

ATC Millimeter Wavelength Single Layer Capacitors

- Ultra-High Qs
- DC to 50 GHz
- .06 pF to 4700 pF
- Capacitor Arrays
- Custom sizes, values, shapes, tolerances and higher voltages
- Low Cost
- Broadband Applications
- Not Static Sensitive
- High Reliability Testing



ATC 111 SERIES MICROCAP® capacitors have beveled edges to minimize the potential for crack propagation due to mechanical or thermal shock by eliminating abrupt metal-to-ceramic interfaces. Longer arc-over paths help reduce shorting during epoxy die attachment.

ATC 116 SERIES MICROCAP® capacitors have a conventional straight-sided design which allows the user the ability to match stripline widths or design a custom capacitor for limited circuit dimensions.

ATC 112 SERIES BI-TRIM® capacitors are Binary capacitors in 1:2:2:4 or 1:2:4:8 configurations. This arrangement permits adjustment (trimming) of the capacity value to a desired value by connecting sections in parallel. This is a highly stable variable capacitor with none of the drawbacks of mechanically variable capacitors such as contact resistance, shock and vibration sensitivity.

ATC 113 SERIES TWIN/CAP® capacitors are two capacitors on one substrate that are useful in microstrip lines to minimize lead inductance in coupling applications for frequencies as high as 50 GHz. The coupling without appreciable inductance is achieved by utilizing the two capacitors in series. The unique configuration, low-profile and low inductance TWIN/CAPS® provide low insertion loss and extremely high resonant frequencies.



Let ATC assist in designing your custom component.
CALL 631-622-4700.

Microcaps® are carried in selected values through our
QUICK-PICK 48 HOUR SHIPMENT SYSTEM®.



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one norden lane, huntington station, n.y. 11746-2142 usa
phone: 631-622-4700 • fax: 631-622-4748 • e-mail: sales@atceramics.com
<http://www.atceramics.com>

ATC Single Layer Capacitors: General Specifications

ELECTRICAL CHARACTERISTICS

OPERATING FREQUENCY: Up to 50 GHz.

RESONANT FREQUENCY: See curve below.

STANDARD MEASUREMENT FREQUENCY:
1 MHz for .06 to 100 pF; 1 KHz for values greater than 100 pF.

INSULATION RESISTANCE:
 10^{11} ohms min. at +25°C and rated voltage.

VOLTAGE RATING: 100 WVDC.
Consult factory for higher ratings.

DIELECTRIC TEST VOLTAGE: 250% of voltage rating for 5 seconds. Impervious to static discharge failures.

MECHANICAL CHARACTERISTICS

HERMETICITY: The dielectric is virtually unaffected by moisture and commonly used cleaning solvents.

RUGGED CONSTRUCTION to minimize bonding problems and circuit assembly problems.

BOND STRENGTH: All terminations meet or exceed MIL-STD-883 Method 2019 for Die shear strength. Wire bondability meets or exceeds MIL-C-49464 Paragraph 3.12 as well as MIL-STD-883 Method 2011.

ENVIRONMENTAL CHARACTERISTICS

OPERATING TEMPERATURE:
-55°C to +125°C. (No derating of working voltage)
ATC parallel plate capacitors are designed and manufactured to meet or exceed the requirements of MIL-C-49464.

ENVIRONMENTAL CHARACTERISTICS, cont.

These include the following Hi-Rel tests in accordance with MIL-STD-202:

- Immersion (method 104, MIL-STD-202)
- Resistance to soldering heat (method 210, MIL-STD-202)
- Low voltage humidity (MIL-C-49464)
- Moisture resistance (method 106)
- Life test at +125°C and 2X rated voltage (method 108, test cond. F)
- Solderability (method 208)
- Voltage conditioning at +125°C and 2X rated voltage (method 108, test cond. A)

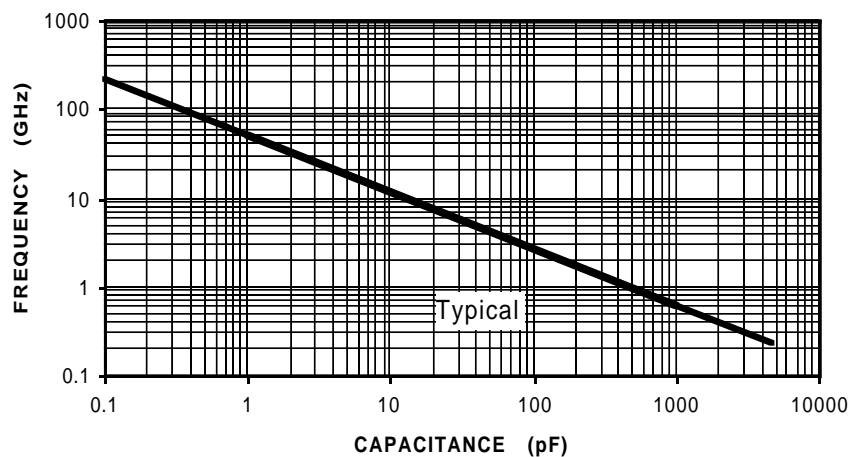
QUALITY PROGRAM

Stringent process procedures and exacting material requirements ensure that only the highest quality parts are shipped.

ATC's manufacturing and Quality Testing facilities comply with the following specifications:

- ISO 10012-1 Quality Assurance for Measuring Equipment
- ANSI / NCSL Z540-1-1994 Calibration Laboratories and Measuring and Test Equipment - General Requirements

SERIES RESONANCE VS CAPACITANCE



ATC Single Layer Capacitors: Dielectric Specifications

Ultra Stable Capacitors for Filtering and Tuning Applications - Stable K Dielectric

Dielectric Code	T.C. (-55°C to +125°C)	Dielectric Const. (K)	Min. Q @ 1 MHz	Max. DF @ 1 MHz (%)
A	+90 ±30 PPM/°C	14	10,000	0.01
AX	0 ±30 PPM/°C	23	2,000	0.05
BA	-80 ±30 PPM/°C	36	660	0.15
BB	0 ±30 PPM/°C	31	660	0.15
CA	0 ±30 PPM/°C	62	660	0.15
CC	-750 ±200 PPM/°C	130	660	0.15

Broadband Applications Including Coupling and Decoupling - Mid K Dielectric

Dielectric Code	T.C. (-55°C to +125°C)	Dielectric Const. (K)	Min. Q @ 1 MHz	* Max. DF @ 1 KHz (%)
DA	-1500 ±500 PPM/°C	165	400	N/A
DB	±7.5% max. change (non-linear)	200	400	N/A
HC	-2000 ±500 PPM/°C	350	200	0.3
EA	-4700 ±1500 PPM/°C	650	400	0.3
EC	±10% max. change (non-linear)	650	65	1.5

Higher Capacitance Value, For By-Pass and DC Blocking Applications - High K Dielectric

Dielectric Code	T.C. (-55°C to +125°C)	Dielectric Const. (K)	Min. Q @ 1 MHz	* Max. DF @ 1 KHz (%)
J	+5% to -15% max. change (non-linear)	1100	40	2.0
F	±10% max. change (non-linear)	2000	40	2.0
G	+10% to -75% max. change (non-linear)	4500	40	2.0
K	0% to -92% max. change (non-linear)	9000	25	2.0

* Applies to values greater than 100 pF.

ATC Single Layer Millimeter Wavelength Microcaps®: 111 & 116 Series

ATC PART NUMBER CODE

Series: 111 S CA 0R5 B 100 TT

Series: _____
 111 Beveled edges
 116 Perpendicular edges

Case Size: See Mechanical _____
 Configurations; page 5.

Dielectric Style: _____
 Max. 2 characters, see Specification
 Chart; page 3.

Capacitance Code: 2 significant digits, _____
 R = Decimal point; Number of zeros following
 significant digits. See pages 6 and 7 for
 capacitance values.

Termination Suffix	
Code	Description
TT (Standard)	Thin Film: Titanium Tungsten / Nickel/Gold 100 μ in. min. Gold
AP	Thick Film: Platinum Gold 300 μ in. min.

WVDC (in Volts): 3 significant digits,
 100 Volts is standard.

Capacitance Tolerance									
Code	A (pF)	B (pF)	C (pF)	D (pF)	F (%)	G (%)	J (%)	K (%)	M (%)
Tol.	± 0.05	± 0.1	± 0.25	± 0.5	± 1	± 2%	± 5	± 10	± 20%

Use the Standard Capacitance Value chart on pages 6 and 7 to select a code which is within the capacity range given for a specific case size/dielectric combination.

Select a capacitance tolerance from the available tolerances listed in the Selection Chart.

The above part number describes a 100 volt, TT termination (thin film), 111 series (beveled edge) capacitor, case size S (0.018" square nominal), CA dielectric (0 ±30 ppm/°C). This size/dielectric combination has a capacitance range of 0.4 to 0.9 pF and available tolerances of B, C or D. 0R5 defines a capacitance value of 0.5 pF. B tolerance (±0.1 pF) was selected.

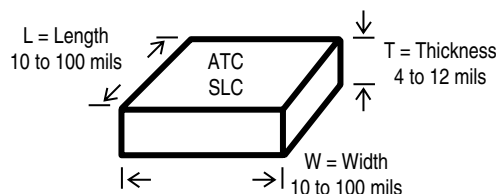
ATC accepts orders for our parts using designations **with** or **without** the "ATC" prefix. Both methods of defining the part number are equivalent, i.e., part numbers referenced with the "ATC" prefix are interchangeable to parts referenced without the "ATC" prefix. Customers are free to use either in specifying or procuring parts from American Technical Ceramics.

Design Your Own Single Layer Capacitor

ATC gives you the ability to create custom values and dimensions. When circuit board area is tight or you need to match your stripline width, you can optimize the size and shape of required SLCs. This same technique can be used to build special values that fall outside of the standard offerings.

Custom Values and Sizes

Optimize the best combination of length, width, thickness and dielectric material for your circuit/stripline capacitor requirements.



Design Guidelines

C = Capacitance (pF)	$C = (.225 K \times L \times W) / (1000 T)$
L = Length	10 to 100 mils, may not exceed 20 x T or 2.5 x W
W = Width	10 to 100 mils, may not exceed 20 x T
T = Thickness	4 to 12 mils, less than or equal to L/2 or W/2

Dielectric Constant (K)

A	14	CC	130	EC	650
AX	23	DA	165	J	1100
BA	36	DB	200	F	2000
BB	31	HC	350	G	4500
CA	62	EA	650	K	9000

ATC Single Layer Millimeter Wavelength Microcaps[®]: 111 & 116 Series

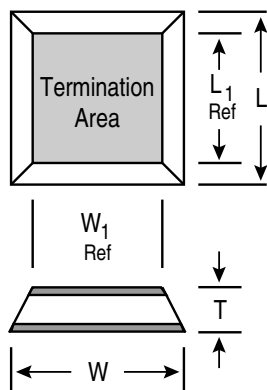
MECHANICAL CONFIGURATIONS - Inches (mm)

Case Code	W or L	T*	Ref. W ₁ or L ₁
R**	.015 (.381) ± .003 (.076)	.003 (.076) min. to .012 (.305) max.	N/A
S	.018 (.457) ± .003 (.076)		.014 (.356)
T	.025 (.635) ± .005 (.127)		.019 (.483)
U	.035 (.889) ± .005 (.127)		.030 (.762)
X	.050 (1.27) ± .010 (.254)		.045 (1.14)
Y	.070 (1.78) ± .010 (.254)		.065 (1.65)
Z	.090 (2.29) ± .010 (.254)		.085 (2.16)
Q	Customer specified non-standard dimensions		

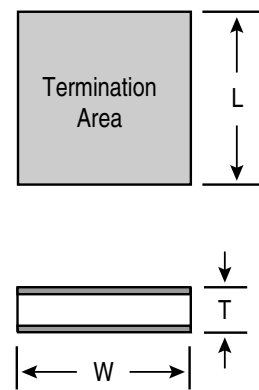
*T depends upon capacity value.

**Case size R is not available in 111 Series.

111 SERIES MICROCAPS[®]



116 SERIES MICROCAPS[®]



NOTES:

ATC 111 & 116 Series Microcaps®: Capacitance Selection Chart

Dielectric Code	Case Size L x W			Case Size L x W			Case Size L x W			Case Size L x W		
	R	.015 x .015 (.381 x .381)		S	.018 x .018 (.457 x .457)		T	.025 x .025 (.635 x .635)		U	.035 x .035 (.889 x .889)	
	Min. (pF)	Max. (pF)	Tol.	Min. (pF)	Max. (pF)	Tol.	Min. (pF)	Max. (pF)	Tol.	Min. (pF)	Max. (pF)	Tol.
A	0.06	0.10	A, B	0.09	0.2	A, B, C	0.2	0.4	A, B, C, D	0.3	0.8	A, B, C, D
AX	0.1	0.3	A, B, C	0.2	0.3	A, B, C	0.3	0.7	A, B, C, D	0.6	1.5	B, C, D
BA	0.2	0.5	A, B, C, D	0.3	0.5	A, B, C, D	0.4	1.0	B, C, D	0.9	2.2	B, C, D
BB	0.2	0.4	A, B, C, D	0.2	0.4	A, B, C, D	0.4	0.9	B, C, D	0.8	1.8	B, C, D
CA	0.3	0.7	A, B, C, D	0.4	0.9	B, C, D	0.8	1.8	B, C, D	1.5	3.6	B, C, D
CC	0.6	1.5	B, C, D	0.8	1.8	B, C, D	1.6	3.6	C, D	3.3 4.3	4.3 7.5	B, C, D C, D
DA	0.7	2.0	C, D	1.0	2.4	C, D	2.0	4.7	C, D	3.9	9.1	C, D
DB	0.9	2.4	C, D	1.2	2.7	C, D	2.4	5.6	C, D	5.1 9.1	9.1 12	C, D J, K, M
HC	1.5	3.9	D	2.0	4.3	D	3.9	9.1	D	8.2 12	12 22	D J, K, M
EA	2.7	7.5	D	3.9	9.1	D	8.2	18	J, K, M	15	39	K, M
EC	2.7	7.5	D	3.9	9.1	D	8.2	18	J, K, M	15	39	K, M
J	5.1 9.1	9.1 12	D K, M	6.8 10	10 15	D K, M	15	27	K, M	27	68	K, M
F	9.1	22	K, M	12	27	K, M	22	56	K, M	47	120	K, M
G	22	56	M	27	68	M	56	120	M	120	270	M
K	47	82	M	68	120	M	120	270	M	220	560	M

Inches (mm)

Standard Capacity Values

CAP. CODE	CAP. (pF)	CAP. CODE	CAP. (pF)	CAP. CODE	CAP. (pF)	CAP. CODE	CAP. (pF)	CAP. CODE	CAP. (pF)	CAP. CODE	CAP. (pF)
R06	0.06	0R3	0.3	0R9	0.9	1R6	1.6	3R0	3.0	5R6	5.6
R07	0.07	0R4	0.4	1R0	1.0	1R8	1.8	3R3	3.3	6R2	6.2
R08	0.08	0R5	0.5	1R1	1.1	2R0	2.0	3R6	3.6	6R8	6.8
R09	0.09	0R6	0.6	1R2	1.2	2R2	2.2	3R9	3.9	7R5	7.5
0R1	0.1	0R7	0.7	1R3	1.3	2R4	2.4	4R3	4.3	8R2	8.2
0R2	0.2	0R8	0.8	1R5	1.5	2R7	2.7	5R1	5.1	9R1	9.1

ATC 111 & 116 Series Microcaps®: Capacitance Selection Chart

Case Size L x W			Case Size L x W			Case Size L x W			Dielectric Code
X .050 x .050 (1.27 x 1.27)			Y .070 x .070 (1.78 x 1.78)			Z .090 x .090 (2.29 x 2.29)			
Min. (pF)	Max. (pF)	Tol.	Min. (pF)	Max. (pF)	Tol.	Min. (pF)	Max. (pF)	Tol.	
0.7	1.8	B, C, D	1.3	3.6	B, C, D	2.2	5.6	B, C, D	A
1.1	3.0	B, C, D	2.2	5.6	B, C, D	3.6	10	B, C, D	AX
1.8	4.3	B, C, D	3.6	7.5	B, C, D	5.6	9.1	B, C, D	BA
			7.5	9.1	C, D	9.1	15	F, G, J, K, M	
1.5	3.9	B, C, D	3.0	6.8	B, C, D	5.6	9.1	B, C, D	BB
						9.1	12.0	F, G, J, K, M	
3.3	7.5	C, D	6.8	10	C, D	10	27	F, G, J, K, M	CA
			10	15	G, J, K, M				
6.8	9.1	C, D	15	33	G, J, K, M	22	56	F, G, J, K, M	CC
9.1	15	G, J, K, M						M	
8.2	10	D, J, K, M	18	39	G, J, K, M	27	68	G, J, K, M	DA
10	22	J, K, M							
10	22	J, K, M	22	47	G, J, K, M	33	82	G, J, K, M	DB
18	39	J, K, M	33	82	J, K, M	56	150	J, K, M	HC
33	82	K, M	56	150	J, K, M	100	270	J, K, M	EA
33	82	K, M	56	150	J, K, M	100	270	J, K, M	EC
68	150	K, M	120	270	K, M	180	470	K, M	J
100	270	K, M	220	470	K, M	330	820	M	F
220	560	M	470	1000	M	820	2200	M	G
470	1200	M	1000	2200	M	1500	4700	M	K

Inches (mm)

Standard Capacity Values

CAP. CODE	CAP. (pF)	CAP. CODE	CAP. (pF)	CAP. CODE	CAP. (pF)	CAP. CODE	CAP. (pF)	CAP. CODE	CAP. (pF)	CAP. CODE	CAP. (pF)
100	10	330	33	101	100	331	330	102	1000	332	3300
120	12	390	39	121	120	391	390	122	1200	392	3900
150	15	470	47	151	150	471	470	152	1500	472	4700
180	18	560	56	181	180	561	560	182	1800		
220	22	680	68	221	220	681	680	222	2200		
270	27	820	82	271	270	821	820	272	2700		

Special values, sizes and tolerances available upon request. Consult factory.

112 Series BI-TRIM® Binary Capacitors

CONFIGURATION 3

Part Number	Total Cap. (pF)	C 1 Tol. (pF)	C 2 Tol. (pF)	C 4 Tol. (pF)
112M3A0R9C100TT	0.9	0.1 B	0.2 B	0.4 C
112M3CA2R7C100TT	2.7	0.3 B	0.6 C	1.2 C
112N3CA9R0D100TT	9.0	1.0 C	2.0 C	4.0 D
112N3DB270M100TT	27	3.0 M	6.0 M	12 M
112M3F900M100TT	90	10 M	20 M	40 M

CONFIGURATION 4

Part Number	Total Cap. (pF)	C 1 Tol. (pF)	C 2 Tol. (pF)	C 4 Tol. (pF)	C 8 Tol. (pF)
112P4A1R5C100TT	1.5	0.1 B	0.2 B	0.4 B	0.8 C
112P4CA4R5D100TT	4.5	0.3 C	0.6 C	1.2 C	2.4 D
112P4DB150M100TT	15	1.0 M	2.0 M	4.0 M	8.0 M
112P4EC450M100TT	45	3.0 M	6.0 M	12 M	24 M
112R4J151M100TT	150	10 M	20 M	40 M	80 M

NOTE: Selected values in **bold italic** type are available from Quik-Pick® – See page 11.

CONFIGURATION 3

Case Size	L = W Inches (mm)	L ₁ = W ₁ (ref.)	L ₂ = W ₂ (ref.)
M	.050 ±.005 (1.27 ±0.13)	.015 (0.38)	.030 (0.76)
N	.070 ±.005 (1.78 ±0.13)	.022 (0.56)	.044 (1.12)

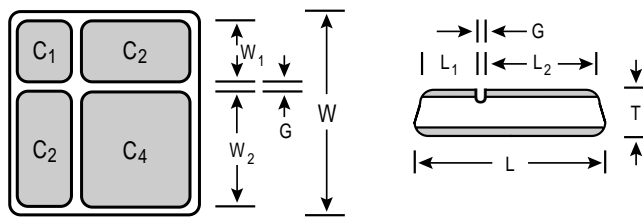
T (Thickness): .005 (0.13) min. to .010 (0.25) max.
G: .005 nom.

CONFIGURATION 4

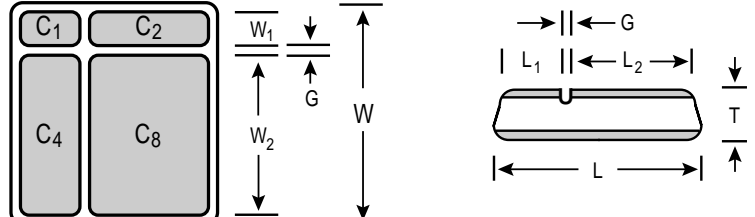
Case Size	L = W Inches (mm)	L ₁ (ref.)	L ₂ (ref.)	W ₁ (ref.)	W ₂ (ref.)
P	.060 ±.005 (1.52 ±0.13)	.019 (0.48)	.038 (0.97)	.011 (0.28)	.045 (1.14)
R	.070 ±.005 (1.78 ±0.13)	.022 (0.56)	.044 (1.12)	.013 (0.33)	.053 (1.34)

T (Thickness): .005 (0.13) min. to .010 (0.25) max.
G: .005 nom.

CONFIGURATION 3



CONFIGURATION 4



ATC PART NUMBER CODE: 112/113 Series

Series: 112 or 113 — **112**

Case Size Code — **N**

Configuration: 112 Series only. — **3**

Dielectric Style: Max. 2 characters. Available in the following styles: A, CA, CC, DB, HC, EC, J, F, G. See page 3 for T.C. — **CA**

Capacitance Code: 2 significant digits, R = Decimal point; Number of zeros following significant digits. — **9R0**

Termination Suffix: TT: Titanium Tungsten/Nickel/Gold — **TT**

WVDC (in Volts): 3 significant digits, 100 Volts is standard. — **D 100**

Capacitance Tolerance				
Code	B (pF)	C (pF)	D (pF)	M (%)
Tol.	±0.1	±0.25	±0.5	±10

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ATC 113 Series TWIN/CAP® Capacitors

MECHANICAL CONFIGURATIONS - Inches (mm)

Equivalent Series Cap. =

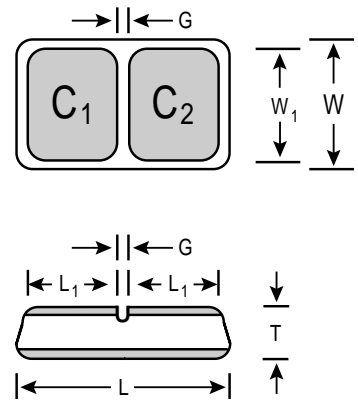
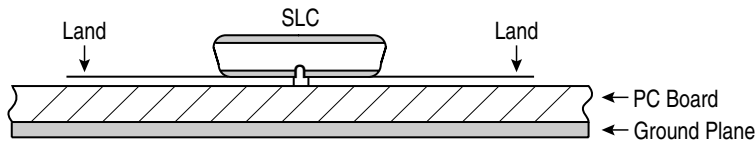
$$\frac{C_1}{2} = \frac{C_2}{2}$$

The top terminations of C₁ and C₂ make direct contact with the microstrip line conductors eliminating the loss due to lead wire connections.

Case Size	Width (W)	Length (L)	Width ₁ (W ₁)	Thickness (T)	Length ₁ (L ₁)
A	.025 ±.003	.040 ±.005 (1.02 ±0.13)	.022	.005 - .012 (0.13 - 0.30)	.015 (.381)
B	(.635 ±.076)	.050 ±.005 (1.27 ±0.13)	(.559)		.020 (.508)
C	.035 ±.003	.060 ±.005 (1.52 ±0.13)	.033		.025 (.635)
D	(.889 ±.076)	.055 ±.005 (1.4 ±0.13)	(.838)		.023 (.584)
E	.050 ±.005	.080 ±.005 (2.03 ±0.13)	.047		.035 (.889)
F	(1.27 ±0.13)	.065 ±.005 (1.65 ±0.13)	(1.19)		.027 (.686)

G: .005 nom.

TYPICAL MOUNTING CONFIGURATION



Width .025 (.635)			Width .035 (.889)			Width .050 (1.27)		
Part Number	Equivalent Series Cap. (pF) / Tol.	Case Size	Part Number	Equivalent Series Cap. (pF) / Tol.	Case Size	Part Number	Equivalent Series Cap. (pF) / Tol.	Case Size
113ADB1R0C100TT	1.0 C	A	113CCA1R0C100TT	1.0 C	C	113FCA1R0C100TT	1.0 C	F
113AHC2R2D100TT	2.2 D	A	113DDB2R2D100TT	2.2 D	D	113FCC2R2D100TT	2.2 D	F
113AEC3R3D100TT	3.3 D	A	113DHC3R3D100TT	3.3 D	D	113FDB3R3D100TT	3.3 D	F
113AJ4R7D100TT	4.7 D	A	113DHC4R7D100TT	4.7 D	D	113EDB4R7D100TT	4.7 D	E
113AJ6R8K100TT	6.8 K	A	113DEC6R8K100TT	6.8 K	D	113EHC6R8K100TT	6.8 K	E
113BJ8R2K100TT	8.2 K	B	113DEC8R2K100TT	8.2 K	D	113EHC8R2K100TT	8.2 K	E
113BJ100M100TT	10 M	B	113DEC100K100TT	10 K	D	113FEC100K100TT	10 K	F
113AG220M100TT	22 M	A	113DF220M100TT	22 M	D	113FJ220M100TT	22 M	F
113BG330M100TT	33 M	B	113CF330M100TT	33 M	C	113EJ330M100TT	33 M	E
113BG470M100TT	47 M	B	113DG470M100TT	47 M	D	113FF470M100TT	47 M	F

NOTE: Selected values in **bold italic** type are available from Quik-Pick® – See page 11.

Quik-Pick 48 Hr. System[®] Shipment For ATC 111 Series Microcaps[®]

FAX THIS FORM TO ATC AT: 631-622-4748

Name: _____ Cust. P.O. #: _____ Date: _____
 Phone: _____ Bill to: _____ Ship to: _____
 Fax: _____

Application/Program: _____

(THIS LINE FOR ATC USE ONLY) Cust. Order #: _____ ATC Order #: _____

ORDER ANY OF THE VALUES BELOW IN QUANTITIES UP TO 500 PIECES
 OR DESIGN YOUR CUSTOM KIT AS DESCRIBED FOR QUIK-PICK 48 HOUR SHIPMENT.

111 SERIES QUIK-PICK PART NUMBERS

Part Number	Cap. (pF)	W	(mm)	✓	Part Number	Cap. (pF)	W	(mm)	✓	Part Number	Cap. (pF)	W	(mm)	✓
111SA0R1B100TT	0.1	.018	.457		111SEC4R3D100TT	4.3	.018	.457		111UEC330K100TT	33	.035	.889	
111SBB0R2B100TT	0.2	.018	.457		111ZA4R3C100TT	4.3	.090	2.29		111UEC330M100TT	33	.035	.889	
111TA0R2B100TT	0.2	.025	.635		111SEC5R1C100TT	5.1	.018	.457		111TF390M100TT	39	.025	.635	
111SBB0R3B100TT	0.3	.018	.457		111THC5R1D100TT	5.1	.025	.635		111SG470M100TT	47	.018	.457	
111SCA0R4B100TT	0.4	.018	.457		111UDB5R1D100TT	5.1	.035	.889		111TF470K100TT	47	.025	.635	
111TBB0R4B100TT	0.4	.025	.635		111XCA5R1D100TT	5.1	.050	1.27		111TF470M100TT	47	.025	.635	
111SCA0R5B100TT	0.5	.018	.457		111THC5R6D100TT	5.6	.025	.635		111UJ470M100TT	47	.035	.889	
111TBB0R5B100TT	0.5	.025	.635		111SJ100K100TT	10	.018	.457		111SG560M100TT	56	.018	.457	
111SCA0R6B100TT	0.6	.018	.457		111SJ100M100TT	10	.018	.457		111UJ560M100TT	56	.018	.457	
111SCA0R7B100TT	0.7	.018	.457		111TEC100M100TT	10	.025	.635		111TG680M100TT	68	.025	.635	
111UA0R7B100TT	0.7	.035	.889		111YCA100K100TT	10	.070	1.78		111TG820M100TT	82	.025	.635	
111SCC0R9C100TT	0.9	.018	.457		111SJ120M100TT	12	.018	.457		111UF820M100TT	82	.035	.889	
111SCC1R0C100TT	1.0	.018	.457		111UHC120M100TT	12	.035	.889		111TG101M100TT	100	.025	.635	
111XA1R0B100TT	1.0	.050	1.27		111XDB120K100TT	12	.050	1.27		111UF101M100TT	100	.035	.889	
111TCA1R1C100TT	1.1	.025	.635		111SJ150K100TT	15	.018	.457		111XJ101M100TT	100	.050	1.27	
111TCA1R2C100TT	1.2	.025	.635		111SJ150M100TT	15	.018	.457		111TG121M100TT	120	.025	.635	
111TCA1R3C100TT	1.3	.025	.635		111TEC150M100TT	15	.025	.635		111UG221M100TT	220	.035	.889	
111SDB1R5D100TT	1.5	.018	.457		111TEC180M100TT	18	.025	.635		111XG471M100TT	470	.050	1.27	
111UCA1R8C100TT	1.8	.035	.889		111SF220K100TT	22	.018	.457		111YG102M100TT	1000	.070	1.78	
111SDB2R0D100TT	2.0	.018	.457		111SF220M100TT	22	.018	.457		111ZG102M100TT	1000	.090	2.29	
111UCA2R4D100TT	2.4	.035	.889		111TJ220K100TT	22	.025	.635		111ZG182M100TT	1800	.090	2.29	
111XBB2R4C100TT	2.4	.050	1.27		111TJ220M100TT	22	.025	.635						
111SHC3R0D100TT	3.0	.018	.457		111XHC220K100TT	22	.050	1.27						
111TCC3R0D100TT	3.0	.025	.635		111TF270M100TT	27	.025	.635						
111TDB3R0D100TT	3.0	.025	.635		111TJ270M100TT	27	.025	.635						
111UCA3R0D100TT	3.0	.035	.889		111TF330M100TT	33	.025	.635						

W = Width
 Inches (mm)

KITS

Engineering design values you select. Just pick the values from the list above and we will send you 5 pieces each of those values. There are 4 inexpensive kit sizes and all offer the ATC Standard Termination TT (Titanium Tungsten/Nickel/Gold).

- 111SL1025 5 Different Values \$60.00 (25 pieces)
- 111SL1050 10 Different Values \$120.00 (50 pieces)
- 111SL1075 15 Different Values \$180.00 (75 pieces)
- 111SL1100 20 Different Values \$240.00 (100 pieces)

Quik-Pick 48 Hour System[®] Shipment For ATC 112 Series/113 Series

FAX THIS FORM TO ATC AT: 631-622-4748

Name: _____ Cust. P.O. #: _____ Date: _____
 Phone: _____ Bill to: _____ Ship to: _____
 Fax: _____

Application/Program: _____

(THIS LINE FOR ATC USE ONLY) Cust. Order #: _____ ATC Order #: _____

ORDER ANY OF THE VALUES BELOW IN QUANTITIES UP TO 500 PIECES
 OR DESIGN YOUR CUSTOM KIT AS DESCRIBED FOR QUIK-PICK 48 HOUR SHIPMENT.

112 SERIES QUIK-PICK PART NUMBERS

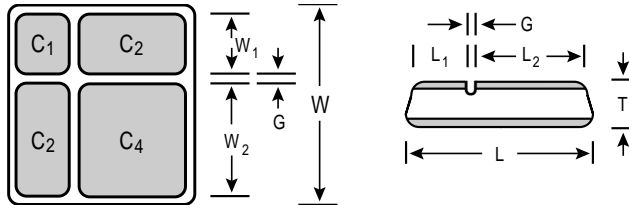
CONFIGURATION 3

Part Number	C1	C2	C4	Total Cap. Val. (pF)	✓
112M3A0R9C100TT	0.1	0.2	0.4	0.9	
112M3F900M100TT	10	20	40	90	
112N3CA9R0D100TT	1	2	4	9.0	

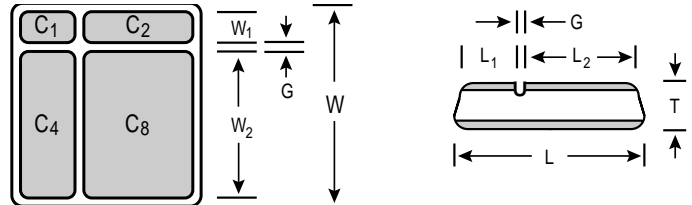
CONFIGURATION 4

Part Number	C1	C2	C3	C4	Total Cap. Val. (pF)	✓
112P4A1R5C100TT	0.1	0.2	0.4	0.8	1.5	
112P4DB150M100TT	1	2	4	8	15	
112R4J151M100TT	10	20	40	80	150	

CONFIGURATION 3



CONFIGURATION 4

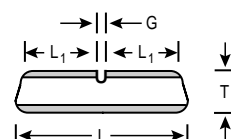
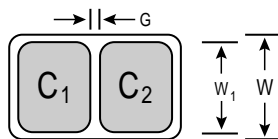


113 SERIES QUIK-PICK PART NUMBERS

Part Number	Equivalent Series Cap. (pF / Tol.)	✓
113ADB1R0C100TT	1.0 C	
113AEC3R3D100TT	3.3 D	
113BJ8R2K100TT	8.2 K	
113BJ100M100TT	10 M	
113BG330M100TT	33 M	

Part Number	Equivalent Series Cap. (pF / Tol.)	✓
113CCA1R0C100TT	1.0 C	
113DHC3R3D100TT	3.3 D	
113DEC8R2K100TT	8.2 K	
113DEC100K100TT	10 M	
113CF330M100TT	33 M	

Part Number	Equivalent Series Cap. (pF / Tol.)	✓
113FCA1R0C100TT	1.0 C	
113FDB3R3D100TT	3.3 D	
113EHC8R2K100TT	8.2 K	
113FEC100K100TT	10 M	
113EJ330M100TT	33 M	



KITS

Engineering design values you select. Just pick the values from the list above and we will send you 5 pieces each of those values. There are 3 inexpensive kit sizes and all offer the ATC Standard Termination TT (Titanium Tungsten/Nickel/Gold).

- 111SL2025 5 Different Values \$75.00 (25 pieces)
- 111SL2050 10 Different Values \$225.00 (50 pieces)
- 111SL2075 15 Different Values \$150.00 (75 pieces)



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