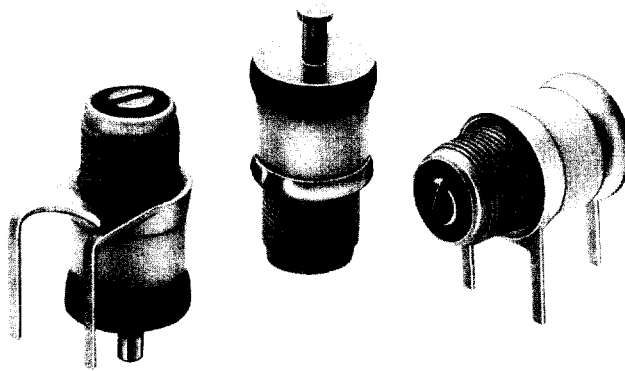


# Air Trimmer Capacitors



U.S. Patent No. 3,483,450

## THE ONLY INTERNALLY-SEALED AIR TRIMMER

Voltronics' concentric ring air trimmer capacitors are designed for use at frequencies up to 1.5 GHz. They are ideal for applications such as mobile radios, aerospace communication, crystal oscillators and filters, radar, cable TV, and innumerable other commercial and military programs. The unique internal O-ring seal makes wave soldering and vapor degreasing possible without the need to attach a separate cap.

Other features include:

- Ten full linear turns
- Internal stops
- Extreme stability under shock & vibration
- Screw head does not move in and out
- Extended shaft option of metal or plastic
- Long life with no dynamic tuning noise

NOTE:

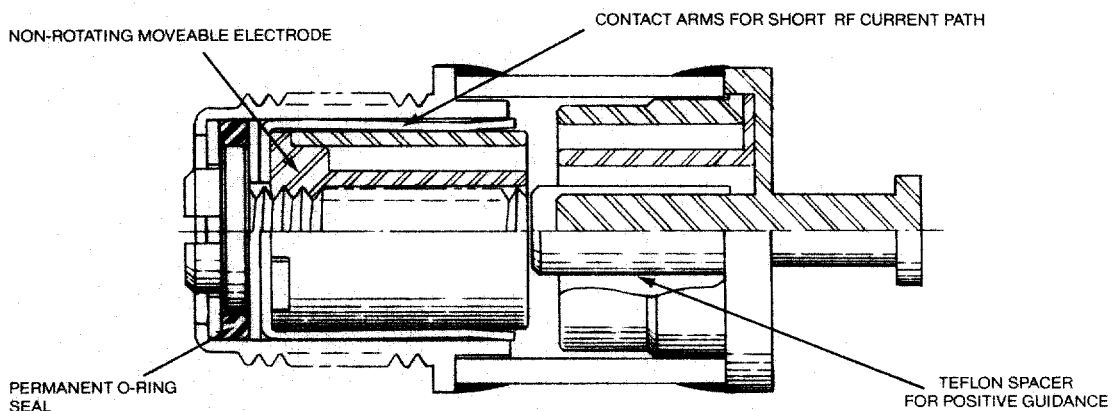
All parts shown here can be ordered as non-magnetic:  
Add "NM" to Part Number, i.e., NMAP10

Available in two styles:

"A" Series - Solder sealed and qualified to MIL-C-14409D.

"K" Series - Solder sealed.

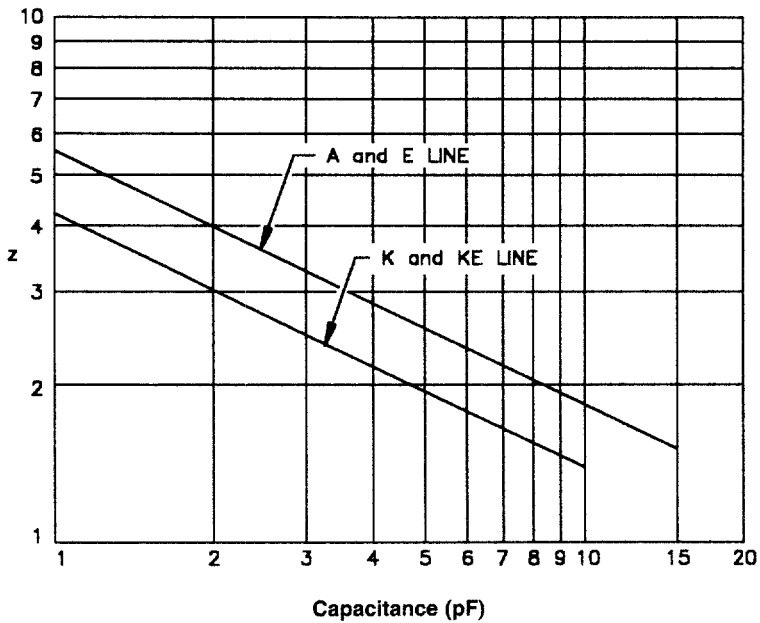
"E" and "KE" Series - Epoxy sealed for economical commercial applications.



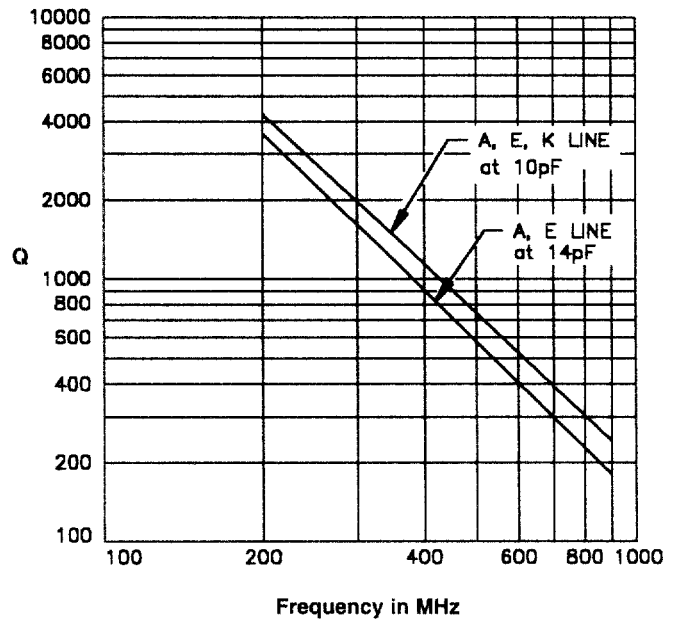
## GENERAL SPECIFICATIONS

	"A" SERIES	"E" SERIES	"K" SERIES	"KE" SERIES
Temperature Coefficient	50 ± 50 ppm/°C	-50 ± 50 ppm/°C	50 ± 50 ppm/°C	-50 ± 50 ppm/°C
Insulation Resistance	10 <sup>6</sup> megohms	10 <sup>6</sup> megohms	10 <sup>6</sup> megohms	10 <sup>6</sup> megohms
Seal	40 pounds/in <sup>2</sup>	40 pounds/in <sup>2</sup>	40 pounds/in <sup>2</sup>	40 pounds/in <sup>2</sup>
MIL-C-14409 Qualified	YES	NO	NO	NO
DC Working Voltage	125 (14pF) 250 (5 & 10pF)	125 (14pF) 250 (5 & 10pF)	125 (10pF) 250 (8pF)	125 (10pF) 250 (8pF)
DC Withstanding Voltage	250 (14pF) 500 (5 & 10pF)	250 (14pF) 500 (5 & 10pF)	250 (10pF) 500 (8pF)	250 (10pF) 500 (8pF)
Q at 100 MHz at maximum rated C	3000 (14pF) 5000 (5 & 10pF)	3000 (14pF) 5000 (5 & 10pF)	5000	5000
Operating Temperature	-65°C to +125°C	-65°C to +125°C	-65°C to +125°C	-65°C to +125°C
Rotational Life	10,000 turns	10,000 turns	10,000 turns	10,000 turns
Torque	0.5-5.0 in-oz	0.5-5.0 in-oz	0.5-5.0 in-oz	0.5-5.0 in-oz
Vibration	50g, 10-2000 Hz	50g, 10-2000 Hz	50g, 10-2000 Hz	50g, 10-2000 Hz
Shock	1500 g, 0.5 millisecs.	1500 g, 0.5 millisecs.	1500 g, 0.5 millisecs.	1500 g, 0.5 millisecs.
Drawing tolerances where not specified	XXX ± .005 XX ± .016	XXX ± .005 XX ± .016	XXX ± .005 XX ± .016	XXX ± .005 XX ± .016

SELF-RESONANT FREQUENCY

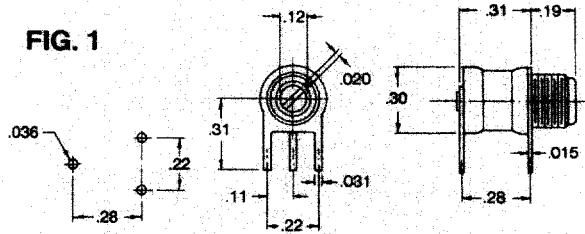


QUALITY FACTOR (Q)



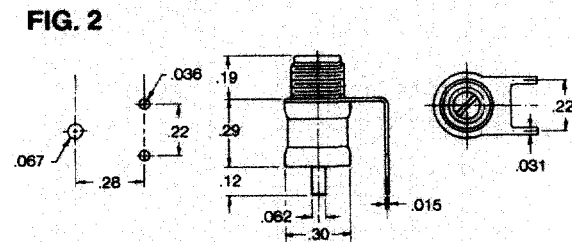
Recommended Tuning Tool: TT-100 or TT-600

# "A" & "E" SERIES - Air Trimmer Capacitors



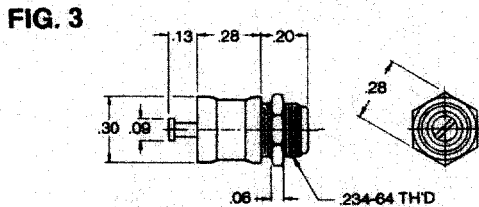
**FIG. 1**

Part Number	MIL Designation	Capacitance (pF)	
		From Below	To Above
AP5	PC18L100	1.0	5.0
AP10		1.0	10.0
AP14	PC18L140	1.0	14.0
EP5	PC18L140	0.6	5.0
EP10		0.6	10.0
EP14		0.6	14.0



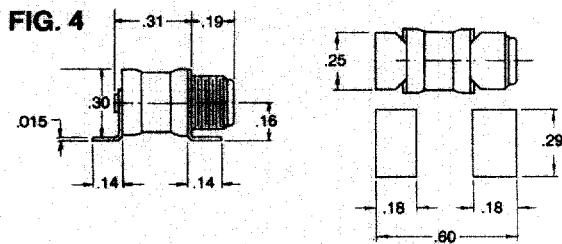
**FIG. 2**

AF5	PC19L100	1.0	5.0
AF10		1.0	10.0
AF14	PC19L140	1.0	14.0
EF5	PC19L140	0.6	5.0
EF10		0.6	10.0
EF14		0.6	14.0



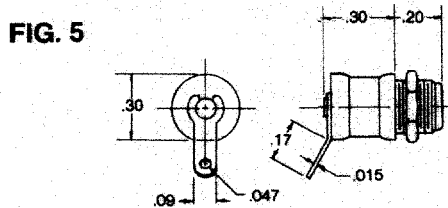
**FIG. 3**

AT5	PC47L100	1.0	5.0
AT10		1.0	10.0
AT14	PC47L140	1.0	14.0
ET5	PC47L140	0.6	5.0
ET10		0.6	10.0
ET14		0.6	14.0



**FIG. 4**

AJ5	PC46L100	1.0	5.0
AJ10		1.0	10.0
AJ14	PC46L140	1.0	14.0
EJ5	PC46L140	0.6	5.0
EJ10		0.6	10.0
EJ14		0.6	14.0

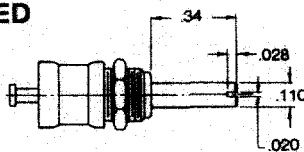


**FIG. 5**

AT5L	PC46L140	1.0	5.0
AT10L		1.0	10.0
AT14L	PC46L140	1.0	14.0
ET5L	PC46L140	0.6	5.0
ET10L		0.6	10.0
ET14L		0.6	14.0

NOTE: All bushing threads are .234"-64

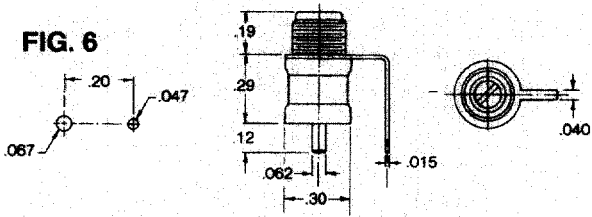
## EXTENDED METAL SHAFT



## EXTENDED SHAFT OPTIONS

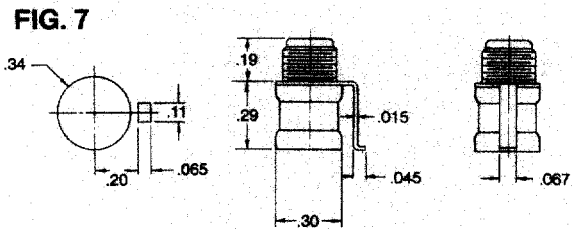
Extended Metal Shaft: Add "E" to Part Number, i.e., AT10E.

Extended Plastic Shaft: Add "EI" to Part Number, i.e., EF10EI. (Same as metal shaft except .44" by .16" dia.)



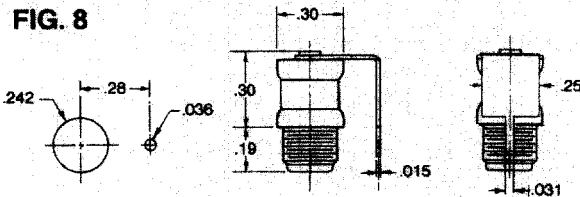
**FIG. 6**

Part Number	Old Part Number	Capacitance (pF)	
		From Below	To Above
AB5		1.0	5.0
AB10	V3116	1.0	10.0
AB14	V3117	1.0	14.0
EB5		0.6	5.0
EB10	V5051	0.6	10.0
EB14	V5105	0.6	14.0



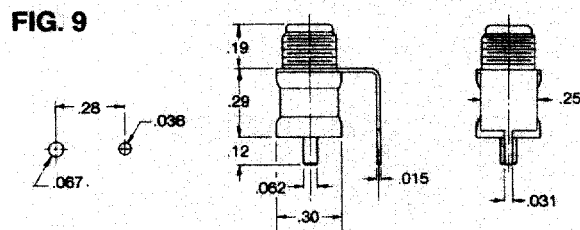
**FIG. 7**

AM5		1.0	5.0
AM10		1.0	10.0
AM14		1.0	14.0
EM5		0.6	5.0
EM10		0.6	10.0
EM14		0.6	14.0



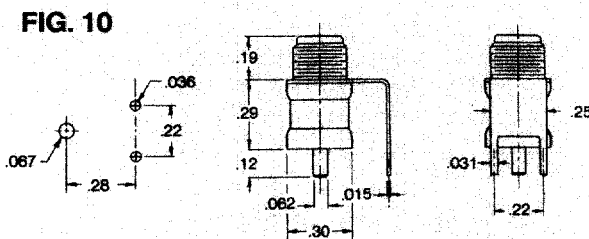
**FIG. 8**

AC5		1.0	5.0
AC10	V3067	1.0	10.0
AC14	V3066	1.0	14.0
EC5		0.6	5.0
EC10	V5086	0.6	10.0
EC14	V5139	0.6	14.0



**FIG. 9**

AD5		1.0	5.0
AD10	V3168	1.0	10.0
AD14	V3228	1.0	14.0
ED5		0.6	5.0
ED10	V5087	0.6	10.0
ED14	V5143	0.6	14.0

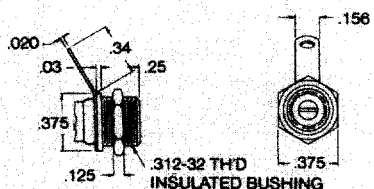


**FIG. 10**

AE5		1.0	5.0
AE10	V3239	1.0	10.0
AE14	V3193	1.0	14.0
EE5		0.6	5.0
EE10	V5146	0.6	10.0
EE14	V5147	0.6	14.0

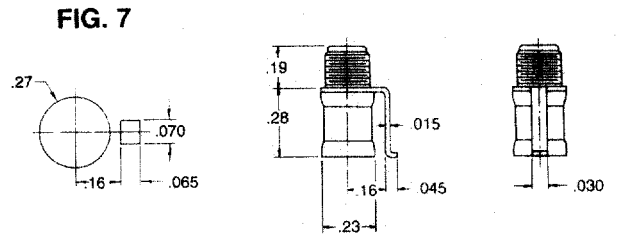
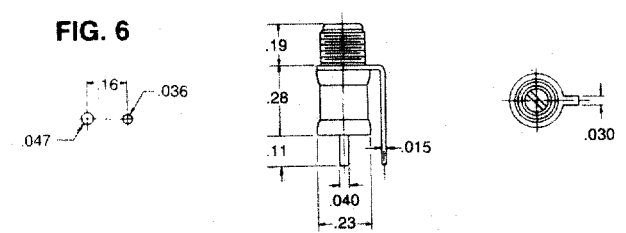
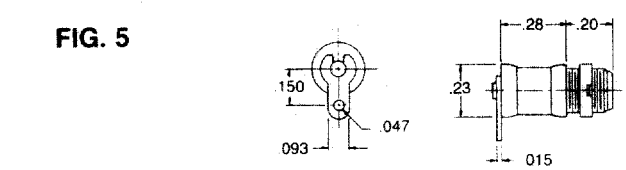
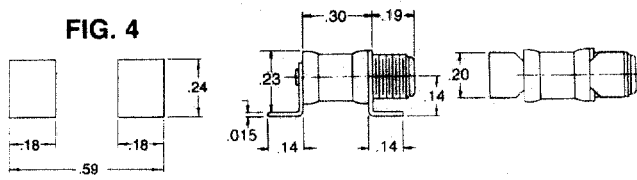
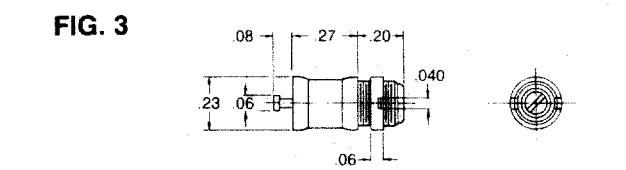
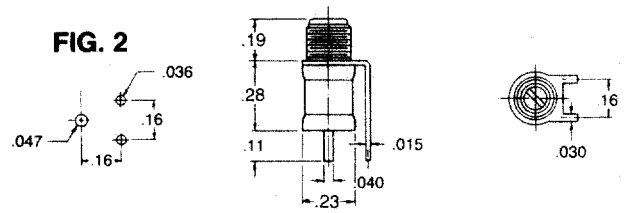
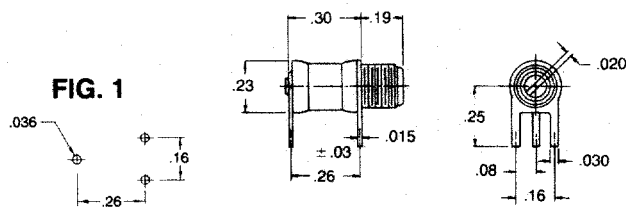
**INSULATED BUSHING**

Insert "I" in Part Number, i.e., AIT10L.



<b>IN</b>	0.015	0.020	0.03	0.031	0.036	0.040	0.047	0.05	0.06	0.062	0.067	0.09
<b>MM</b>	0.38	0.51	0.76	0.79	0.91	1.02	1.19	1.27	1.52	1.57	1.70	2.29
<b>IN</b>	0.11	0.12	0.125	0.13	0.14	0.16	0.17	0.19	0.20	0.22	0.242	0.25
<b>MM</b>	2.79	3.05	3.18	3.30	3.56	4.06	4.32	4.83	5.08	5.59	6.15	6.35
<b>IN</b>	0.28	0.29	0.30	0.31	0.34	0.48						
<b>MM</b>	7.11	7.37	7.62	7.87	8.64	12.19						

# "K" & "KE" Series - Air Trimmer Capacitors



NOTE: All bushing threads are .190"-64

Part Number		Capacitance (pF)	
"K" Series	"KE" Series	From Below	To Above

**FIG. 1**

KP8	KEP8	0.6	8.0
KP10	KEP10	0.6	10.0

**FIG. 2**

KF8	KEF8	0.6	8.0
KF10	KEF10	0.6	10.0

**FIG. 3**

KT8	KET8	0.6	8.0
KT10	KET10	0.6	10.0

**FIG. 4**

KJ8	KEJ8	0.6	8.0
KJ10	KEJ10	0.6	10.0

**FIG. 5**

KT8L	KET8L	0.6	8.0
KT10L	KET10L	0.6	10.0

**FIG. 6**

KG8	KEG8	0.6	8.0
KG10	KEG10	0.6	10.0

**FIG. 7**

KM8	KEM8	0.6	8.0
KM10	KEM10	0.6	10.0

IN	MM	IN	MM	IN	MM
0.015	0.38	0.080	2.03	0.230	5.84
0.030	0.76	0.093	2.36	0.250	6.35
0.036	0.91	0.110	2.79	0.264	6.71
0.040	1.02	0.140	3.56	0.270	6.86
0.045	1.14	0.150	3.81	0.280	7.11
0.060	1.52	0.160	4.06	0.290	7.37
0.067	1.70	0.190	4.83	0.300	7.62
		0.200	5.08	0.470	11.94

Recommended Tuning Tool: TT-100 or TT-500