 pF	100 VDC	±5%
RND 150-0805N680J201NT	68 pF	200 VDC	±5%
RND 150-0805N680J500NT	68 pF	50 VDC	±5%
RND 150-0805N680J501NT	68 pF	500 VDC	±5%
RND 150-0805N681J101NT	680 pF	100 VDC	±5%
RND 150-0805N681J500NT	680 pF	50 VDC	±5%
RND 150-0805N6R0D500NT	6 pF	50 VDC	±0.5 pF
RND 150-0805N6R8C101NT	6.8 pF	100 VDC	±0.25 pF

Art. Nr.	Capacitance	Rated voltage	Capacitance tolerance
RND 150-0805N6R8C201NT	6.8 pF	200 VDC	±0.25 pF
RND 150-0805N6R8C500NT	6.8 pF	50 VDC	±0.25 pF
RND 150-0805N820J500NT	82 pF	50 VDC	±5%
RND 150-0805N821J500NT	820 pF	50 VDC	±5%
RND 150-0805N221J201N3	220 pF	200 VDC	±5%

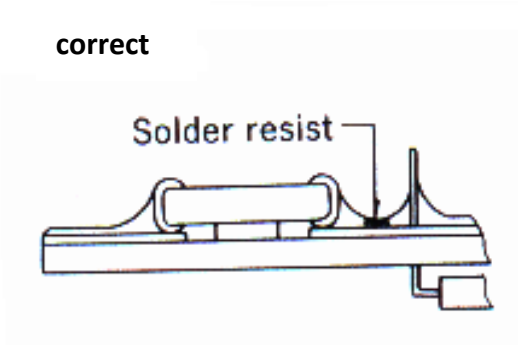
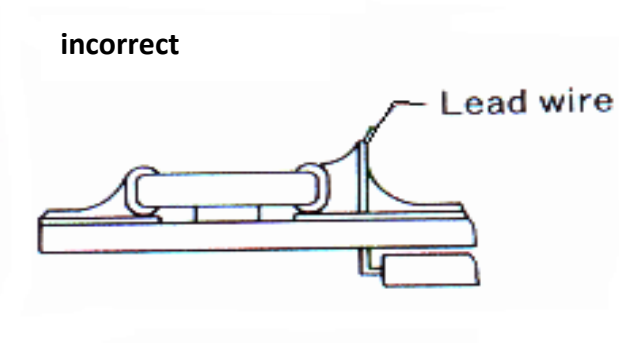
PCB design

Chip components are susceptible to board stress since the component itself is mounted directly on the board. They are also sensitive to mechanical and thermal stress when solder, which may cause chip cracked.

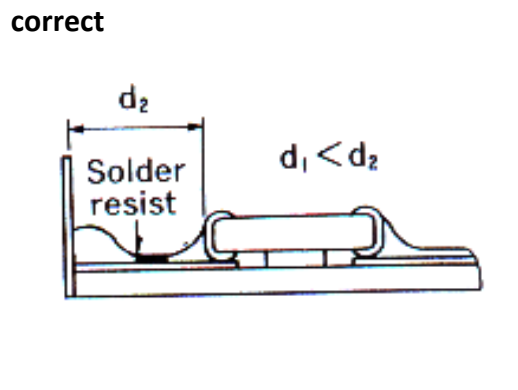
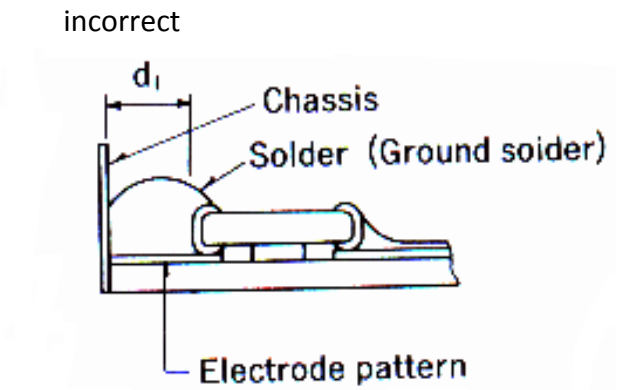
Please take solder form and component layout into consideration to eliminate stress.

Pattern form

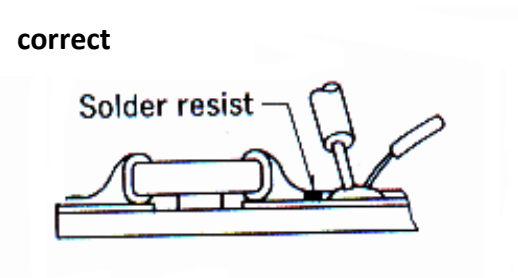
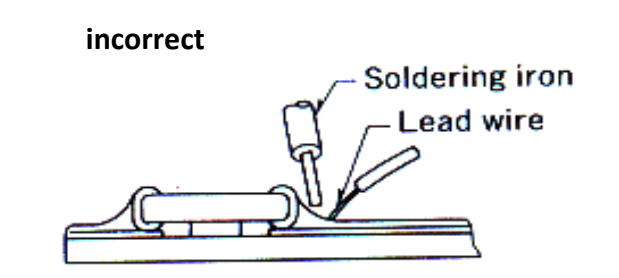
(1) Placing of chip components and component.



(2) Placing close to chassis.

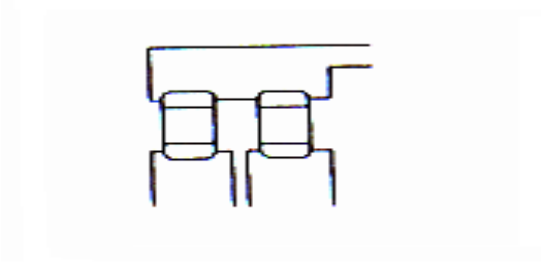


(3) Placing leaded components after chip component.

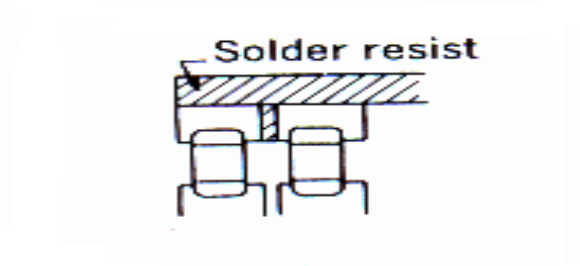


(4) Lateral mounting

incorrect



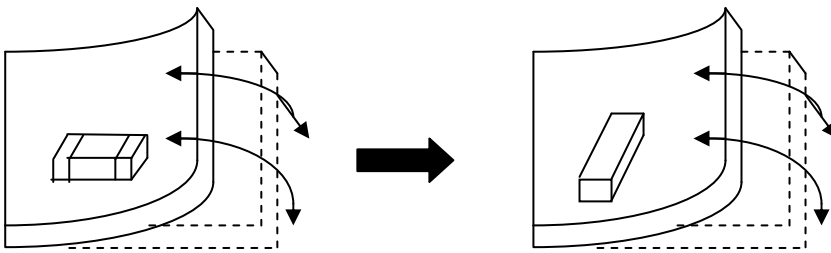
correct



Component direction

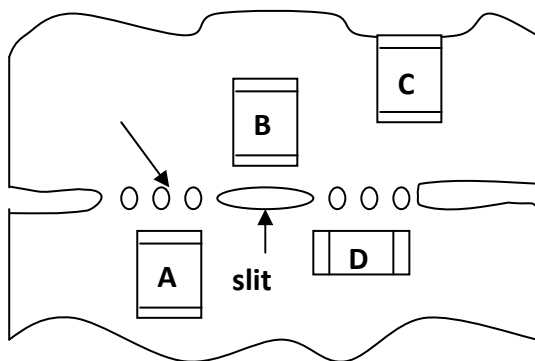
To design a mounting position that minimizes the stress imposed on the chip during flexing or bending of the board.

(1) put the component lateral to the direction in which stress acts.



(2) Component layout close to board separation point.

Susceptibility to stress in the order: $A > C > B = D$



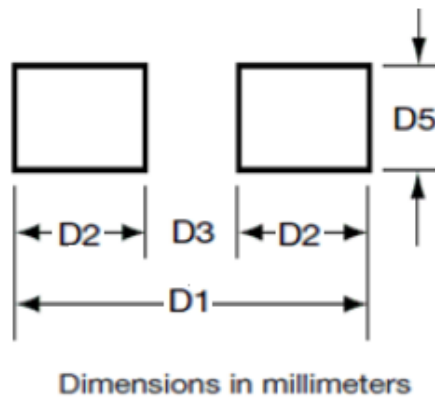
12.3. Land Pattern

When capacitors are mounted on P.C. board, the amount of solder directly affect the performance of capacitors. Therefore, the following items should be carefully considered in the design of solder land pattern.

(1) The greater the amount of solder, the higher the stress on the chip capacitors, and lead to cracking and breaking likely. It is necessary the appropriate size and configuration of the solder pads should be designed to have proper amount of solder on the termination.

(2) When two or more capacitors are soldered together onto the same land or pad, the pad must be designed so that each capacitor's soldering point is separated by solder-resist.

The following diagram and table for recommended pad dimensions.



Type	0201	0402	0603	0805	1206	1210	1808	1812	1825	2220	2225
D1	0.65	1.50	2.30	2.80	4.00	4.00	5.40	5.30	5.30	7.00	7.00
D2	0.21	0.50	0.80	0.90	0.90	0.90	1.05	0.90	0.90	1.35	1.35
D3	0.23	0.50	0.70	1.00	2.20	2.20	3.30	3.50	3.50	4.30	4.30
D5	0.30	0.50	0.80	1.30	1.60	2.50	2.30	3.80	6.50	5.00	6.50

Unit: mm