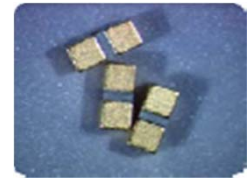




P21BN300M5S Milli-Cap®



Milli-Cap®: The "Ideal" SMT Capacitor

Benefits:

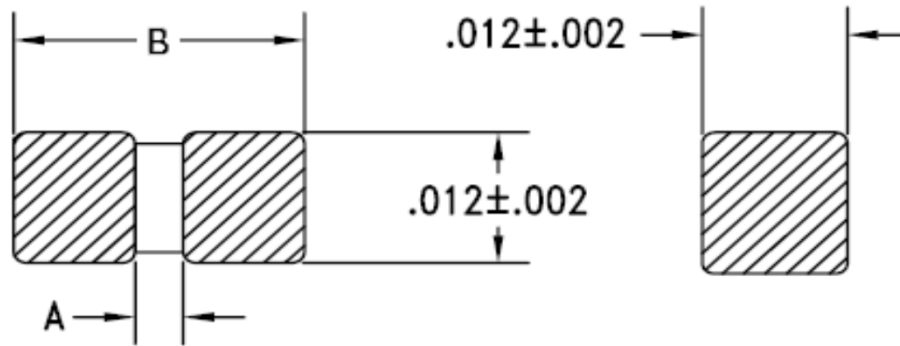
- Increased Useable Bandwidth
- Very Low Series Inductance
- Ultra High Series Resonance
- Low Loss, High Q

Functional Applications:

- Matching Filter Applications
- Test Equipment
- Photonics
- SONET

Part Number Identification

P	21	BN	300	M	5	S	T
Product P = Milli-Cap®	Case Size 21 = 0201	Material	Capacitance 300 = 30pF	Capacitance Tolerance M = ±20%	Voltage Rating 5 = 50VDC	Termination S = Ag term, Ni barrier, Au flash ROHS	Packaging T = Tape & Reel



Case Size Definitions			
CODE	Dim "A"		Dim "B"
	Nominal	Tolerance	MAX
21 (0201)	0.006"	± 0.001"	0.024"

Ceramic Material Info			
CODE	Temperature Coeff. of Capacitance (-55°C to 125°C)	1MHz MAX Dissipation Factor	25°C Insulation Resistance
BN	± 15%	3.00%	> 10 ⁵ Ω

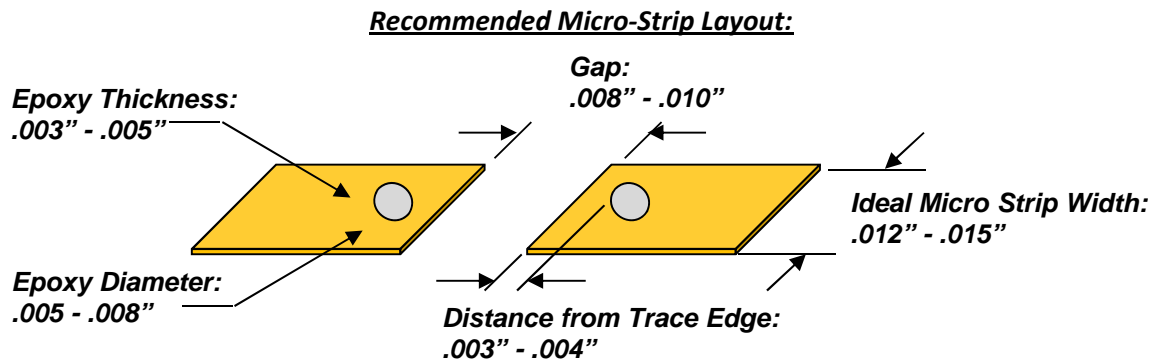
Termination Finish and Recommended Attachment Methods

Termination	
Code	Description
S	Ag Termination, minimum 50 μ " Ni barrier layer, 7.5 \pm 5 μ " Au flash.

Recommended Attachment Materials

Conductive Epoxy (EPO TEK[®] H20E, Ablebond[®] 84-1 LMI, etc.)
Solder (SN62, SN63, etc.)

Recommended Attachment to Soft or Hard Substrate Using *Conductive Epoxy*:



Attachment Method:

1. Place a single drop of conductive epoxy onto each micro-strip line as illustrated. The edge of the epoxy shall be at least 0.003"-0.004" back from the edge of the trace to prevent filling the gap with epoxy.
2. Centering the termination gap of the capacitor within the gap in the micro-strip, press with careful, even pressure onto the micro-strip ensuring the terminations make good contact with the epoxy drops.
3. Cure according to the epoxy manufacturer's preferred schedule
Typically 125°C to 150°C Max.
4. After curing, inspect the joining for epoxy shorts across the termination and microstrip gaps that would cause a short across the gap.

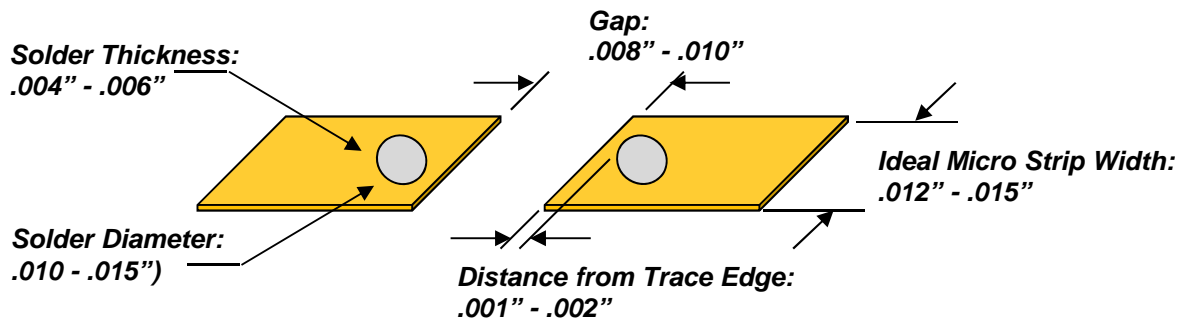
Isopropanol and Methanol are both safe to use to pre-clean Milli-Caps[®]

They are not to be used after mounting with conductive epoxy as they act as a solvent.

Recommended Attachment Methods (Continued)

Recommended Attachment to Soft or Hard Substrate Using *Solder*:

Recommended Micro-Strip Layout:



Attachment Method:

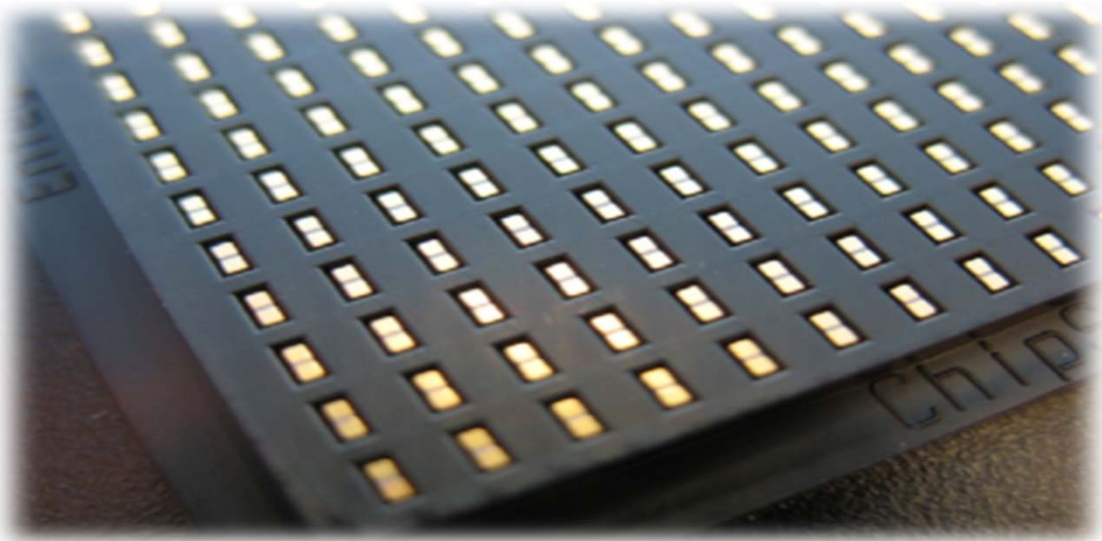
1. Place a single drop of solder paste onto each micro-strip line as illustrated. The edge of the solder paste shall be at least 0.001"-0.002" back from the edge of the trace to prevent filling the gap with solder.
2. Centering the termination gap of the capacitor within the gap in the micro-strip, press with careful, even pressure onto the micro-strip ensuring the terminations make good contact with the drops of solder paste.
3. Reflow according to the solder manufacturer's preferred profile, ensuring the reflow temperature does not exceed 250°C.
4. After the reflow step is completed, inspect the joint for voids or excess flux and non-reflowed solder balls that can degrade performance or cause shorts across the gaps. Proper cleaning after the reflow process is crucial to avoiding performance degradation and discovering poor solder joints.

Isopropanol and Methanol are both safe to use with soldered Milli-Caps[®]



Packaging

Packaging	
Code	Description
Blank	Generic Waffle Pack
T	Tape and Reel: 7" Reel, 100pc Minimum, 5000pc Maximum (Consult with a sales representative for availability)
S	Customer Specified (Drawing Required, tooling charges may apply)





P21BN300M5S

— Insertion Loss (S21) — Return Loss (S11)

