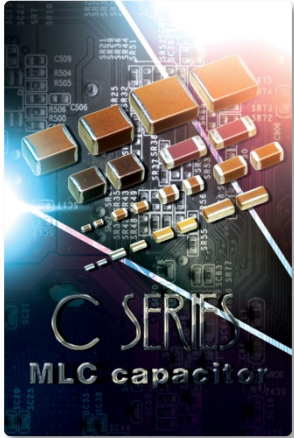


C SERIES | Flip Type Capacitor

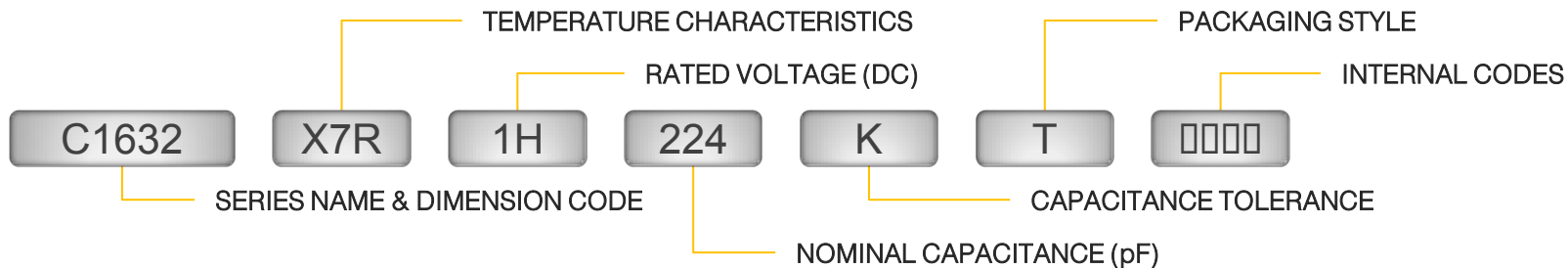


TDK Flip Type capacitor offers industry standard case sizes in “flip” geometry construction. By rotating the orientation of the capacitor 90°, the current path through the unit is shortened and effectively lowers the parasitic inductance value. The flip geometry requires the termination to be applied along the length instead of the width of the MLCC. Reduced ESL is necessary for noise decoupling in high speed applications.

For decoupling capacitors, the parasitic inductance generated by the capacitor needs to be small so that the resonant frequency is higher. The parasitic inductance will add noise voltage spikes to the power line voltage. Because of the unique design of the Flip Type capacitor, the parasitic inductance is lower than the traditional multilayer ceramic capacitor. Therefore, the Flip Type MLCC is very effective for high speed decoupling applications.

Case Code	L (mm)	W (mm)	T max (mm)
C0510 (0204)	0.52	1.00	0.30
C0816 (0306)	0.80	1.60	0.50
C1220 (0508)	1.25	2.00	0.85
C1632 (0612)	1.60	3.20	1.30

Part Number Description



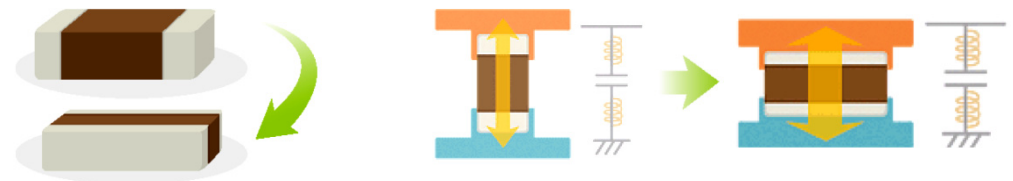
Features:

- ❖ Flipped geometry provides low inductance (less than 400 pH)
- ❖ Allows adequate high frequency current to IC
- ❖ Provides stabilization of power line voltage
- ❖ High frequency noise suppression

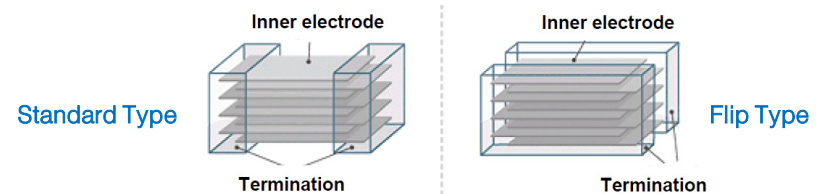
Applications:

- ❖ Decoupling CPU/GPU power line
- ❖ High speed digital IC power supply decoupling
- ❖ PC, cell phones, camcorders, etc.
- ❖ Smart phone
- ❖ Networking system

Design Construction of Flip Type Capacitor



➤ For Flip Type Capacitor, ESL is lowered by reversing the terminal electrode length and width to make the current path short and wide.



C SERIES | Flip Type Capacitor / X7R, X7S, X6S, X5R

Capacitance (pF)	Cap Code	C0816 0306				C1220 0508						C1632 0612					
		0G (4V)	1C (16V)	1A (10V)	0J (6.3V)	0G (4V)	1H (50V)	1E (25V)	1C (16V)	1A (10V)	0J (6.3V)	1H (50V)	1E (25V)	1C (16V)	1A (10V)	0J (6.3V)	0G (4V)
10,000	103		█				█				█						
22,000	223		█				█				█						
47,000	473		█				█				█						
100,000	104	█	█					█			█						
220,000	224			█	█			█			█		█				
470,000	474	█		█	█	█		█		█	█	█	█				
1,000,000	105				█	█			█	█		█		█	█	█	
2,200,000	225				█	█								█	█	█	
4,700,000	475															█	█
10,000,000	106																█

█ X5R █ X6S █ X7R █ X7S

Additional Product Application Information

- Decoupling of high speed integrated circuit
- Smoothing of switching power supply

