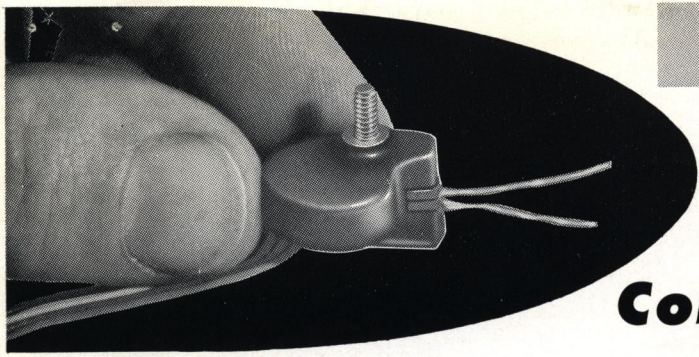


NEW



Miniaturized INCREDUCTOR® Controllable Inductor

The new 81AM1 INCREDUCTOR® Unit was developed from over ten years experience with Controllable Inductors, special ferrites, and designing complete Tuning Systems. The 81AM1 can be tuned electronically over a 2:1 frequency range in the 50mc to 400mc region, and is used in missiles, telemetry, and general VHF-UHF low-power applications.

Specification Table below gives data on the 6 standard series of CGS INCREDUCTOR® Controllable Inductors:

CGS INCREDUCTOR® Controllable Inductors are used for electronic Tuning applications involving: Power, Wide Tuning Range, High Q, Rugged Environmental Conditions. Units available exceeding MIL-T-27A.

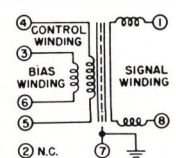
INCREDUCTOR® Controllable Inductors: I_c in the control winding causes a change in the permeability of the signal winding core material which causes a corresponding change in the signal winding inductance. A current, I_b , in a separate bias winding is used to set the

operating point of the signal winding core on its bh curve. Signal windings can handle powers from about two to eight watts. The insulation test voltage between all electrodes is 1,000 Volts DC, working voltage is 500 Volts DC.

Type	Minimum Operating Frequency	Nominal Maximum Inductance	Maximum Inductance Change Ratio	Signal Winding Capacity to Electrostatic Shield	Maximum Q				
						CGS INCREDUCTOR® Controllable Inductors:			
$L_c = 6h \text{ max.}, I_c \text{ peak} = 50 \text{ ma.}, I_c \text{ max. rms} = 30 \text{ ma.}, R_c = 1000 \text{ ohms},$ $L_b = 175 \text{ mh}, I_b \text{ max} = 30 \text{ ma.}, R_b = 200 \text{ ohms.}$									
63AB1	0.7-2.5 mc	100 μ h	14:1	15 μ mf	140				
63AB2	0.3-1.0 mc	500 μ h	14:1	30 μ mf	140				
53AB1	0.1-0.35 mc	2500 μ h	14:1	60 μ mf	140				
$L_c = 3h \text{ max.}, R_c = 200 \text{ ohms}, I_c \text{ peak} = 100 \text{ ma.}, I_c \text{ (avg.)} = 70 \text{ ma.},$ $L_b = 0.5h, R_b = 200 \text{ ohms}, I_b \text{ max.} = 6 \text{ ma.}$									
62AQ2	1.5-5 mc	20 μ h	6:1	6 μ mf	70				
62AQ3	2.5-8 mc	7.7 μ h	6:1	5 μ mf	70				
62AQ4	3.5-10 mc	4.3 μ h	6:1	4 μ mf	80				
72AQ2	7-20 mc	1.2 μ h	5:1	4 μ mf	80				
72AQ3	20-60 mc	0.37 μ h	5:1	3 μ mf	80				
81AQ2	60-150 mc	0.10 μ h	3:1	3 μ mf	80				
$L_c = 50h \text{ max.}, R_c = 750 \text{ ohms}, I_c \text{ peak} = 130 \text{ ma.}, I_c \text{ (avg.)} = 70 \text{ ma.},$ $L_b = 2.5h, R_b = 500 \text{ ohms}, I_b \text{ max.} = 525 \text{ ma.}$									
38DB1	0.2-5 Kc	3000 mh	350:1	85 μ mf	60				
48DB2	1-20 Kc	500 mh	350:1	85 μ mf	80				
48DB3	2-40 Kc	100 mh	350:1	75 μ mf	100				
58DB1	4-100 Kc	20 mh	350:1	65 μ mf	100				
58DB2	10-200 Kc	4 mh	350:1	60 μ mf	130				
$L_c = 6h \text{ max.}, R_c = 325 \text{ ohms}, I_c \text{ peak} = 100 \text{ ma.}, I_c \text{ (avg.)} = 70 \text{ ma.},$ $L_b = 1h, R_b = 200 \text{ ohms}, I_b \text{ max.} = 10 \text{ ma.}$									
65DQ1	1-5 mc	25 μ h	36:1	3 μ mf	70				
65DQ2	0.7-2.0 mc	100 μ h	36:1	6 μ mf	100				
55DQ1	0.3-1.0 mc	500 μ h	36:1	12 μ mf	70				
Type	Suggested Operating Frequency	Maximum Frequency Change Ratio	Maximum Q	Control Winding		Bias Winding			
				I_c (avg.)	L in Henries	R in Ohms	I_b (avg.)	L in Henries	R in Ohms
81AP1	88-192 mc	2.8:1	100	70 ma	1.5	225	15 ma	1.1	900
81AP2	48-122 mc	3.2:1	100	140 ma	0.58	100	20 ma	2.1	750
81AP3	88-192 mc	2.8:1	100	140 ma	0.58	100	20 ma	2.1	750
81AP4	130-260 mc	2.6:1	100	140 ma	0.64	88	20 ma	2.3	700

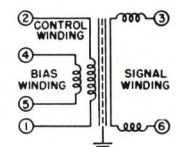
AB SERIES

2 5/16" x 1 33/64" x 2 5/64"



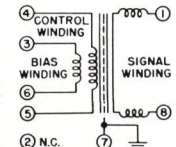
AQ SERIES

1 13/16" x 1 3/4" x 1"



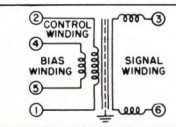
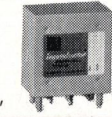
DB SERIES

2 5/16" x 1 33/64" x 2 5/64"



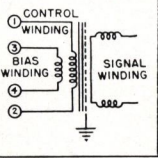
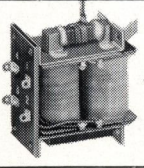
DQ SERIES

1 13/16" x 1 3/4" x 1"



AP SERIES

1 5/8" x 1 3/16" x 1 9/16"



XBK SERIES

2 1/2" x 3 1/4" x 3"



The XBK Series has Center Frequency tuned with a dual 150 μ mf variable capacitor. The 6XBK4 (3.7-216mc: 4 bands) and the

6XBK5 (3.0-209mc: 5 bands) data: Available Sweep 3-16mc (Depending on band). $L_c = 20h, R_c = 1500 \text{ ohms}, I_c \text{ peak} = 30 \text{ ma.}$

Magnetic Components Div.

61BT1

2 1/2" x 1 3/16" x 1 7/16"

The 61BT1 is a dual unit for FM & AFC applications incorporating an internal heater and thermostat.

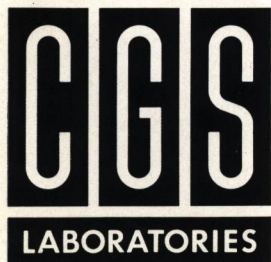
$L_{c1} = 1.5h, R_{c1} = 230 \text{ ohms}, I_{c1} = 9-13 \text{ ma},$
 $L_{c2} = .04h, R_{c2} = 18 \text{ ohms}, I_{c2} = 2.5 \text{ ma.}$

Heater voltage 27.5 v DC nominal Size: 2 1/8" x 1 1/16" x 1 7/16".

Signal winding: Min effective Inductance, 12 μ h; External Capacity, 7-45 μ mf; Center frequency, 5.1 mc; Max deviation $\pm 100 \text{ kc.}$

- Manufacturers of:
- TRAK® Panoramic Receivers
 - TRAK® Antenna Multicouplers
 - Morse-to-Teleprinter Code Converters
 - POLYCOUPLER® Wideband Transformers
 - Oscillator Cavities
 - Countermeasures Equipment.

We invite you to write for CGS "INCREDUCTOR® Notes"—28 pages of technical data, charts, diagrams, and applications for Controllable Inductors.



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