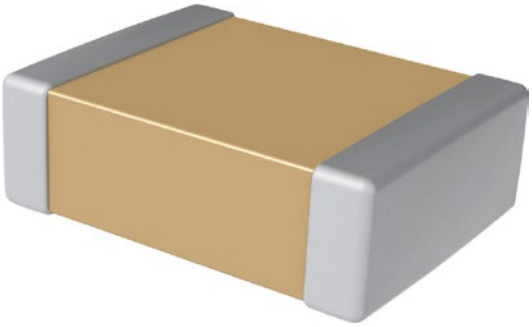
Multilayer Capacitors, SMD

Multilayer Ceramic Capacitors, 0805, X7R



SPECIFICATION:

Construction form	0805
Ceramic type	X7R
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 150-0805B101K101NT	100 pF	100 VDC	±10%
RND 150-0805B101K201NT	100 pF	200 VDC	±10%
RND 150-0805B101K500NT	100 pF	50 VDC	±10%
RND 150-0805B102J500NT	1.0 nF	50 VDC	±5%
RND 150-0805B102K101NT	1.0 nF	100 VDC	±10%
RND 150-0805B102K201NT	1.0 nF	200 VDC	±10%
RND 150-0805B102K500NT	1.0 nF	50 VDC	±10%
RND 150-0805B103J500NT	10 nF	50 VDC	±5%
RND 150-0805B103K101NT	10 nF	100 VDC	±10%
RND 150-0805B103K201NT	10 nF	200 VDC	±10%
RND 150-0805B103K500NT	10 nF	50 VDC	±10%
RND 150-0805B104J500NT	100 nF	50 VDC	±5%
RND 150-0805B104K101N3	100 nF	100 VDC	±10%
RND 150-0805B104K160NT	100 nF	16 VDC	±10%
RND 150-0805B104K250NT	100 nF	25 VDC	±10%
RND 150-0805B104K500NT	100 nF	50 VDC	±10%
RND 150-0805B105K100N3	1.0 µF	10 VDC	±10%
RND 150-0805B105K160N3	1.0 µF	16 VDC	±10%
RND 150-0805B105K250N3	1.0 µF	25 VDC	±10%
RND 150-0805B106K063N3	10 µF	6.3 VDC	±10%
RND 150-0805B122K500NT	1.2 nF	50 VDC	±10%
RND 150-0805B123K500NT	12 nF	50 VDC	±10%
RND 150-0805B124K160NT	120 nF	16 VDC	±10%
RND 150-0805B124K250NT	120 nF	25 VDC	±10%
RND 150-0805B151K201NT	150 pF	200 VDC	±10%
RND 150-0805B151K500NT	150 pF	50 VDC	±10%
RND 150-0805B152K101NT	1.5 nF	100 VDC	±10%
RND 150-0805B152K500NT	1.5 nF	50 VDC	±10%
RND 150-0805B153K500NT	15 nF	50 VDC	±10%
RND 150-0805B154K160NT	150 nF	16 VDC	±10%
RND 150-0805B154K250N3	150 nF	25 VDC	±10%

Art. Nr.	Capacitance	Rated voltage	Capacitance tolerance
RND 150-0805B154K500N3	150 nF	50 VDC	±10%
RND 150-0805B182K500NT	1.8 nF	50 VDC	±10%
RND 150-0805B183K500NT	18 nF	50 VDC	±10%
RND 150-0805B184K250N3	180 nF	25 VDC	±10%
RND 150-0805B221K101NT	220 pF	100 VDC	±10%
RND 150-0805B221K500NT	220 pF	50 VDC	±10%
RND 150-0805B222J101NT	2.2 nF	100 VDC	±5%
RND 150-0805B222J500NT	2.2 nF	50 VDC	±5%
RND 150-0805B222K101NT	2.2 nF	100 VDC	±10%
RND 150-0805B222K201NT	2.2 nF	200 VDC	±10%
RND 150-0805B222K500NT	2.2 nF	50 VDC	±10%
RND 150-0805B223J500NT	22 nF	50 VDC	±5%
RND 150-0805B223K101NT	22 nF	100 VDC	±10%
RND 150-0805B223K201NT	22 nF	200 VDC	±10%
RND 150-0805B223K500NT	22 nF	50 VDC	±10%
RND 150-0805B224J250N3	220 nF	25 VDC	±5%
RND 150-0805B224K160NT	220 nF	16 VDC	±10%
RND 150-0805B224K250N3	220 nF	25 VDC	±10%
RND 150-0805B224K500N3	220 nF	50 VDC	±10%
RND 150-0805B225K250N3	2.2 µF	25 VDC	±10%
RND 150-0805B271K500NT	270 pF	50 VDC	±10%
RND 150-0805B272K500NT	2.7 nF	50 VDC	±10%
RND 150-0805B273K500NT	27 nF	50 VDC	±10%
RND 150-0805B274K160NT	270 nF	16 VDC	±10%
RND 150-0805B331K101NT	330 pF	100 VDC	±10%
RND 150-0805B331K500NT	330 pF	50 VDC	±10%
RND 150-0805B332K201NT	3.3 nF	200 VDC	±10%
RND 150-0805B332K500NT	3.3 nF	50 VDC	±10%
RND 150-0805B333K101N3	33 nF	100 VDC	±10%
RND 150-0805B333K500NT	33 nF	50 VDC	±10%
RND 150-0805B334K160N3	330 nF	16 VDC	±10%
RND 150-0805B334K250N3	330 nF	25 VDC	±10%
RND 150-0805B334K500N3	330 nF	50 VDC	±10%
RND 150-0805B391K500NT	390 pF	50 VDC	±10%
RND 150-0805B392K500NT	3.9 nF	50 VDC	±10%
RND 150-0805B393K500NT	39 nF	50 VDC	±10%
RND 150-0805B394K160N3	390 nF	16 VDC	±10%
RND 150-0805B471K101NT	470 pF	100 VDC	±10%
RND 150-0805B471K201NT	470 pF	200 VDC	±10%
RND 150-0805B471K500NT	470 pF	50 VDC	±10%
RND 150-0805B472J500NT	4.7 nF	50 VDC	±5%
RND 150-0805B472K101NT	4.7 nF	100 VDC	±10%
RND 150-0805B472K500NT	4.7 nF	50 VDC	±10%
RND 150-0805B473J500NT	47 nF	50 VDC	±5%
RND 150-0805B473K101N3	47 nF	100 VDC	±10%
RND 150-0805B473K160NT	47 nF	16 VDC	±10%
RND 150-0805B473K250NT	47 nF	25 VDC	±10%
RND 150-0805B473K500NT	47 nF	50 VDC	±10%
RND 150-0805B474K160N3	470 nF	16 VDC	±10%
RND 150-0805B474K250N3	470 nF	25 VDC	±10%
RND 150-0805B474K500N3	470 nF	50 VDC	±10%
RND 150-0805B475K100N3	4.7 µF	10 VDC	±10%
RND 150-0805B475K160N3	4.7 µF	16 VDC	±10%
RND 150-0805B561K500NT	560 pF	50 VDC	±10%
RND 150-0805B562K500NT	5.6 nF	50 VDC	±10%
RND 150-0805B563K500NT	56 nF	50 VDC	±10%
RND 150-0805B681K101NT	680 pF	100 VDC	±10%
RND 150-0805B681K500NT	680 pF	50 VDC	±10%

Art. Nr.	Capacitance	Rated voltage	Capacitance tolerance
RND 150-0805B682K101NT	6.8 nF	100 VDC	±10%
RND 150-0805B682K500NT	6.8 nF	50 VDC	±10%
RND 150-0805B683K101N3	68 nF	100 VDC	±10%
RND 150-0805B683K250NT	68 nF	25 VDC	±10%
RND 150-0805B683K500NT	68 nF	50 VDC	±10%
RND 150-0805B821K500NT	820 pF	50 VDC	±10%
RND 150-0805B823K500NT	82 nF	50 VDC	±10%

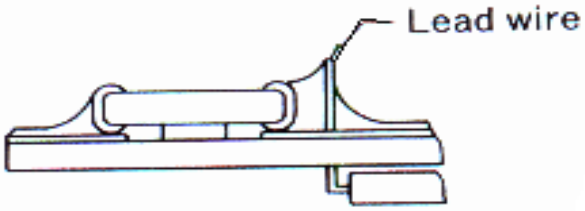
PCB design

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.

incorrect



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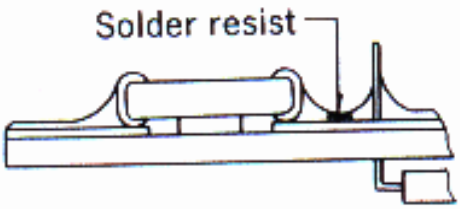
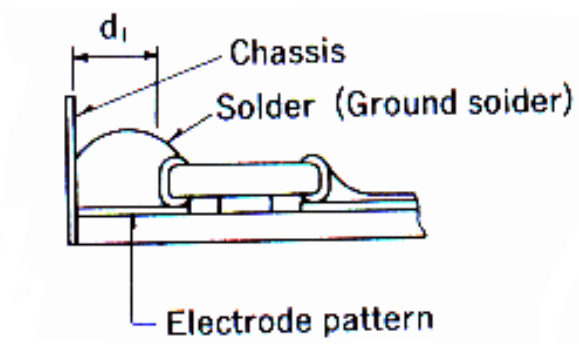


(2) Placing close to chassis.

incorrect



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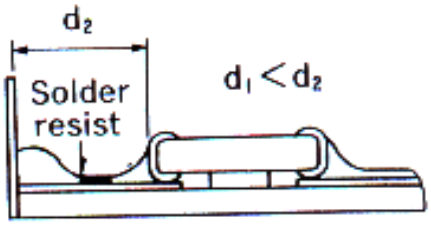
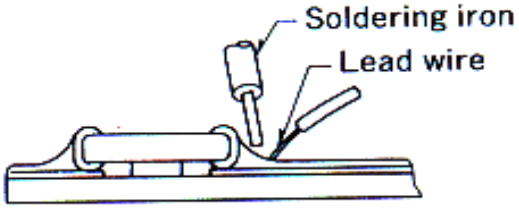


(3) Placing leaded components after chip component.

incorrect



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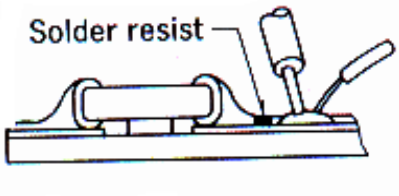
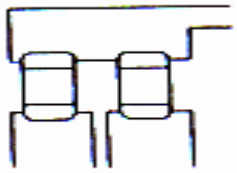


(4) Lateral mounting

incorrect



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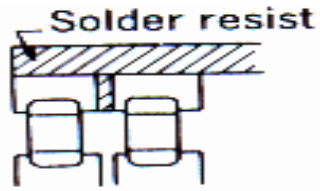
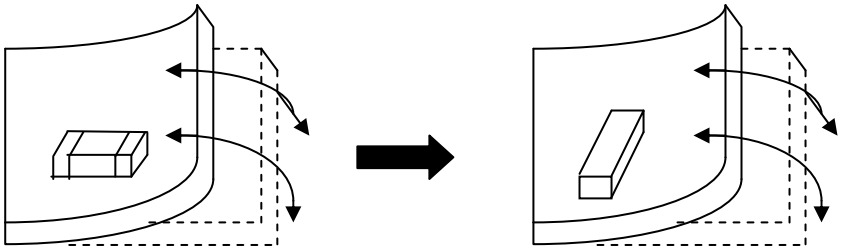


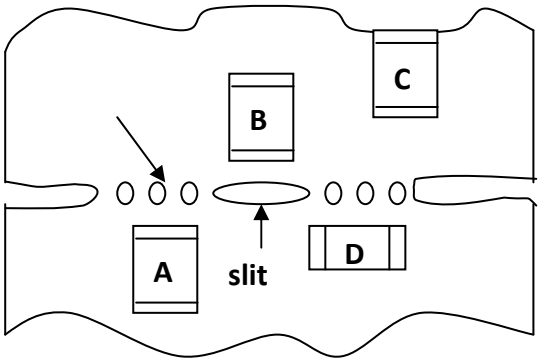
Component direction

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



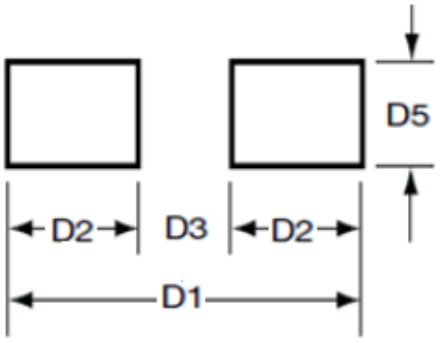
12.3. Land Pattern

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.



Dimensions in millimeters

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