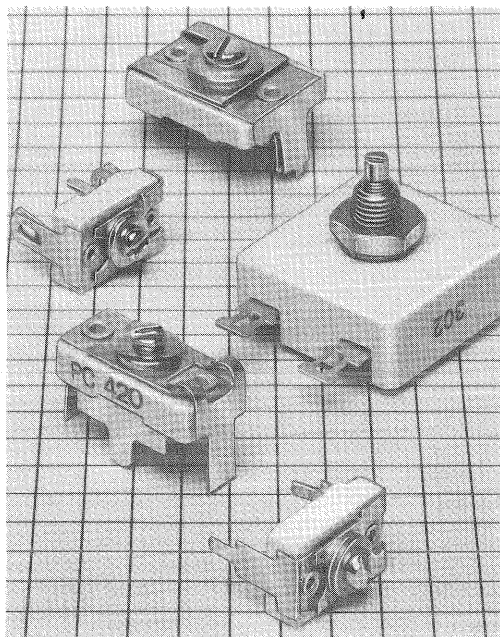


VARIABLE COMPRESSION MICA TRIMMERS AND PADDERS



STANDARD TRIMMERS

These variable compression mica trimming capacitors are produced by stacking mica dielectric capacitance units. A capacitor section consists of a thin film of mica between two spring loaded nonferrous metal conducting plates; the stacked units are mounted within a ceramic container, or on a ceramic base. By alternating metal plate, mica film, metal plate, etc., and paralleling these units, any desired capacitance within the physical limitations of the ceramic base can be achieved. A panhead adjusting screw (#2-64, UNS-2) thread for types 40 and 42 and a (#4-64, UNS-2) thread for type 46 is inserted through the center holes of the plates, the mica films, and the threaded bushing. This screw provides variable compression on the formed metal plates, varying the plate separation capacitance.

Arco trimming capacitors are treated for resistance to humidity and for permanence of capacity setting.

The base is made of the lowest loss ceramic dielectric available and the mica is clear India Ruby.

The soldering lugs may be bent in any position without affecting the capacitance setting.

Trimmers shown are standard sizes and capacities.

Standard dimensional adjustment tolerance is $\pm 1/32"$ or $\pm 3\frac{1}{2}^\circ$, whichever is applicable. Terminals having several lugs can be spotwelded together to prevent separation and flaring.

Specifications

OPERATING TEMPERATURE: -35°C to $\pm 85^\circ\text{C}$.

MAXIMUM CAPACITANCE: Equal to, or greater than the value indicated in the table. When the adjusting screw is at a tight position (with tight being defined as $1\frac{1}{4}$ pound-inches). The maximum capacitance will be equal to or greater than the value indicated in the table.

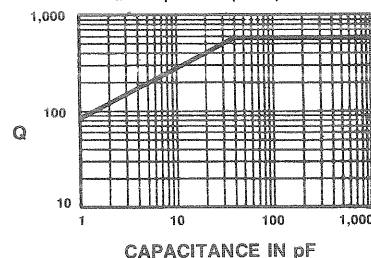
MINIMUM CAPACITANCE: Equal to, or less than, the value indicated in the table. When the adjusting screw is rotated 3 turns from tight position, the maximum capacitance will be equal to or less than the value indicated in the table.

DC VOLTAGE:	Rated Voltage	Test Voltage
Type 30	250	500
Types 40, 42, 46	175	350
Type 30M	500	1000

INSULATION RESISTANCE at 25°C : 100,000 meg-ohms minimum.

Q at 1 MHz: See Q curve, Figure 1.

FIGURE 1
Q vs Capacitance (1 MHz)



DISSIPATION FACTOR at 1 kHz: > 1000 pF Max; D.F. .004 max.

CAPACITANCE CHANGE WITH TEMPERATURE at Working Point*:

TYPE 30: $\pm (2.5\% + 0.3 \text{ pF})$

TYPE 40, 42, 46: $\pm (1.5\% + 0.3 \text{ pF})$

CAPACITANCE DRIFT WITH TEMPERATURE at Working Point*:

TYPE 30: $\pm (2.0\% + 0.5 \text{ pF})$

TYPE 40, 42, 46: $\pm (1.5\% + 0.5 \text{ pF})$

* Screw adjusted to $1/4$ to $1/2$ turn from tight.

TYPE DESIGNATION

ST 0423
1 2

- 1) Mounting Style
ST — Standard Bracket Mounting Style
PC — Printed Circuit Mounting Style
C — Variation of Printed Circuit Mounting Style
- 2) Indicates shape, construction, dimensions and capacitance.

Standard Range Trimmers

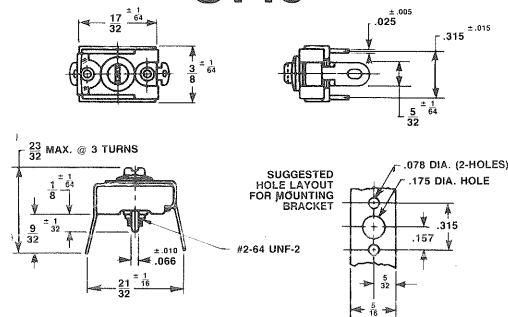
NOTE: All dimensions in inches.

Type 40 — MINIATURE TRIMMER

Voltage 350 VDCT — 175 VDCW

TYPE 40 PART NUMBER	GUARANTEED RANGE	
	At Tight Cap. Will Be More Than pF.	At 3 Turns Open Cap. Will Be Less Than pF.
400	7	2.5
402	20	4
403	45	8
404	65	12
405	90	16
406	115	25
407	285	55
408	340	90

ST40

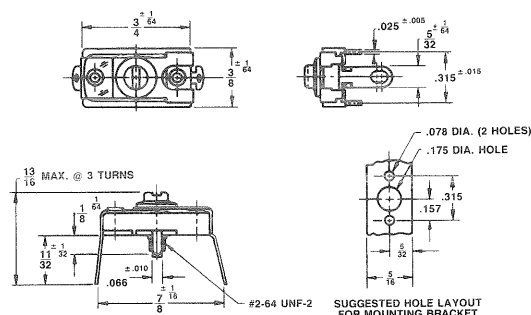


Type 42 — MIDGET TRIMMER

Voltage 350 VDCT — 175 VDCW

TYPE 42 PART NUMBER	GUARANTEED RANGE	
	At Tight Cap. Will Be More Than pF.	At 3 Turns Open Cap. Will Be Less Than pF.
420	12	2.5
421	25	3.5
422	40	7
423	100	16
424	150	25
425	200	40
426	250	55
427	300	75
428	350	95
429	400	115
4210	450	130
4211	500	150
4212	550	170
4213	600	200
4214	650	220
4215	700	240

ST42

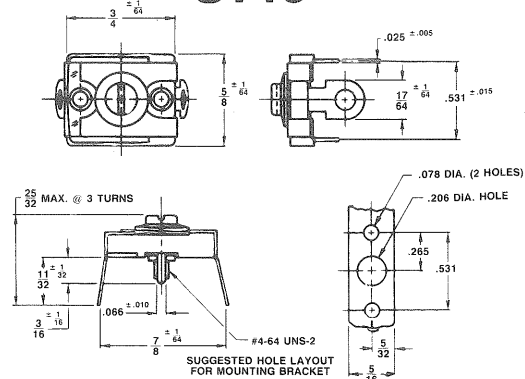


Type 46 — STANDARD TRIMMER

Voltage 350 VDCT — 175 VDCW

TYPE 46 PART NUMBER	GUARANTEED RANGE	
	At Tight Cap. Will Be More Than pF.	At 3 Turns Open Cap. Will Be Less Than pF.
460	15	3
461	30	5
462	80	10
463	180	20
464	280	45
465	380	75
466	480	105
467	580	140
468	680	175
469	790	215
4610	900	260
4611	1000	300
4612	1100	330
4613	1200	360
4614	1300	380
4615	1400	420

ST46



Variable Compression Mica Trimmers and Padders

PC Style Printed Circuit Trimmers

"PC" TRIMMERS

The Arco trimmer capacitors, Types 40, 42, and 46, have been adapted for printed circuit techniques. Thus the holes in the terminal lugs are eliminated. The printed circuit terminals have greatly increased spring action, allowing the trimmer to be "snapped in" the printed circuit board and held firmly until soldered. The mounting lug portion of the trimmer has also been modified to facilitate positioning and support of the unit. Drawings of the trimmers and mounting layout are available upon request.

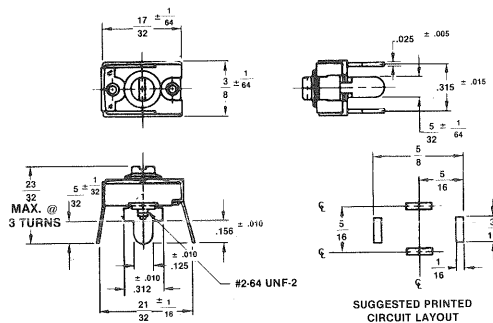
This printed circuit style is designated by the prefix letters "PC" preceding the regular part number. All values listed are available in the PC style.

"C" TRIMMERS

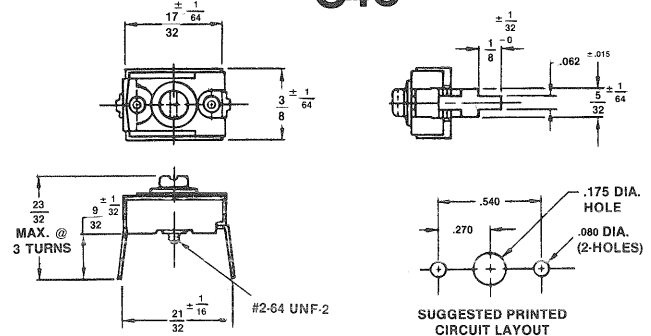
Type "C" trimmer is a "stand off" variation for printed circuit application. Instead of the raised staple, the Type "C" trimmer has .062" width notched terminals to raise the trimmer from the printed circuit board .125 inches. Designate type "C" by preceding the part number with the letter C.

Example: 426 trimmer in Type "C", would become C426.

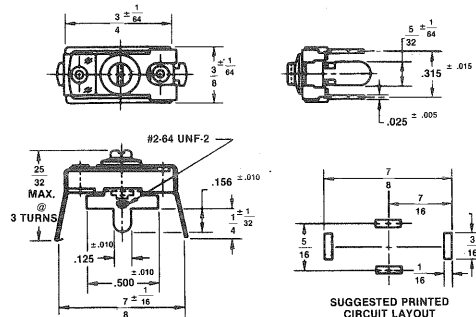
PC40



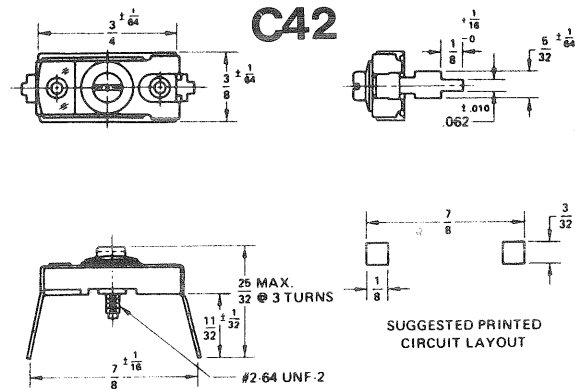
C40



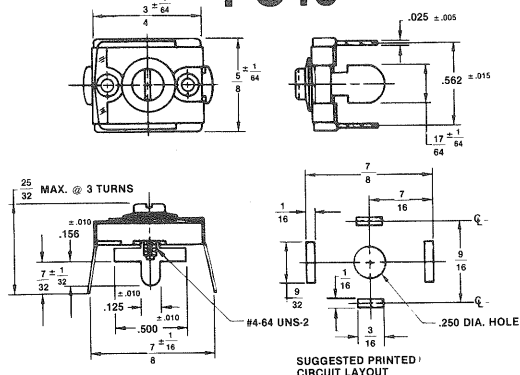
PC42



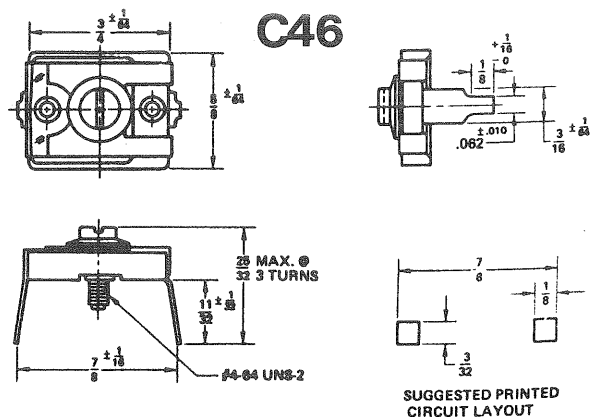
C42



PC46



C46



Variable
Compression
Mica Padders

The Arco Type 30 Variable Compression Mica Padder is designed with a ceramic base having walls which completely enclose and protect the plates and mica films from damage due to handling. The spring of the brass plates assures freedom from mechanical fatigue, and applies a constant pressure when the adjusting screw is varied from tight to open position. All plates are cadmium plated to facilitate production soldering.

MINIMUM CAPACITANCE (equal to, or less than, the value indicated below) shall occur when the adjusting screw is rotated 3 turns from a tight position.

MAXIMUM CAPACITANCE (equal to, or greater than, the value indicated below) shall occur when the adjusting screw is at tight positions (with tight being defined as 1 3/4 pound-inches).

TYPE 30

250 WVDC — 500 Volts DC Flash-Test

PART NUMBER	GUARANTEED RANGE	
	At 1 1/4 Inch Pounds Cap. Will Be More Than pF.	At 3 Turns Open Cap. Will Be Less Than pF.
302	130	15
303	340	65
304	550	115
305	760	190
306	970	275
307	1180	350
308	1390	450
309	1600	550
310	1890	650
311	2110	780
312	2330	880
313	2605	1150
314	2830	1300
315	3055	1400

Screw is insulated from top plate by mica washer. Above maximum capacity values are based on using 1 1/2 to 1 3/4 Mil Mica Films.

TYPE 30-M

500 WVDC — 1000 Volts DC Flash-Test

PART NUMBER	GUARANTEED RANGE	
	At 1 1/4 Inch Pounds Cap. Will Be More Than pF.	At 3 Turns Open Cap. Will Be Less Than pF.
302-M	120	15
303-M	320	65
304-M	500	100
305-M	690	180
306-M	880	265
307-M	1070	340
308-M	1260	425
309-M	1415	525
310-M	1600	615
311-M	1785	730
312-M	1970	800
313-M	2155	1000
314-M	2340	1100
315-M	2525	1200

Screw is insulated from top plate by mica washer. Above maximum capacity values are based on using 2 to 2 1/4 Mil Mica.

TYPE L30

The Type 30 or Type 30M padder can now be obtained with a slotted shaft & bushing. To obtain this padder, precede the regular part number with the letter "L". For example, a 302 padder with the slotted shaft bushing would be specified as "L-302".

