X-75523

ENGINEERING REFERENCE DATA

BELL SYSTEM

POWER

APPARATUS

INDUCTORS, TRANSFORMERS,
MAGNETIC AMPLIFIERS,
AC VOLTAGE REGULATORS,
FREQUENCY GENERATORS.

BELL TELEPHONE LABORATORIES
INCORPORATED

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POWER APPARATUS

FOR

BELL SYSTEM APPLICATION

1. INTRODUCTION

This Engineering Reference Data Bulletin contains information on Power Apparatus for Bell System use. The power apparatus included consists of inductors, transformers, magnetic amplifiers, AC voltage regulators, and frequency generators designed by the Bell Telephone Laboratories, Incorporated for other than Military Applications and manufactured by the Western Electric Company. The bulletin contains information on apparatus of all ratings and classifications except that rated A&M Only or Manufacture Discontinued. Apparatus codes rated AT&T Co Standard, Component Part, Non-Associate and codes classified ML are included.

It is planned to bring this bulletin up to date periodically. However, the information contained herein may not be complete and ratings of the items are not shown. The data are intended as an aid in preliminary development work and should not be used in selecting apparatus for final circuit arrangements. The Power Apparatus Development Department 6252 should be consulted for additional data and the status of the apparatus before application to any new circuitry. Data on "D" specification power apparatus has not been included but may be obtained from the Power Apparatus Development Department.

The bulletin includes some codes of apparatus for which catalog cards will not be found in the Western Electric Apparatus Card Catalog. Such codes are in general rated "Component Part". This rating is applied to apparatus where it is believed that the associated companies will have no need for apparatus card catalog information and orders for the apparatus from the field are not expected.

When apparatus which is not listed on a white card in the Western Electric Apparatus Card Catalog is selected for use in new applications, the Standards Engineer, Dept. 5241, Bell Telephone Laboratories, Incorporated, 463 West Street, N.Y. 14, N.Y. should be notified of the new use and probable demand so that consideration can be given to rerating the apparatus. When such new applications are made within the Laboratories, the selection should first be discussed with the department responsible for the design of the apparatus.

2. GENERAL

This book is divided into sections as follows: inductors, transformers, magnetic amplifiers, AC voltage regulators, and frequency generators. Inductors are arranged in descending order of inductance and transformers in descending order of secondary voltage. The inductor and transformer sections are subdivided according to type as follows:

A. Inductors

(1) Filter - have an approximate swing of less than 3:1.

(2) Swinging - have a swing of approximately 3:1 or more.

(3) Miscellaneous - inductors with more than one winding, having no d-c or are not qualified for types (1) or (2).

B. Transformers

(1) Filament - Secondary winding(s), 25 volts or less, 60 cycle.

(2) Plate - Secondary winding(s), more than 25 volts, 60 cycle.

(3) Filament-Plate - combination of the above two types.

(4) Auto - a single winding with taps to provide a small range supply voltage adjustment.

(5) Isolation - electrically isolate the load circuit from the supply circuit. Usually have a voltage ratio of 1:1, 2:1 or 4:1.

(6) Miscellaneous - transformers that operate at frequencies other than 60 cycles, having special uses or are not qualified for types (1) through (5).

Where necessary the subdivisions are further divided according to number of secondaries and primary voltages.

3. TABLE HEADINGS

Certain headings used in the tables are explained briefly in the following:

D-C RESISTANCES of inductors are given as maximum. They are 10 to 15 percent higher than average values as measured at 68°F.

DIMENSIONS given do not include terminals or mounting details unless noted in the Remarks column. The height given is the distance from the mounting surface.

A CATEGORY CODE identifies the type of construction. It consists of three symbols. The first symbol describes the class of insulation, the second the grade of sealing and/or encasement, and the third the type of impregnating or potting compounds. Some apparatus have additional data entered in the Remarks column to further identify the type of construction.

The symbols are as follows:

FIRST SYMBOL - A - Class A insulation

SECOND SYMBOL - 1 - Encased and sealed

2 - Encased not sealed

3 - Non-encased (open type)

THIRD SYMBOL - B - Bituminous compound

F - Flexseal or equivalent

L - Liquid

V - Varnish

Example: A2B denotes Class A insulated, encased, not sealed, bituminous potted unit.

4. REQUIREMENTS

When selecting a transformer, inductor, magnetic amplifier, AC voltage regulator, or frequency generator for a particular application many requirements need be considered. Some are general in nature, relating to broad operating conditions while others are more detailed and relate to specific requirements. The general and specific requirements are discussed below. Complete knowledge of the applicable requirements will greatly facilitate the choice of existing designs, or the preparation of new designs, by the Power Apparatus Development Department 6252.

A. General Requirements

To obtain satisfactory operating and mechanical features for the apparatus, certain general requirements should be outlined as follows:

Required Life

Type of Construction: Encased or not. (Hermetically sealed or not.)

Type of Mounting

B. Specific Requirements

To obtain satisfactory circuit performance, requirements should be outlined as follows for transformers, inductors, magnetic amplifiers, AC voltage regulators, and frequency generators.

TRANSFORMERS

Equipment use, circuit application.

Range of supply voltage, frequency and wave shape.

RMS voltages and currents. For rectifier circuits, type of filter should be specified, also d-c voltage at input to filter and amount of direct current.

Maximum operating peak volts to ground, and between windings. Usually stated for center tap if there is one.

Electrostatic and/or electromagnetic shielding.

Capacitance between windings and/or to ground.

Allowable regulation, no-load to full-load.

Operating range of ambient temperature.

INDUCTORS

Equipment use, circuit application.

Inductance and tolerance. Usually minimum value is specified.

Direct current through the winding.

Operating voltage and frequency across winding.

Operating peak voltage to ground.

DC resistance of winding, if significant for circuit operation. Unnecessarily tight limits may seriously affect size and weight.

Operating range of ambient temperature.

MAGNETIC AMPLIFIERS

In general, a new application of a magnetic amplifier should be discussed with the Power Apparatus Development Department 6252 before requirements are set.

Equipment use, including circuit function.

Driving circuit including signal voltage, current and source impedance.

Load including voltage, current and power factor.

Response time or bandwidth.

Linearity of transfer function or triggering points.

Null output (fundemental and 2nd harmonic).

Range of supply voltage, frequency and wave shape.

Maximum operating volts peak to ground.

Available d-c for biasing.

Operating range of ambient temperature.

AC VOLTAGE REGULATORS & FREQUENCY GENERATORS

Electrical requirements are very specific. When considering the use of an AC voltage regulator or frequency generator for a specific application, the Power Apparatus Development Department 6252 should be consulted directly.

5. PHYSICAL SIZE AND APPEARANCE

Figures 1 through 9 are drawings and dimensions of several different types of transformers and inductors. In the data tables, the column headed "Fig." refers to the figure that shows the physical size and appearance of the apparatus. The terminals in the figures are only representative and will vary as to number, type, and location on the various apparatus as indicated in the photographs.

Photographs 1 through 4 show several different types of transformers and inductors. Photograph 1 is of the non-encased

type, photos 2 and 3 encased, not sealed, and photo 4 oil-filled. Photos 5, 6, and 7 show several different types of AC voltage regulators, frequency generators, and magnetic amplifiers respectively.

6. DEFINITIONS

Since transformers and inductors are widely used, it is assumed that the definitions in the introduction are adequate. In order to eliminate, as far as possible, confusion as to magnetic amplifiers, AC voltage regulators, and frequency generators, the following definitions are given.

MAGNETIC AMPLIFIERS

A Magnetic Amplifier is a device which utilizes the variation in impedance obtainable by varying the average flux level of a saturable inductor to perform the function of power amplification or control. Magnetic amplifiers consist of cores of easily saturated ferromagnetic material with appropriate windings, either alone or in combination with other passive circuit elements. When core and winding are used alone the unit may be called a transformer, inductor, regulator or magnetic amplifier.

Some of the advantages of magnetic amplifiers are that they inherently have physical ruggedness and reliability, require no warm-up time, are usually more efficient than equivalent electron tube circuits and in higher power ratings are often smaller. Implicit in the replacement of the electron tube circuits with magnetic amplifiers is the elimination of the associated plate voltage rectifiers, filters and filament supplies.

The major disadvantage of the magnetic amplifier is its slow response. The fastest possible response of a magnetic amplifier is one-half cycle of the a-c supply, and in most cases the response time is several cycles of the applied a-c. For this reason, when rapid response is required, a high frequency supply is provided as in the case of the 7A magnetic amplifier where the supply frequency is approximately 21KC.

Magnetic amplifiers have wide variety of applications, among them being such diverse uses as voltage or current metering for electrical isolation, remote indication or increased sensitivity, as control elements in current and/or voltage regulated rectifiers or power supplies, as variable speed and direction motor drives, as analogue or digital computer circuits, as relays or circuit breakers, and as limit detectors or alarm actuators.

AC VOLTAGE REGULATORS

AC voltage regulators are designed primarily to provide essentially constant output voltage over a wide range of input voltage. They may also incorporate features which

provide a stabilized output voltage for variations in line frequency, load or ambient temperatures.

Stabilized a-c voltage supplies have many applications in the telephone area. The voltage stability of the average 60 cycles per second commercial power source and of unregulated power plants often exceeds the limits required for many applications which are dependent upon closely regulated supply voltages to maintain satisfactory performance. This occurs, for example, in the case of filament supplies for electron tubes which are being operated at 6.1 volts instead of 6.3 volts to increase their life expectancy. With this reduced voltage it is necessary to maintain the voltage within close limits to insure the required cathode emission. Another example of the need for close tolerance on voltage level is in the stabilization of the plate voltages in non-regulated rectifier circuits. Voltage regulators are also frequently used to improve the accuracy of certain types of a-c operated measuring equipment.

The types of control used in regulators may be divided into two classifications; open loop control and closed loop control. An open loop control system is one which operates without reference to the quantity being regulated and which applies pre-determined corrections for changes in the variable conditions. A closed loop control system is one in which the quantity being regulated is compared to some standard and corrective action is controlled by the difference between the quantity being regulated and the standard. Open loop control is used, in general, for simple applications where the variable operating conditions are limited in number and complexity. For high power applications or where a high degree of regulation is required, closed loop control is invariably used.

The most commonly used a-c voltage regulator is the ferro-resonant type. It may be designed to stabilize the rms, average, or peak value of the output voltage. This type of regulator is wholly an a-c device employing a combination of capacitors and coils with ferro-magnetic cores in a circuit operating in a ferro-resonant condition. This is a condition near resonance with regulation being achieved by the changes in circuit reactance due to variations in inductance of the non-linear elements. Although ferro-resonant type voltage regulators are characterized by sensitivity of output voltage to changes in line frequency, frequency compensation can be accomplished by addition of a series tuned frequency compensating network. This network also serves as a low pass filter which, under normal load conditions, further improves the output waveshape. Ordinarily, however, the output voltage waveshape of the basic ferro-resonant regulator circuit approaches a sinusoidal wave and requires no filtering.

Magnetically controlled a-c voltage regulators are rugged, compact, have no electron tubes or moving parts, require no maintenace, have a long life and are reasonable low in cost.

FREQUENCY GENERATORS

Frequency generators are used in the telephone system to provide ringing power, dial tone, busy tone, audible ringing tone, and other signaling tones. They find applications mainly in smaller central offices where they are used in place of larger and more expensive rotating machinery.

A frequency generator may be defined as a device which provides by static means a frequency or special combinations of frequencies derived from the power frequency by means of coils which utilize the saturable characteristics of the core material to produce harmonics or subharmonics of the power frequency. Combinations of other static elements such as inductors, capacitors, selenium rectifiers, resistors, etc. are used to shape or select the desired frequencies from the harmonics produced. In the case of audible tone generators the tone desired may be in the form of a single frequency, such as the 540 cycles per second used for operator's trunking tone, or it may be a combination of frequencies with a desired low frequency modulation or sideband effect.

Static type frequency generators are characterized by low initial cost, long life, and freedom from maintenance. In addition, they have good quality and stability of tone.

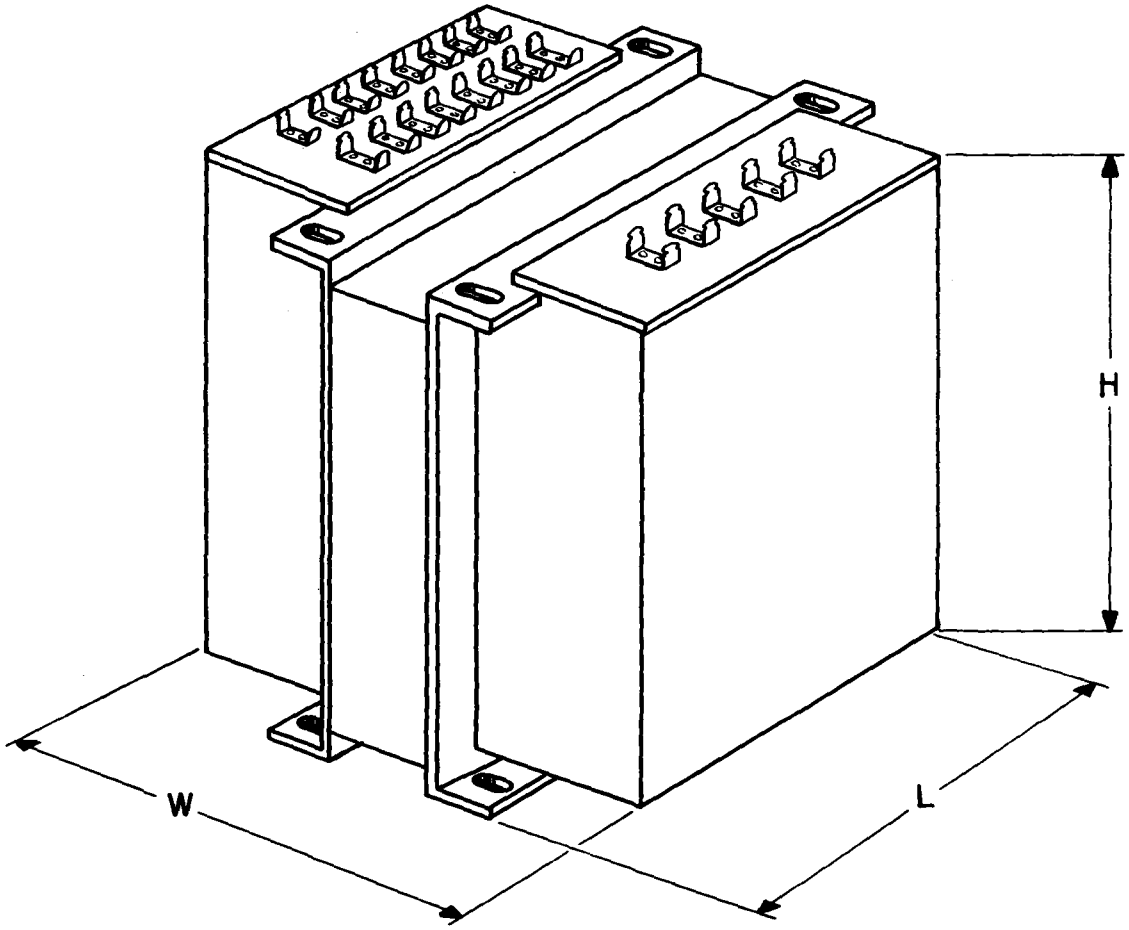

FIGURE 1

	L	W	H
a	9	11-29/32	8-3/4
b	9	10-7/8	8-3/4
c	9	8-7/8	8-3/4
d	9	9-7/8	8-3/4

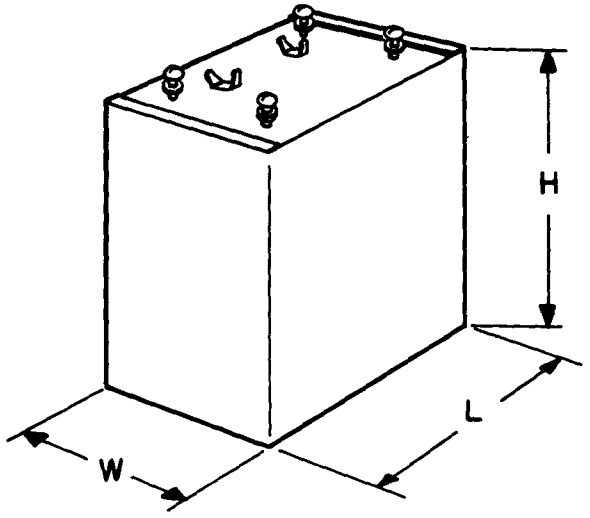

FIGURE 2

	L	W	H
a	4-11/32	3-1/16	3-3/4
b	4-5/8	3-7/16	4-9/32

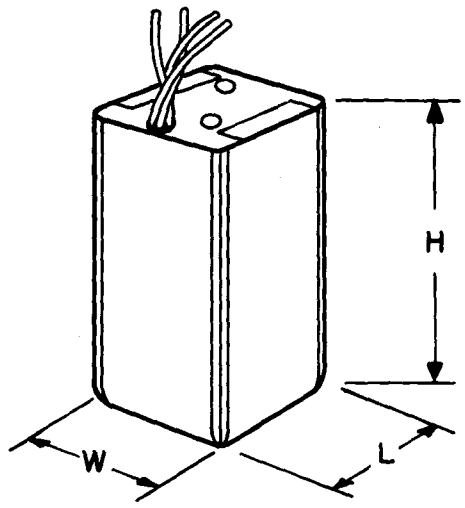

FIGURE 3

	L	W	H
a	1-3/4	1-3/4	3-1/4

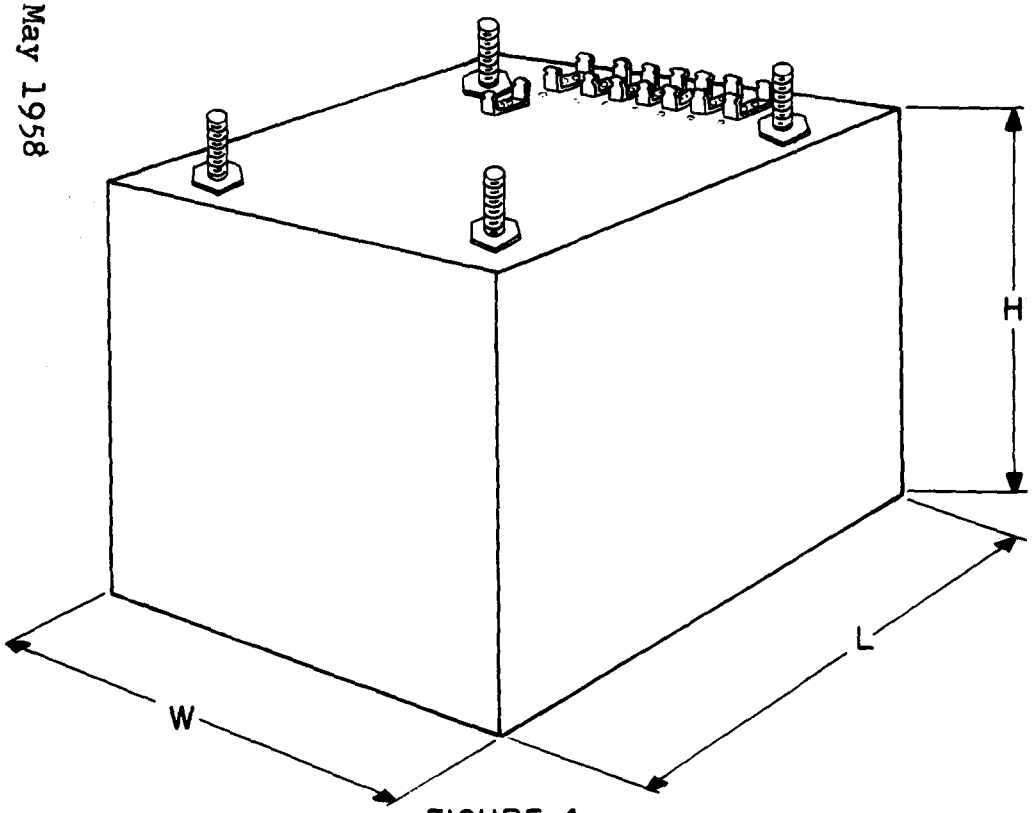

FIGURE 4

	L	W	H
a	7-13/32	6-11/16	6-13/32
b	6-11/16	5-29/32	6-17/32
c	4-5/8	3-7/16	4-3/8
d	6-11/16	6-21/32	6-17/32
e	4-5/8	4-7/16	4-3/8
f	6-11/16	5-3/16	6-1/2
g	5-3/16	4-5/8	4-3/8
h	3-11/16	2-13/16	4-3/8
i	4-5/8	3-7/16	5-7/16

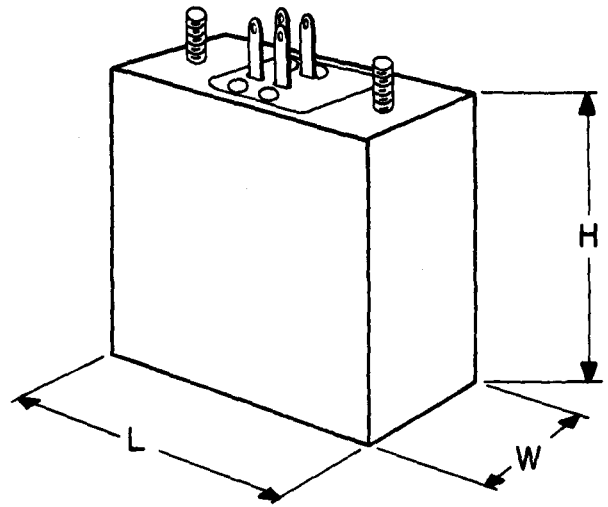

FIGURE 5

	L	W	H
a	3-9/32	1-11/16	3-7/16
b	2-1/2	1-11/16	3-7/16

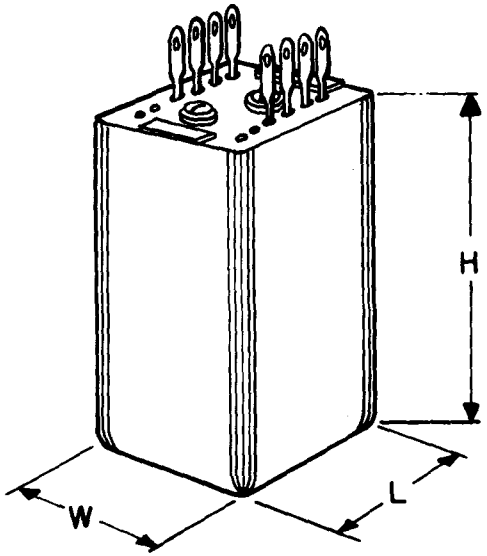

FIGURE 6

	L	W	H
a	1-11/16	1-11/16	3-9/16
b	1-25/32	1-11/16	4-19/32

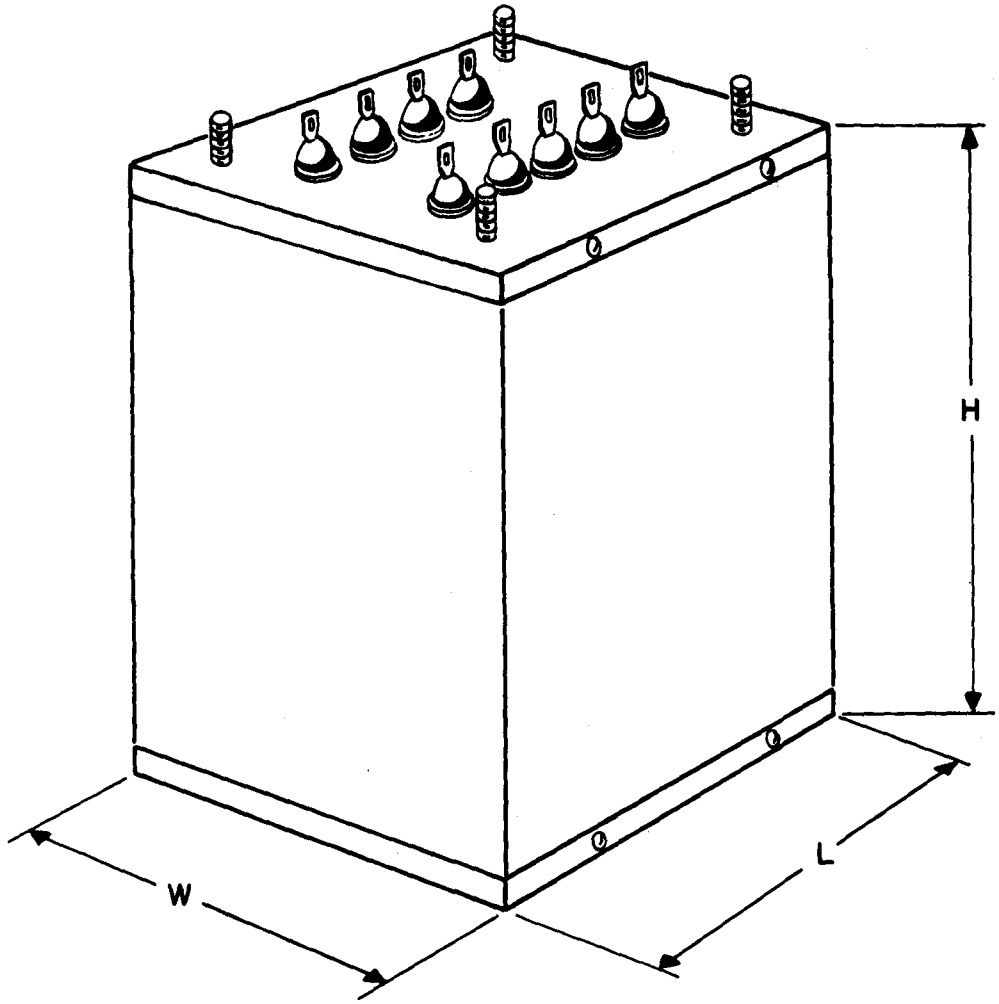

FIGURE 7

	L	W	H
a	4-3/16	4-3/32	6-1/2
b	2-7/8	2-5/8	5
c	4-1/16	2-11/16	6-1/2
d	4-1/16	3-1/16	6-1/2

	L	W	H
a	9	9	8-1/2
b	9	10-1/2	8-1/2
c	9	7	8-1/2
d	9	8-5/8	8-1/4
e	9	7-7/16	8-1/4
f	9	10-1/4	9
g	9	8-1/4	8-1/2

Table - FIG. 9

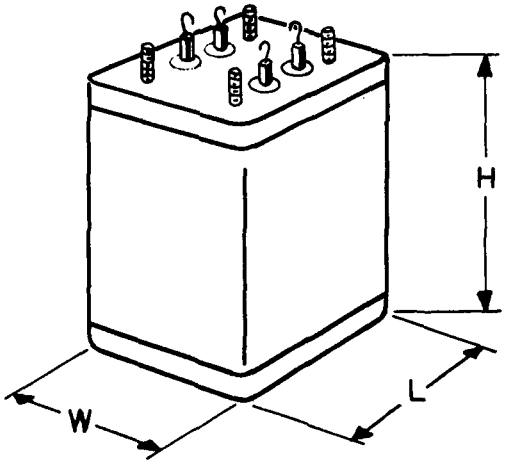

FIGURE 8

	L	W	H
a	3	2-7/8	3-3/4
b	1-7/8	1-7/8	3-9/16
c	4-3/8	4-1/4	5-29/32
d	3-3/4	3-1/2	4-7/16

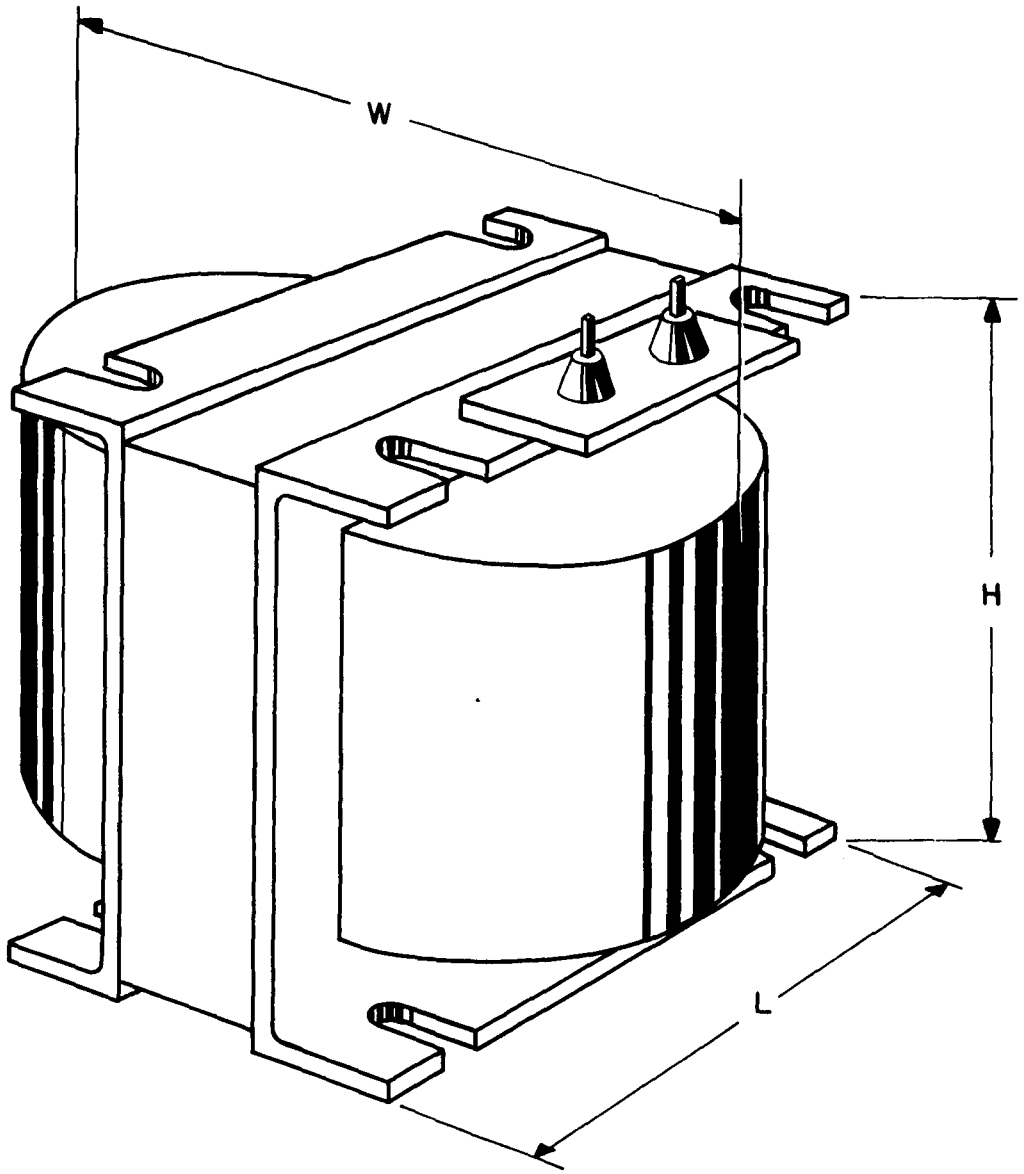

FIGURE 9

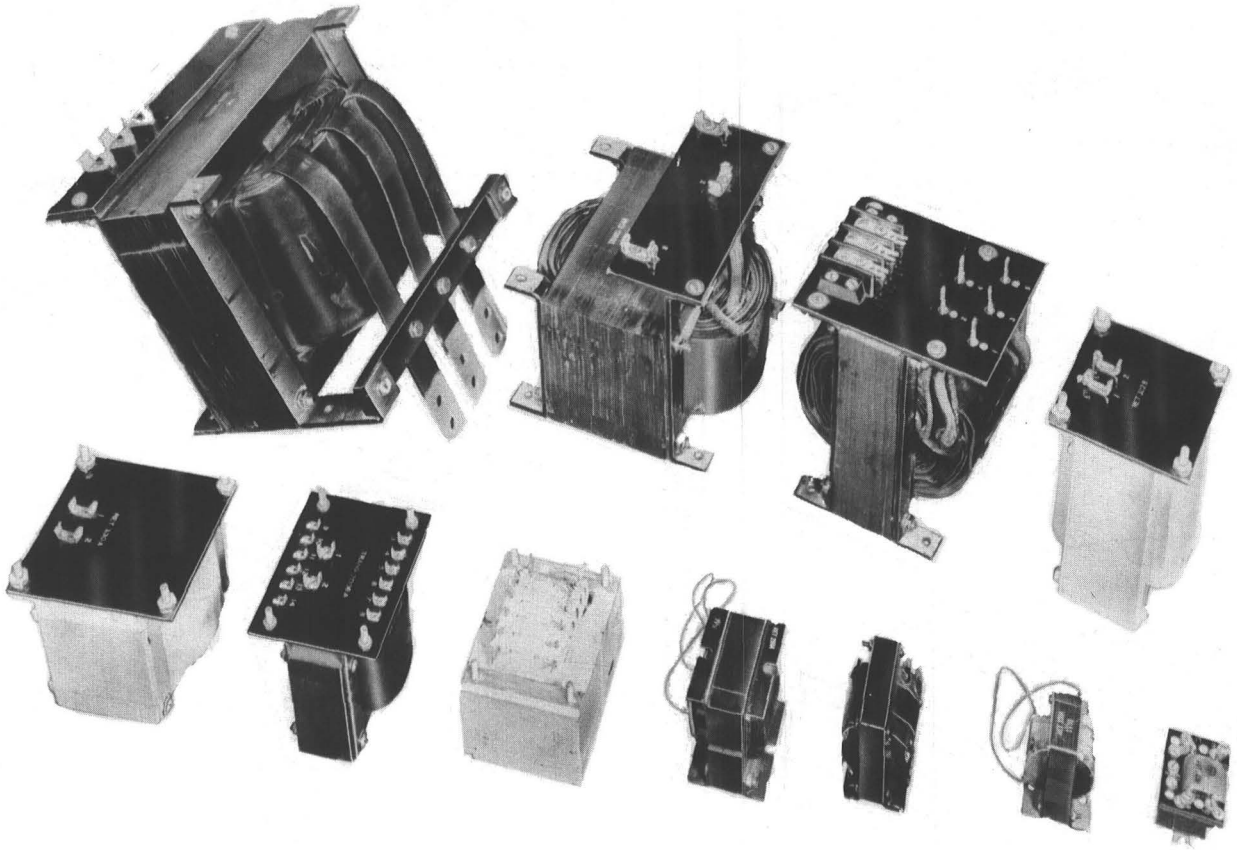

PHOTO 1 - Transformers and Inductors, non-encased type

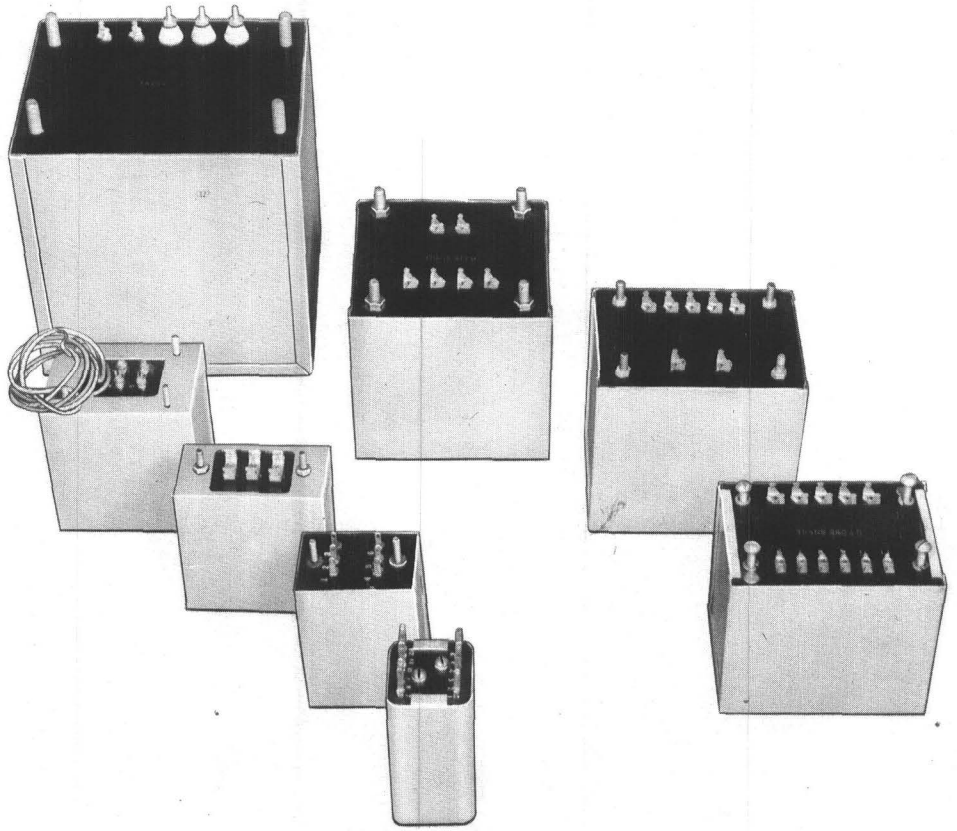

PHOTO 2 - Transformers and Inductors, encased, not sealed

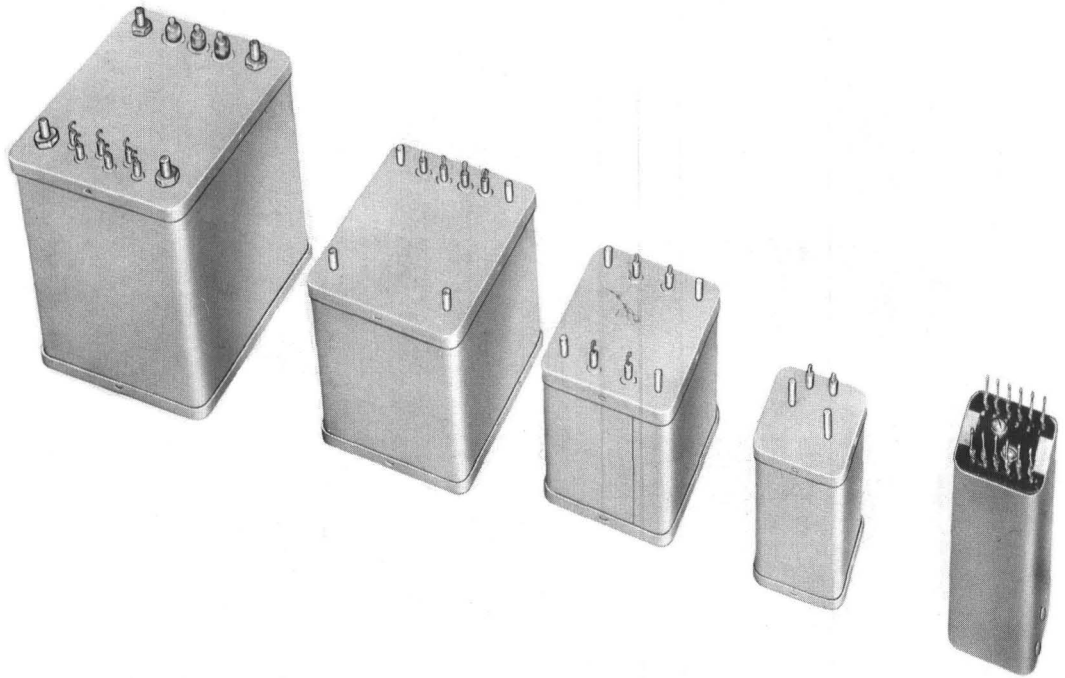

PHOTO 3 - **Transformers and Inductors**, encased, not sealed

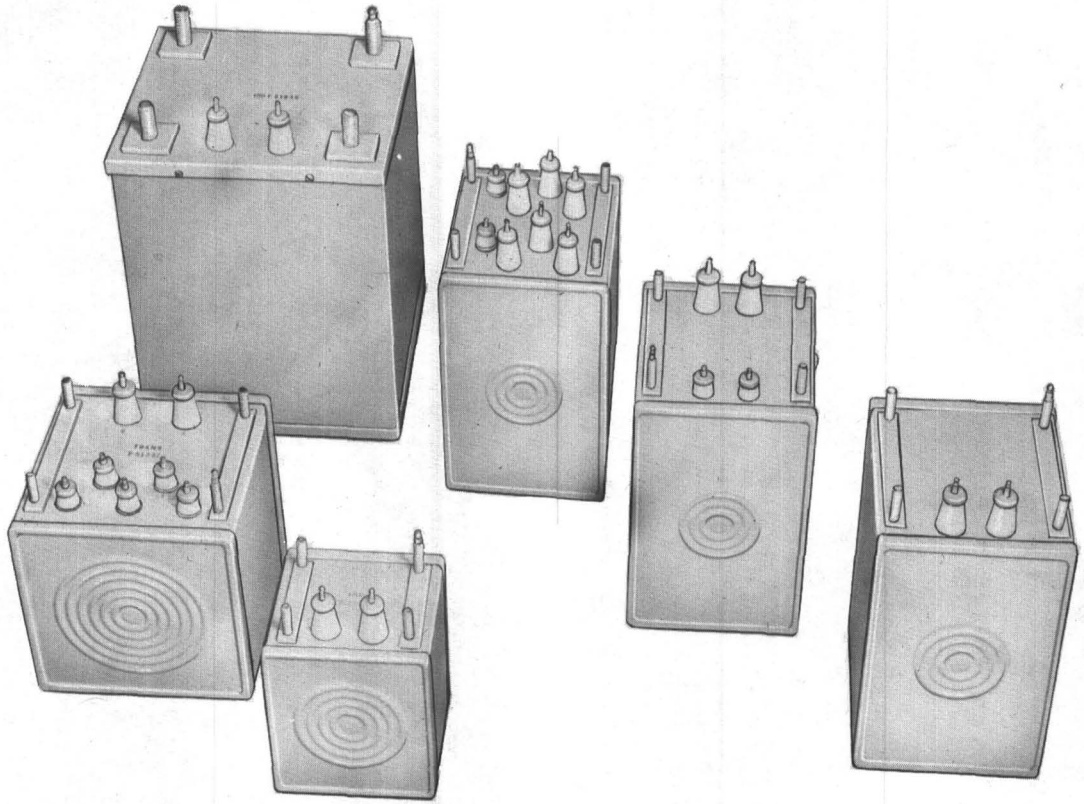

PHOTO 4 - Transformers and Inductors, oil-filled

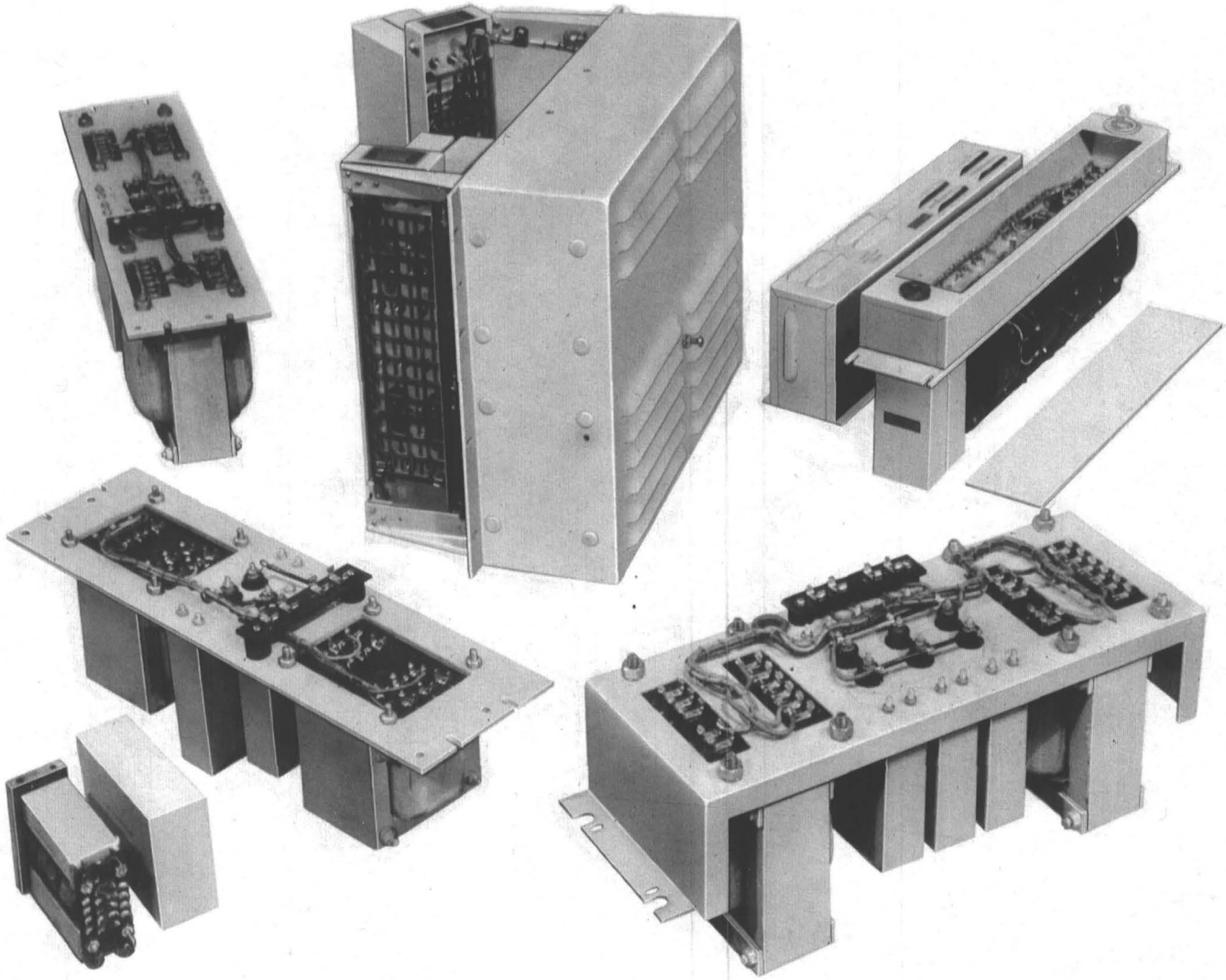

PHOTO 5 - AC Voltage Regulators

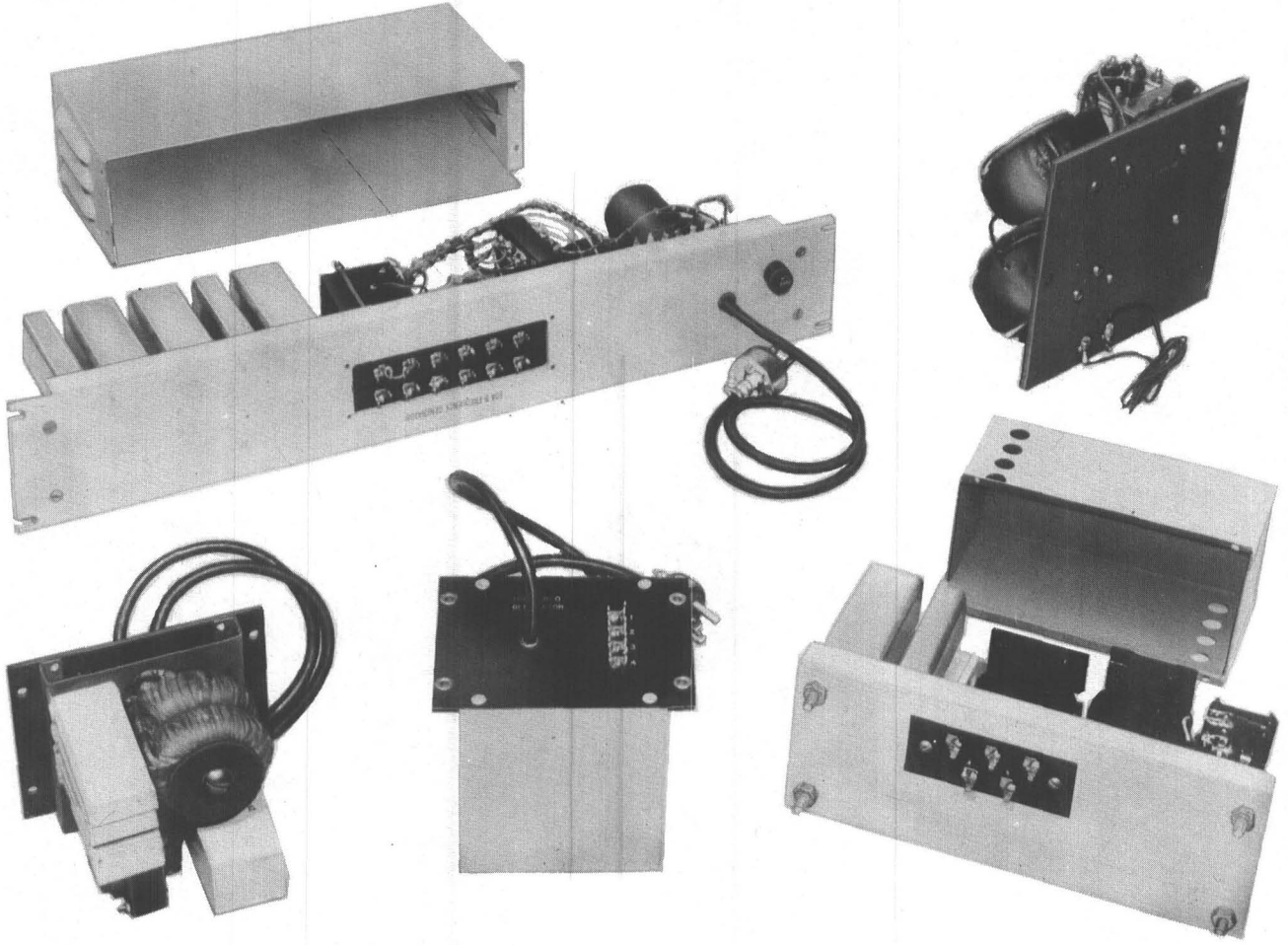

PHOTO 6 - **Frequency** Generators

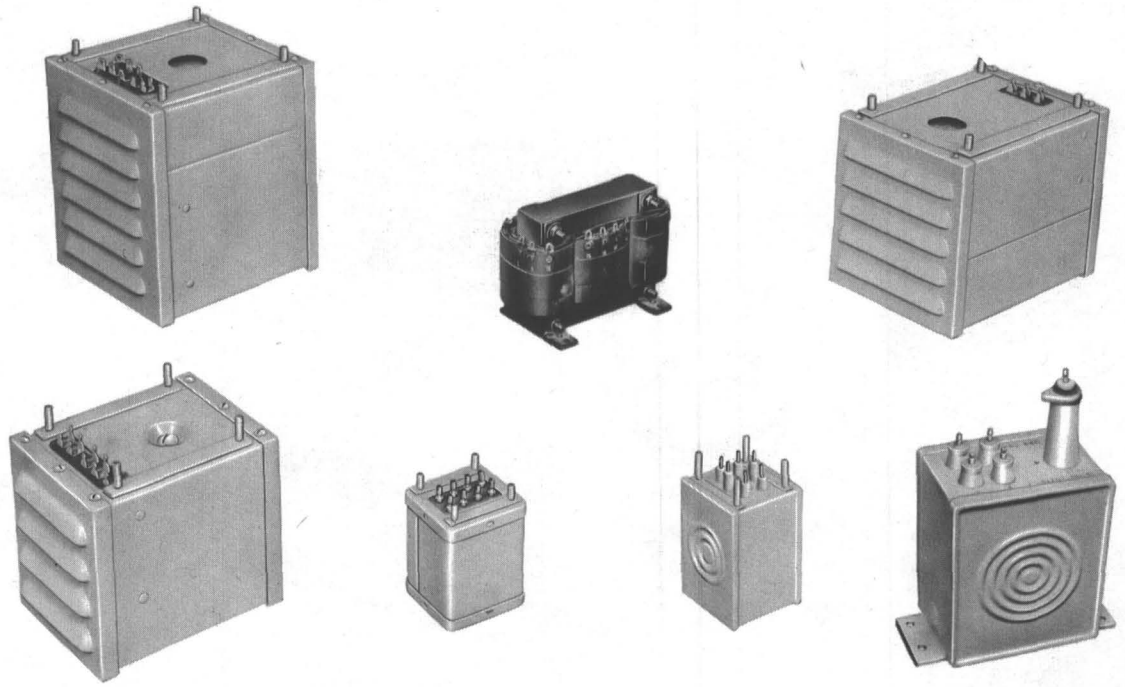

PHOTO 7 - Magnetic Amplifiers

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SECTION V

Desig-nation	Minimum Inductance Henries	DC Amperes	Operating Volts Peak to Ground	Operating Volts Across Winding	Frequency cps	Maximum DC Res. Ohms	Fig.	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
									Length	Width	Height			
1011A	170 7.5	0.01 0.27	3300	750	60	135	-	35	6-7/8	6-13/32	8-1/8	SS	A1L	
281B	85 7.0	0.02 0.28	3000	425	60	115	4f	25	6-11/16	5-3/16	6-1/2	SS	A2B	
1004A	35 4.6	0.05 0.2	2600	150	60	152	-	14	4-27/32	4-11/16	5-11/32	SS	A2B See Re-marks	Moisture Resistant
241L	22 12	0.05 0.103	2120	650	60	176	2a	6.0	4-11/32	3-1/16	3-3/4	SS	A2B	
221H	14.6 3.85	0 0.09	155	3.0	60	460	3a	1.0	1-3/4	1-3/4	3-1/4	SS	A2B	
318A	7.3 1.0	0.025 0.625	850	55	60	24	4g	15	5-3/16	4-5/8	4-3/8	SS	A2B	
234B	4.1 0.39	0 1.0	150	72	60	5.7	-	27	7-5/8	5-11/16	6-3/4	SSF	A2B	
1002A	2.38 0.685	0 0.45	350	35	60	5.5	-	8.0	3-3/4	3-1/8	5 See Re-marks	SS	A3V See Re-marks	Semi-encased Includes terminals
241H	1.75 0.5	0 0.5	100	32	60	6.15	2a	6.0	4-11/32	3-1/16	3-3/4	SS	A2B	
281A	1.0 0.211	0 3.0	350	70	60	2.15	4f	25	6-11/16	5-3/16	6-1/2	SS	A2B	
228A	0.88 0.077	0 9	150	50	60	0.55	1d	90	9	9-7/8	8-3/4	-	A2B See Re-marks	End housings
228B	0.88 0.077	0 9	150	50	60	0.55	1d	90	9	9-7/8	8-3/4	SS	A2B See Re-marks	End housings
323A	0.8 0.11	0.5 8.0	700	150-170	120	0.61	-	77	9	8-1/4	8-1/2	SS	A3V	
297A	0.785 0.250	0 0.7	25	5.0	60	4.2	-	3.6	3-1/8	2-1/2	3-3/16	-	A3V	
234A	0.576 0.146	0 4.0	50	20	60	2.3	-	27	7-5/8	5-11/16	6-3/4	SSF	A2B	
220A	0.454 0.146	0 2.0	64	25	120	3.1	-	8.0	5-1/2	3-9/16	4-29/32	SSF	A2B	

SS - Single Side SSF - Single Side Flanged

Designation	Minimum Inductance Henries	DC Amperes	Operating Volts Peak to Ground	Operating Volts Across Winding	Frequency cps	Maximum DC Res. Ohms	Fig.	Wt. Lbs	Dimensions - inches			Mtg	Category	Remarks
									Length	Width	Height			
220E	0.408 0.108	0.1 0.6	123	63	60	1.3	-	8.0	5-1/2	3-9/16	4-29/32	SSF	A2B	
1017A	0.4 0.006	0 8.0	130	3.0	60	0.15	-	10.5	4-1/2	4-1/4	4-3/8	-	A3V	
220G	0.22 0.023	0 2.0	170	3.0	120	0.5	-	8.0	5-1/2	3-9/16	4-29/32	SSF	A2B	
222B	0.2 0.046	0 10	50	40	120	0.26	1c	70	9	8-7/8	8-3/4	-	A2B See Remarks	End housings
255A	0.197 0.0385	0 12	50	40	120	0.39	4a	48.5	7-13/32	6-11/16	6-13/32	SS	A2B	
275E	0.13 0.13	0.3 1.8	25	6.0	60	0.48	4c	8.0	4-5/8	3-7/16	4-3/8	SS	A2B	
332A	0.106 0.027 See Remarks	0.4 4.0	G	10	60	0.26	-	12	4-1/4	4-1/8	4-1/8	SS	A3V	Max.-0.14 henries at 0.4 amperes d.c.
1016A	0.09 0.011	0.5 4.0	G	3.0	60	0.3	-	6.0	4-1/8	3-1/8	4-1/8	-	A3V	
1009A	0.065 0.02	2.0 24.0	130	60	120	0.0718	9f	115	9	10-1/4	9	SS	A3V	
322B	0.042 0.0092	0 10	G	10	60	0.08	-	13.75	4-1/8	3-7/8	6-1/8	SS	A3V	
240A	0.0023 0.0005	0 20	48	1.0	500	0.0125	-	12	5-1/2	4-5/16	4-9/16	SSF	A2B	
328A	0.0015 0.00015	10 200	350	8.0	120	0.00113	9c	65	9	7	8-1/2	SS	A3V	

SS - Single Side SSF - Single Side Flanged

Designation	Minimum Inductance Henries	DC Amperes	Operating Volts Peak to Ground	Operating Volts Across Winding	Frequency cps	Maximum DC Res. Ohms	Fig.	Wt. Lbs	Dimensions - inches			Mtg	Category	Remarks
									Length	Width	Height			
221A	160	0.005	500	3.0	200	5650	3a	1.0	1-3/4	1-3/4	3-1/4	SS	A2B	
1015B	43.4	0.02	400	145	120	840	5a	20	3-9/32	1-11/16	3-7/16	SS	A2B	
344B	32	0.008	350	3.0	60	975	-	1.3	1-7/8	1-7/8	3-9/16	SS	A2B	
1013A	28	0.028	3300	45	60	800	-	4.0	3-5/8	3-5/32	4-5/32	SS	A1L	
275A	23	0.02	500	25	60	68	4c	8.0	4-5/8	3-7/16	4-3/8	SS	A2B	
221F	22	0.028	190	90	120	1100	3a	1.0	1-3/4	1-3/4	3-1/4	SS	A2B	
241J	17	0.08	1000	145	60	115	2a	6.5	4-11/32	3-1/16	3-3/4	SS	A2B	
1013B	15	0.03	4000	675	60	800	-	4.0	3-5/8	3-5/32	4-5/32	SS	A1L	
241D	16	0.175	420	240	120	260	2a	6.5	4-11/32	3-1/16	3-3/4	SS	A2B	
1010A	10	0.27	3300	25	60	110	-	15	4-11/16	4-3/32	6-1/2	SS	A1L	
241B	10	0.21	530	220	120	112	-	6.5	4-11/32	3-1/16	3-3/4	SS	A2B	
297B	10	0.125	130	35	60	98	-	3.6	3-1/8	2-1/2	3-3/16	-	A3V	
301A	8.5	0.28	1900	100	60	95	4e	11	4-5/8	4-7/16	4-3/8	SS	A2B	
345A	5.7 * See Remarks	0.082	490	90	240	97	8a	2.75	3	2-7/8	3-3/4	SS	A2B	Max.-6.3 henries
221C	5.0	0.045	500	3.0	200	200	3a	1.0	1-3/4	1-3/4	3-1/4	SS	A2B	
278C	5.0	0.045	500	3.0	200	200	6a	1.0	1-11/16	1-11/16	3-9/16	SS	A2B	
241E	4.0	0.35	835	260	120	71	2a	6.5	4-11/32	3-1/16	3-3/4	SS	A2B	
278E	4.0	0.005	150	5.0	3000	175	6a	1.0	1-11/16	1-11/16	3-9/16	SS	A2B	
347A	3.92 * See Remarks	0.37	350	150	120	21	8c	15.5	4-3/8	4-1/4	5-29/32	SS	A2B	Max.-4.34 henries
345B	3.82 * See Remarks	0.082	490	3.0	60	72	8a	2.75	3	2-7/8	3-3/4	SS	A2B	Max.-3.96 henries
221G	3.25	0.13	680	30	120	200	3a	1.0	1-3/4	1-3/4	3-1/4	SS	A2B	
1008A	3.0	0.45	500	115	60	40	-	6.0	4-3/16	3	3-13/16	SS	A3F	
1007A	3.0	0.21	540	115	60	95	-	2.0	3-1/4	2-9/16	2-1/2	-	A3F	
346A	2.4 * See Remarks	0.37	300	3.0	60	28	8c	7.5	3-3/4	3-1/2	4-7/16	SS	A2B	Max.-2.64 henries
241K	2.1 or 0.65	0.25 0.4	220 220	55 0.5	60	15.5	2a	6.5	4-11/32	3-1/16	3-3/4	SS	A2B	

SS - Single Side

* - Taps for Adjustment

Designation	Minimum Inductance Henries	DC Amperes	Operating Volts Peak to Ground	Operating Volts Across Winding	Frequency cps	Maximum DC Res. Ohms	Fig.	Wt. Lbs	Dimensions - inches			Mtg	Category	Remarks
									Length	Width	Height			
221B	1.75	0.1	500	3.0	60	70	3a	1.0	1-3/4	1-3/4	3-1/4	SS	A2B	
351A	0.65	0.87	350	30	60	4.15	-	10	4-1/8	3-7/16	5 See Remarks	SS	A3V See Remarks	Semi-encased Includes Terminals
345C	0.65	0.3	140	3.0	60	16.2	8a	2.75	3	2-7/8	3-3/4	SS	A2B	
1015C	0.6	0.22	325	3.0	60	23.2	5a	2.0	3-9/32	1-11/16	3-7/16	SS	A2B	
275B	0.5	0.65	500	3.0	60	5.8	4c	8.0	4-5/8	3-7/16	4-3/8	SS	A2B	
221M	0.4	0.1	210	3.0	120	17.2	3a	1.0	1-3/4	1-3/4	3-1/4	SS	A2B	
335A	0.3	1.7	350	20-30	120	1.7	-	16	5-7/16	4-27/32	5-11/32	SS	A2B See Remarks	Moisture resistant
221L	0.2	0.13	35	3.0	60	5.5	3a	1.0	1-3/4	1-3/4	3-1/4	SS	A2B	
1504A	0.15	1.2	350	7.5	60	1.18	-	4.75	4-1/8	2-7/8	3-17/32	-	A3V	
336A	0.065	1.0	25	3.0	60	4.0	-	1.0	1-3/4	1-9/16	2-7/8	-	A3V	
1005A	0.04	12.0	150	20	120	0.212	-	40	10-1/2	6-1/4	5-13/16	-	A3V See Remarks	Semi-encased
221N	.032	0.6	310	3.0	60	0.86	3a	1.0	1-3/4	1-3/4	3-1/4	SS	A2B	
241G	0.027	3.0	175	3.0	60	0.45	2a	6.5	4-11/32	3-1/16	3-3/4	SS	A2B	
233C	0.022	30	50	25	120	0.062	1b	120	9	10-7/8	8-3/4	SS	A2B See Remarks	End-housings
278A	0.013	0.64	24	3.0	900	0.44	6a	1.0	1-11/16	1-11/16	3-9/16	SS	A2B	
233B	0.013	25	130	0.5	120	0.032	1b	120	9	10-7/8	8-3/4	-	A2B See Remarks	End-housings
1000B	0.012	10	G	67	60	0.045	-	24	7	5-3/8	5-13/16	-	A3V	
1003A	0.00925	20	190	115	60	0.044	-	33	7-1/8	7	5-13/16	-	A3V	
1016B	0.009	8.0	G	3.0	60	0.09	-	6.0	4-1/8	3-1/8	4-1/8	-	A3V	

SS - Single Side

Designation	Minimum Inductance Henries	DC Amperes	Operating Volts Peak to Ground	Operating Volts Across Winding	Frequency cps	Maximum DC Res. Ohms	Fig.	Wt. Lbs	Dimensions - inches			Mtg	Category	Remarks
									Length	Width	Height			
206A	0.0089	10	1500	0.5	120	0.092	-	13	6-3/4	4-1/8	4-1/8	-	A3V	See 318B
318B	0.0077	9.0	350	0.5	900	0.092	4g	15	5-3/16	4-5/8	4-3/8	SS	A2B	
275D	0.0052	6.0	20	3.0	60	0.28	4c	8.0	4-5/8	3-7/16	4-3/8	SS	A2B	
240E	0.0032	10	48	1.0	500	0.027	-	12	5-1/2	4-5/16	4-9/16	SSF	A2B	
241C	0.0026	8.0	150	1.0	60	0.025	2a	6.5	4-11/32	3-1/16	3-3/4	SS	A2B	
233A	0.001	112	24	0.027	1800	0.004	1b	120	9	10-7/8	8-3/4	-	A2B See Remarks	End-housings
240F	0.001	20	48	1.0	500	0.0184	-	12	5-1/2	4-5/16	4-19/32	SSF	A2B	
240C	0.001	20	48	1.0	500	0.0125	-	12	5-1/2	4-5/16	4-9/16	SSF	A2B	
332B	0.001	2-24	G	1.0	120	0.0141	-	12	4-1/4	4-1/8	4-1/8	SS	A3V	
259A	0.001	200	50	0.06	500	0.000227	-	190	15-3/8	9	9-1/2	-	A3V See Remarks	End-housings
243A	0.00097	50	48	NIL	500	0.0057	-	37	7-7/8	6-11/16	6-1/2	SSF	A2B	
338B	0.00077	100	350	2.0	360	0.0033	-	74	9	8-5/8	8-1/4	-	A3V	
339B	0.0005	100	350	1.0	360	0.00232	-	44	8	7	8-5/8	-	A3V	
338A	0.00022 See Remarks	200	350	4.0	60	0.00078	-	74	9	8-5/8	8-1/4	-	A3V	Max.-0.0006 henries
339C	0.0002	200	500	1.0	360	0.00059	-	44	8	7	8-5/8	-	A3V	
339A	0.00015	200	350	0.2	360	0.00059	-	44	8	7	8-5/8	-	A3V	

SS - Single Side SSF - Single Side Flanged

Desig-nation	Inductance Henries	DC Amperes	Operating Volts Peak to Ground	Operating Volts Across Winding	Frequency cps	Maximum DC Res. Ohms	Fig.	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
									Length	Width	Height			
272A	(1-2)(3-4) (5-6)(7-8) 20 Each Wdg	0.9	G	100	60	150 Each Wdg	-	32	6-11/16	5-29/32	6-17/32	SS	A2B	
215A	(1-2)(3-4) SA 15	0	33	5.0	120	(1-2) (3-4) SA 175	-	2	2-1/2	2	3-3/4	-	A3V	
292A	15 See Remarks	0	900	200	60	120	7a	16	4-3/16	4-3/32	6-1/2	SS	A2B	Max.-16.6 henries
284B	(1-2) 5.5 (2-3) 8.2	0.107	170	3.0	60	(1-2)71 (2-3)175	-	5.5	2-13/16	2-3/8	7-5/32	SS	A3V See Re-marks	Two inductors in a single case
298A	5.5 Rd-BlWh (RdWh con-nected to Bl)	0.1	15	3.0	60	105	-	2.0	2-1/2	2-1/8	3-3/16	-	A3V	
344A	3.93-4.34 *	0	350	105	120	148	-	1.3	1-7/8	1-7/8	3-9/16	SS	A2B	
241F	(1-2)(3-4) SA 2.69	0.5	800	10	60	26 Each Wdg	2a	6.5	4-11/32	3-1/16	3-3/4	SS	A2B	
291A	2.41 See Remarks	0	850	150	60	14.8	7d	10	4-1/16	3-1/16	6-1/2	SS	A2B	Max.-2.66 henries
290A	1.51 See Remarks	0	850	150	60	13.0	7c	8.5	4-1/16	2-11/16	6-1/2	SS	A2B	Max.-1.68 henries
300A	(1-4) 0.95-1.1 *	0	2800	180	60	11 (1-7)	4i	10	4-5/8	3-7/16	5-7/32	SS	A2B	
289A	(1-3) or (5-7) 0.7	0	G	175	60	(1-4)8.6 (5-8)8.6	-	6.75	5-7/8	2-3/4	4-3/16	-	A3V	
199E	0.7	0	500	6.0	500	18	-	3.75	3-13/32	2-9/16	3-7/16	SS	A2B	
278B	0.6 See Remarks	0	G	60	120	14.5	6a	1.0	1-11/16	1-11/16	3-9/16	SS	A2B	Max.-0.73 henries
1014A	0.59±10% *	0	500	130	60	(1-5) 10.1	4h	5.3	3-11/16	2-13/16	4-3/8	SS	A2B See Re-marks	Moisture resistant
256F	(GN-C)(L1-R) SA 0.45	0.125	12	4.0	1000	50 With R&C Con-nected	-	0.44	2	1-1/2	1-3/8	-	A3V	Same as 250A except mounting

SS - Single Side * - Taps for Adjustment SA - Series Aiding

Designation	Inductance Henries	DC Amperes	Operating Volts Peak to Ground	Operating Volts Across Winding	Frequency cps	Maximum DC Res. Ohms	Fig.	Wt. Lbs	Dimensions - inches			Mtg	Category	Remarks
									Length	Width	Height			
250A	(GN-C)(L1-R) SA 0.45	0.125	12	4.0	1000	50 With R&C Connected	-	0.44	2-11/32	1-1/2	1-3/8	-	A3V	Same as 256F except mounting
199A	(1-2)(3-4) SA 0.45	0	1000	3.0	900	(1-2) (3-4) SA 7.3	-	3.75	3-13/32	2-9/16	3-7/16	SS	A2B	
1006A	(1-6)0.28 (1-5)0.21*	0 0	5600 between Wdgs. 2800 each Wdg to case	170 127	60 60	(1-3) 0.645 (4-6) 0.774	-	13.5	4-1/32	4-3/32	6-9/16	SS	A1L	(1-6) 3 connected to 4 (1-5) 2 connected to 4
278D	0.257 See Remarks	0	350	50	60	16	6a	1.0	1-11/16	1-11/16	3-9/16	SS	A2B	Max.-0.315 henries
1015A	0.25±10% *	0	500	29	60	3.45	5a	2.0	3-9/32	1-11/16	3-7/16	SS	A2B See Remarks	Moisture Resistant
1000A	(1-2)(3-4) SA 0.237	0	G	238	60	(1-2) 0.68 (3-4) 1.0	-	24	7	5-3/8	5-13/16	-	A3V	
1505A	0.229	0	350	70	60	3.34	-	2.0	2-17/32	2-11/32	3-3/32	-	A3V	
330A	0.078	0	700	200	120	0.74	-	11	4-3/4	4-1/8	4-1/8	SS	A3V	
331A	0.054 *	0	1500	48-65	60	(1-4)1.1	-	4	4-1/8	2-5/8	4-1/8	SS	A3V	
1001A	0.039	0	250	70	60	0.63	-	11	4-5/8	4-1/8	4-1/2	-	A3V	
287A	(1-2)(3-4) 0.02 each Wdg	0	500	85	60	(1-2) 0.125 (3-4) 0.175	4b	39	6-11/16	5-29/32	6-17/32	SS	A2B	
322A	(1-2) or (3-4) 0.02	0	470	70	60	(1-2) 0.135 (3-4) 0.161	-	13.75	4-1/2	4-1/8	6-1/8	SS	A3V	
324A	(1-3) * 0.019	0	G	35-70	60	(1-4) 0.26	-	8	4-1/8	3-5/8	4-1/8	SS	A3V	
269A	0.0007	0	1000	2	400,000	5.0	-	0.063	1-3/16	1/2	29/32	SS	A3W	

SS - Single Side * - Taps for Adjustment SA - Series Aiding

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
414A	60	1-2	275	1-3	400	11.5	-	G	-	No	40	8	7	5-3/16	-	A3V	
371C	60	4-250 Taps	210/ 230/ 250	250-2 Taps	392/382	8.7	-	G	4d	No	40	6-11/16	6-21/32	6-17/32	-	A2B	With 3&4 strapped
366C	60	1-6 Taps	210/ 220/ 240/ 250	1-4	230	30	-	G	4b	No	32	6-11/16	5-29/32	6-17/32	SS	A2B	
2016A	60	1-3 Tap	See Remarks 230-250	4-5	See Remarks 210	56	-	G	-	No	45	9-1/2	4-3/4	7-1/2	-	A3V	Voltages listed are those applicable when three of these are connected in delta
412A	60	1-3 Tap	See Remarks 230-250	4-5	See Remarks 210	23	-	G	-	No	22	6-5/16	4-3/4	8-5/16	-	A3V	Voltages listed are those applicable when three of these are connected in delta
2004A	60	1-4 Tap	230/ 240	1-2	208	14.4	-	G	-	No	12.3	4-1/2	3-5/8	5-5/8	-	A3V	
403A	60	1-250 Taps	210/ 220/ 230/ 240/ 250	1-2	115	8.0	-	G	-	No	19	6	5-5/16	6-1/32	SS	A3V	
405A	60	1-2	132	2-3	87	16.9	-	G	9c	No	70	9	7	8-1/2	SS	A3V	

SS - Single Side

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
415M	60	1-2	117	3-4	24	1.67	-	G	8a	Yes	3.75	3	2-7/8	3-3/4	SS	A2B	
370A	50-60	GN-C	110	L1-R	24	0.042	-	G	-	No	0.45	2-1/16	1-1/2	1-3/8	-	A3V	
386A	50-60	1-2	115	3-4	20	6.0	-	G	-	Yes	6.5	3-3/4	3-1/8	5-5/16	-	A3V	
392C	60	1-2	117	3-4	12.4	29	-	G	4f	Yes	24	6-11/16	5-3/16	6-1/2	SS	A2B	
405B	60	1-2	115	3-5	10	250	4	G	9c	No	70	9	8-3/4	8-1/2	-	A3V	
393B	50-60	Parallel blade Plug and Cord	115	A-D Taps	10	2.88	-	G	-	No	7.75	8-3/4	4-5/16	3-15/16	-	A2B	Fuse mounted on terminal plate. UL approved
407B	60	1-4 Taps	111/ 117/ 125	5-6	6.4	10	-	-65dc	-	Yes	4.5	4-1/8	3-1/8	3-23/32	-	A3V	
344G	60	Rd-RdWh	111/ 117/ 123	3-6 Taps See Re-marks	6.3	5.3	-	G	-	No	3.5	3-13/32	2-9/16	3-7/16	SS	A2B	Taps to compensate for line voltage
373F	50-60	2-4 Taps	115	7-12 Taps	6.3	0.3-1.8	10	525	6a	Yes	1.0	1-11/16	1-11/16	3-9/16	SS	A2B	See BA-235543 for top details
2008B	60	1-4 Taps	115	5-6 Taps	5.7	0.59-1.33	-	50	6b	Yes	1.25	1-25/32	1-11/16	4-19/32	SS	A2B	Moisture resistant. Thermistor network to control secondary voltage. See B-827622 for top details
369B	50-60	Rd-RdWh	110	3-4	1.0	1000	-	G	-	No	11	4-1/8	4-1/8	4-11/32	-	A3V	Designed to deliver current for less than 0.1 sec. every 2 min.

SS - Single Side

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
413A	60	1-3 Tap	218	4-6 Tap	24/28.8	98	-	250	9d	No	75	9	8-5/8	8-1/4	-	A3V	
410A	60	1-3 Tap	218	4-6 Tap	23/26	49	-	300	9e	No	52	9	7-7/16	8-1/4	-	A3V	
344E	50-60	Rd-BlWh Taps	210/ 230/ 250	5-6	20	1.0	-	G	-	No	3.5	3-13/32	2-9/16	3-7/16	SS	A2B	
2024A	60	1-3 Tap	230	4-6	16.0 or 19.9	0.99-2.47	5	G	-	Yes	2.8	3	2-9/16	4	SS	A3V	Winding projects through panel
368H	60	2-7 Taps	230	3-4	18.2	0.6	-	350	5b	Yes	1.75	2-1/2	1-11/16	3-1/2	SS	A2B	
2026B	60	1-3 Tap	230	4-6	11.7 or 14.8	4.23	5	G	-	Yes	6.0	4-1/8	3-7/16	3-1/4	SS	A3V	Winding projects through panel
2008A	60	1-3 Tap	230	7-12 Taps	6.0	0.436-1.51	-	200	6b	Yes	1.25	1-25/32	1-11/16	4-19/32	SS	A2B	Moisture resistant. Thermistor network to control secondary voltage. See B-827678 for top details
352AL	60	4-250 Taps	210/ 230/ 250	1-3	2.56	62	2	G	-	Yes	8.5	5-1/2	3-9/16	4-19/32	SSF	A2B	

SS - Singel Side SSF - Single Side Flanged

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
361C	60	Rd-RdWh	115	Bl-BlWh Gn-GnWh	11 24	0.1 0.135	- -	G G	3a	Yes	1.5	1-3/4	1-3/4	3-1/4	SS	A2B	
384A	50-60	RdBl-RdBr	115	Rd-RdWh Bl-BlWh	7.27 22.3	0.2 0.8	- -	G G	-	No	1.5	2-1/2	2	3-1/8	-	A3V	
361E	50-60	Rd-BlWh Taps	105/115/125	Gn-GnWh	10	0.35	-	G	3a	No	1.5	1-3/4	1-3/4	3-1/4	SS	A2B	
				Br-BrWh	20	0.25	-	G									
410A	60	Rd-BlWh Taps	111/117/123	Gn-GnWh	18	2.9	-	G	-	No	5.0	4-1/8	2-7/8	3-17/32	SS	A3V	
				Br-Or Tap	9.8/18	1.3/1.44	-	G									
384C	60	Rd-RdWh	115	Bl-BlWh Gn-Br Tap	17.4 10/18	0.24 0.084/0.081	- -	G G	-	No	1.5	2-1/2	2	3-1/8	-	A3V	
373N	60	1-4 Taps	110/115/120	7-9	12.6	0.18	8	G	6a	Yes	1.0	1-11/16	1-11/16	3-9/16	SS	A2B	
				10-12	12.6	0.18	11	G									
352W	50-60	7-125 Taps	105/115/125	1-3	5.1	23	2	G	-	Yes	8.5	5-1/2	3-9/16	4-19/32	SSF	A2B	
				4-6 Tap	8.5/3.5	0.1	-	G									
360G	50-60	7-120	120	1-3 4-6 Tap	5.1 8.5	7.0 0.1	2 -	G G	2a	Yes	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	
364H	60	1-3 Tap	115	4-6	6.3	1.13/2.35	5	G	5a	Yes	2.0	3-9/32	1-11/16	3-7/16	SS	A2B	
				7-9	6.3	0.3/0.6	8	G									
352S	50-60	6-125 Taps	105/115/125	1-3	2.56	14	2	G	-	Yes	8.5	5-1/2	3-9/16	4-19/32	SSF	A2B	
				4-5	5.0	0.25	-	G									

SS - Single Side SSF - Single Side Flanged

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
361F	50-60	Rd-BlWh Taps	210/ 230/ 250	Gn-GnWh	10	0.35	-	G	3a	No	1.5	1-3/4	1-3/4	3-1/4	SS	A2B	
				Br-BrWh	20	0.25	-	G									
418B	45-60	1-4 Taps	215/ 230/ 250	5-6	10	0.125	-	G	8b	No	1.25	1-7/8	1-7/8	3-9/16	SS	A2B See Re-marks	Moisture resistant
				7-8	20	0.125	-	G									
415F	60	1-5 Taps	200/ 210/ 230/ 240/ 250	6-7	6.3	4.8	-	450	8a	Yes	3.75	3	2-7/8	3-3/4	SS	A2B	
				8-9	9.5	0.32	-	600									
352U	50-60	7-250 Taps	190/ 210/ 230/ 250	1-3	5.1	23	2	G	-	Yes	8.5	5-1/2	3-9/16	4-19/32	SSF	A2B	
				4-6 Taps	8.5/3.5	0.1	-	G									
360H	50-60	7-210	210	1-3	5.1	7.0	2	G	2a	Yes	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	
				4-6 Tap	8.5	0.1	-	G									
373K	60	1-4 Tap	187/ 208	7-8	6.3	0.12	-	50	6a	Yes	1.0	1-11/16	1-11/16	3-9/16	SS	A2B	
				10-12	1.0	0.07	11	50									
352T	50-60	6-250 Taps	190/ 210/ 230/ 250	1-3	2.56	14	2	G	-	Yes	8.5	5-1/2	3-9/16	4-19/32	SSF	A2B	
				4-5	5.0	0.25	-	G									
367K	60	1-2	230	3-4	5.0	3.0	-	350	4c	No	8.75	4-5/8	3-7/16	4-3/8	SS	A2B	
				5-6	2.5	15.0	-	2100									

SS - Single Side SSF - Single Side Flanged

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
360U	60	1-4 Taps	111/ 117/ 123	5-7	5.4	16	6	50	2a	Yes	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	
				8-9	20	0.1	-	50									
				10-12 Taps	8.5/4.9	0.1/ 0.13	-	50									
344D	50-60	1-2	105-125	3-4	10	0.5	-	200	-	No	3.5	3-13/32	2-9/16	3-7/16	SS	A2B	
				5-6	10	0.5	-	G									
				7-8	6.3	4.0	-	G									
360N	50-60	1-2	115	3-4	6.4	10	-	600	2a	Yes	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	
				5-7	5.1	6.0	6	815									
				8-9	6.4	0.3	-	500									
360J	50-60	1-2 & 3-4 Connected in parallel	115	5-6	6.4	3.2	-	700	2a	Yes	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	
				7-8	5.1	3.0	-	700									
				9-10	6.4	0.35	-	700									
352AS	60	1-3 Tap	110/ 120	4-6	5.0	2.4	5	G	-	No	8.5	5-1/2	3-9/16	4-19/32	SSF	A2B	
				7-9	4.5	3.2	8	G									
				10-12	4.5	1.6	11	G									

SS - Single Side SSF - Single Side Flanged

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
360AB	60	1-4 Taps	206/ 230/ 240	5-7	5.4	16	6	50	2a	Yes	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	
				8-9	20	0.1	-	50									
				10-12 Tap	8.5/5.2	0.1/ 0.13	-	50									
360J	50-60	1-2 & 3-4 Connected in series	230	5-6	6.4	3.2	-	700	2a	Yes	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	
				7-8	5.1	3.0	-	700									
				9-10	6.4	0.35	-	700									

SS - Single Side

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
404A	60	1-3 Tap	270	4-5	19/20.7	206	-	G	9b	No	125	9	10-1/2	8-1/2	SS	A3V	
368F	60	1-2 See Remarks	2.9	3-4	15	0.22	-	G	5b	Yes	1.75	2-1/2	1-11/16	3-7/16	SS	A2B	1-2 not more than 700V peak to ground
392E	60	4-7 Taps	60	8-10 Tap 11-12	9.5/ 19.25 6.1	0.29/ 3.6 14.2	- -	G G	4f	Yes	24	6-11/16	5-3/16	6-1/2	SS	A2B	
373D	50-60	1-2	97	5-6 9-10	6.4 6.4	0.6 0.45	- -	G G	6a	Yes	1.0	1-11/16	1-11/16	3-9/16	SS	A2B	
368E	60	1-3 See Remarks	60	4-6 7-9	2.0 2.0	0.25 0.25	5 8	G G	5b	No	1.75	2-1/2	1-11/16	3-7/16	SS	A2B	1-2 delivers 0.09 amperes at 8.26 volts
360AJ	60	1-2 Tap	100	4-7 Taps 8-9 10-11	6.7 11.0 11.0	8.2 1.2 1.2	- - -	G G G	2a	Yes	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	
368D	60	1-3 See Remarks	60	4-6 7-9 10-12	2.0 2.0 3.0	0.25 0.25 0.53	5 8 9	G G G	5b	Yes	1.75	2-1/2	1-11/16	3-7/16	SS	A2B	1-2 delivers 0.045 amperes at 8.37 volts
380B	50-60	1-2	85	3-4 5-6 7-8 9-10	6.4 6.4 6.4 6.4	4.5 0.5 0.3 0.3	- - - -	G G G G	7b	Yes	4.25	2-7/8	2-5/8	5	SS	A2B	

SS - Single Side

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
360S	50-60	1-2	115	3-5 6-8	560 6.3	0.14 6.5	4 7	G G	2a	No	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	
415K	60	1-2	115	3-4 5-6	175 10	0.04 0.64	- -	400 300	8a	Yes	3.75	3	2-7/8	3-3/4	SS	A2B	
359B	50-60	1-3 Tap	110/120	4-5	5.0	5.0	-	G		No	12.5	5-1/2	4-5/16	4-19/32	SSF	A2B	
				6-10 Taps	140/156	1.4	8	G									
364D	50-60	RdWh-Gn Taps	110/115/120	GnWh-BrWh	140	0.06	-	G	5a	No	2.0	3-9/32	1-11/16	3-7/16	SS	A2B	
				Or-OrWh	10	1.28	-	G									
344C	50-60	Rd-RdWh	115	3-4 5-7	115 6.3	0.051 5.4	- 6	G G	-	No	3.5	3-13/32	2-9/16	3-7/16	SS	A2B	
352AN	50-60	Gn-Br Tap	110/120	1-2	23	6.25	-	G	-	No	8.5	5-1/2	3-9/16	4-19/32	SSF	A2B	
				3-4	55	0.218	-	G									
2000A	50-60	Gn-Wh	110/115/120	Rd-Bl Tap	36/32	0.6/0.48	-	130	-	No	5.75	3-5/8	3	4-25/32	-	A3V	
				Bl-WhGn	17	1.0	-	130									

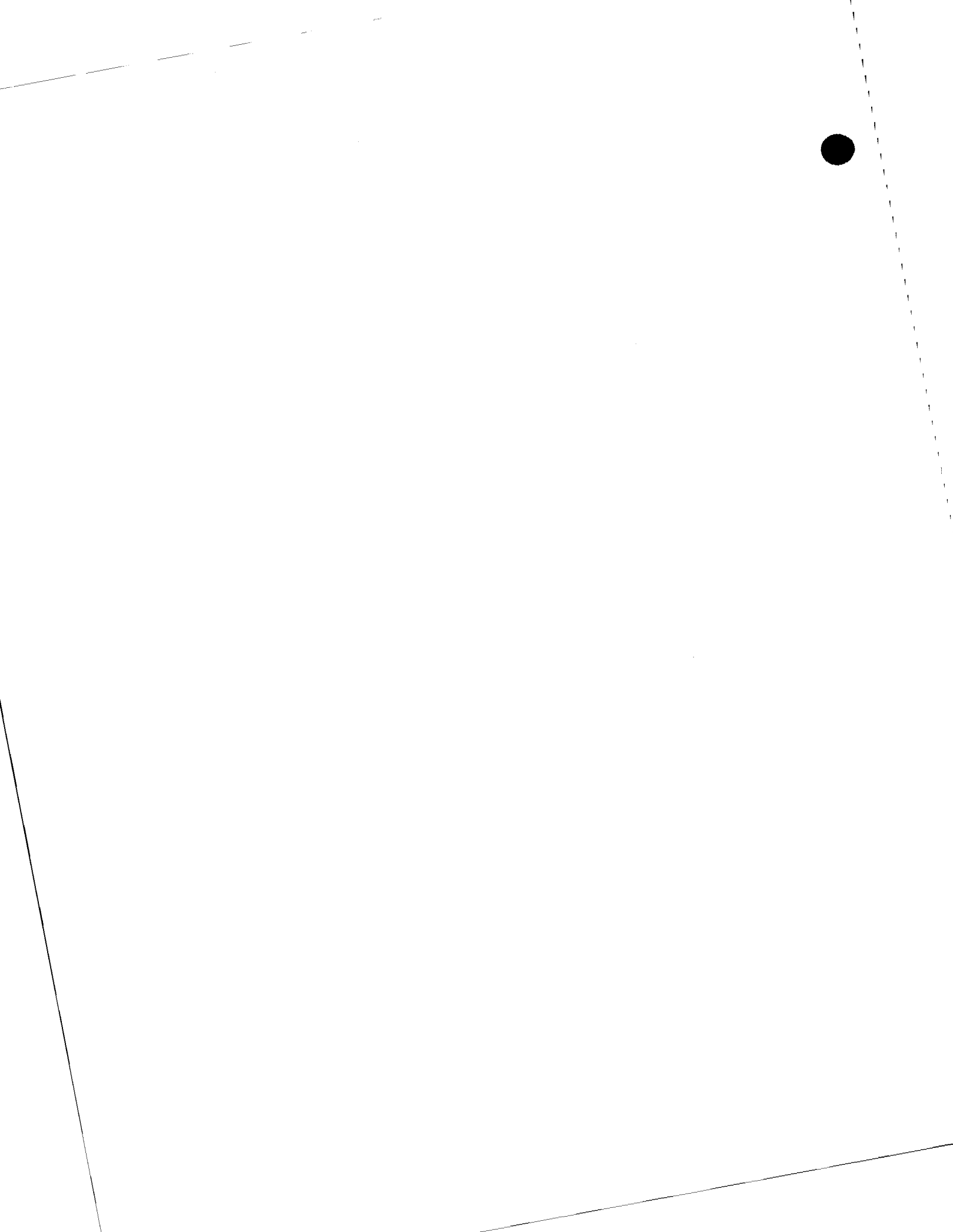
SS - Single Side SSF - Single Side Flanged

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
415A	60	1-2	210	3-5 6-7	705 5	0.04 2.0	4 -	450 450	8a	No	3.75	3	2-7/8	3-3/4	SS	A2B	
367J	60	1-2	230	3-5 6-7	660 5	0.2 3.0	4 -	320 465	4c	Yes	8.75	4-5/8	3-7/16	4-3/8	SS	A2B	
364L	60	1-2	230	3-5 6-7	468 6.3	0.01 1.0	4 -	200 700	5a	No	2.0	3-9/32	1-11/16	3-7/16	SS	A2B	
360P	60	1-2	230	3-4 5-6	105 6.4	0.03 3.5	- -	150 280	2a	Yes	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	
364G	60	Rd-RdWh	230	Bl-BlWh Gn-GnWh	23 100	0.19 0.13	- -	G G	5a	No	2.0	3-9/32	1-11/16	3-7/16	SS	A2B	
368G	60	1-2	230	3-4 5-7	10 70	.054 .000056	- 6	G G	5b	No	1.75	2-1/2	1-11/16	3-1/2	SS	A2B	

SS - Single Side

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
379A	50-60	1-2	115	3-5	850	0.29	4	G	7a	Yes	15.5	4-3/16	4-3/32	6-1/2	SS	A2B	
				6-7	5.1	2.0	-	G									
				8-9	6.4	3.75	-	G									
367A	50-60	Bk-BkRd Tap	110/ 120	Gn-Gn	6.2	5.2	Gn Yel	G	4c	No	8.75	4-5/8	3-7/16	4-3/8	SS	A2B	
				Yel-Yel	5.0	3.0	-	G									
				Rd-Rd Taps	850	0.14	Rd Yel	G									
352AA	50-60	1-3 Tap	110/ 120	4-6	6.4	3.0	5	G	-	No	8.5	5-1/2	3-9/16	4-19/32	SSF	A2B	
				7-8	5.1	3.0	-	G									
				9-13	820	0.135	11	G									
382C	60	1-2	115	3-5	740	0.034	4	G	-	Yes	2.5	2-3/4	2-1/2	3-3/16	-	A3V	
				6-8	6.3	2.5	7	G									
				9-10	6.3	0.6	-	400									
360A	50-60	1-3 Tap	110/ 120	4-6	6.3	2.6	5	G	2a	No	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	
				7-8	5.0	2.0	-	G									
				9-11	630	0.105	10	G									
360E	50-60	1-3 Tap	110/ 120	Bl-Wh-GnWh	5.9	8.0	Gn	G	2a	No	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	
				7-8	5.0	2.0	-	G									
				9-13 Taps	565	0.082	Yel	G									
360C	50-60	1-3 Tap	110/ 120	4-6	10	3.2	5	G	2a	No	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	
				7-8	5.0	2.0	-	G									
				9-11	530	0.05	10	G									
380A	50-60	1-2	115	3-5	380	0.045	4	G	7b	Yes	4.25	2-7/8	2-5/8	5	SS	A2B	
				6-7	6.4	1.25	-	G									
				8-9	6.3	0.6	-	G									
344B	50-60	1-2	115	3-5	375	0.023	4	G	-	No	3.5	3-13/32	2-9/16	3-7/16	SS	A2B	
				6-7	5.0	2.0	-	G									
				8-10	6.3	1.5	9	G									
344A	50-60	1-4 Taps	107.5/ 115/ 122.5	5-6	5.0	2.0	-	G	-	No	3.5	3-13/32	2-9/16	3-7/16	SS	A2B	
				7-9	2.0	2.0	8	G									
				10-12	350	0.005	11	G									
2013A	60	Rd-RdWh	115	Bl-BlWh	60	0.054	-	G	-	Yes	2.5	2-23/32	2-5/8	3-5/32	SS	A3V See Re-marks	With winding Bl-BlWh and Gn-GnWh at no load. End housings
				Gn-GnWh	45	0.232	-	G									
				Br-BrWh	4.3 See Remarks	0.2	-										

SS - Single Side SSF - Single Side Flanged



Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
2020B	50-60	1-2	230	3-4	480	0.06	-	3200 See Remarks	-	Yes	14.6	4-11/16	4-3/32	6-1/2	SS	A1L	Not more than 700V peak to ground between secondaries
				5-6	20	3.8	-	3200									
				7-8	20	0.5	-	3200									
367N	60	2-6 Taps	230	9-10	6.7	9.6	-	G	4c	Yes	8.75	4-5/8	3-7/16	4-3/8	SS	A2B	
				11-12	6.7	3.0	-	190									
				13-14	350	0.015	-	G									
353E	50-60	11-250 Taps	190/ 210/ 230/ 250	1-6 Taps	210	1.3	-	G	-	Yes	27	7-5/8	5-11/16	6-3/4	SSF	A2B	
				7-8	2.56	7.0	-	G									
				9-10	5.0	0.25	-	G									
353F	50-60	AC-250 Taps	190/ 210/ 230/ 250	D-4 Taps	163	1.14	-	G	-	Yes	27	7-5/8	5-11/16	6-3/4	SSF	A2B	
				5-6	2.56	7.0	-	G									
				7-8	5.1	0.25	-	G									
359C	50-60	AC190-AC250 Taps	190/ 210/ 230/ 250	D-4 Taps	84.5-123	1.14	-	G	-	Yes	12.5	5-1/2	4-5/16	4-19/32	SSF	A2B	
				5-6	2.56	7.0	-	G									
				7-8	5.12	0.25	-	G									
415B	60	1-2	210	3-4	105	0.03	-	150	8a	No	3.75	3	2-7/8	3-3/4	SS	A2B	
				5-6	6.3	1.6	-	220									
				7-8	6.3	0.6	-	100									
364B	60	Or-YelWh Taps	210/ 230/ 250	1-2	40	0.01	-	G	5a	No	2.0	3-9/32	1-11/16	3-7/16	SS	A2B	
				3-6 Taps	10.1/5.1	0.5/ 1.2	-	G									
				7-8	30	0.02	-	G									

SS - Single Side SSF - Single Side Flanged

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
359H	50-60	1-4 Taps	105/ 115/ 125	5-7	950	0.085	6	G	-	Yes	12.5	5-1/2	4-5/16	4-19/32	SSF	A2B	
				8-9	5.0	2.0	-	G									
				10-11	5.0	1.2	-	G									
				12-14 Tap	15.3	2.7	-	G									
352AK	50-60	1-2 3-5 See Remarks	115/ 200/ 230	6-7	5.0	1.2	-	G	-	Yes	8.5	5-1/2	3-9/16	4-19/32	SSF	A2B	Primaries connected in series or parallel
				8-9	5.0	2.0	-	G									
				10-12	900	0.077	11	G									
				13-14	10.0	0.3	-	G									
352AC	50-60	1-3	115	4-6	750	0.072	5	G	-	Yes	8.5	5-1/2	3-9/16	4-19/32	SSF	A2B	
				7-8	2.5	2.0	-	G									
				9-10	2.5	2.0	-	G									
				11-12	5.0	2.0	-	G									
388A	50-60	1-2	115	3-7 Taps	(3-7) 720 (4-6) 640	0.39	5	500	-	Yes	16	4-11/16	4-3/32	5-21/32	SS	A2B	
				8-9	5.1	4/6	-	500									
				10-11	6.4	0.3	-	500									
				12-13	6.3	5.0	-	500									
407A	50-60	1-2	115	3-5	650	0.08	4	G	-	Yes	4.5	4-1/8	3-1/8	3-23/32	-	A3V	
				6-7	6.4	0.6	-	G									
				8-9	6.4	0.6	-	G									
				10-11	6.4	1.2	-	G									
377L	50-60	1-2	115	3-7 Taps	530/630	0.195/ 0.265	5	G	4e	Yes	11	4-5/8	4-7/16	4-3/8	SS	A2B	
				8-10	490	0.055	9	G									
				11-12	6.3	1.05	-	G									
				13-14	6.3	0.3	-	G									
360AD	50-60	1-2	115	3-5	520	0.085	4	G	2a	No	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	
				6-7	5.0	2.0	-	320									
				8-9	6.3.	1.7	-	G									
				10-11	12.6	0.6	-	G									
352R	50-60	1-6 Taps	105/ 110/ 115/ 120/ 125	7-8	42	0.1	-	G	-	No	8.5	5-1/2	3-9/16	4-19/32	SSF	A2B	
				9-10	5.0	2.0	-	G									
				11-13	475	0.019	12	G									
				12-14	24	1.0	-	G									

SS - Single Side SSF - Single Side Flanged

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
352AH	50-60	1-5 Taps	100/ 107.5/ 115/ 122.5	6-7	24	1.6	-	G	-	No	8.5	5-1/2	3-9/16	4-19/32	SSF	A2B	
				8-9	5.0	2.0	-	G									
				10-12	475	0.0425	11	G									
				13-14	45	0.35	-	G									
2006A	60	1-2	115	3-5 Tap	144	0.102	-	224	-	Yes	5.8	4-1/8	3-1/2	4-3/32	SS	A3V	
				6-8 Tap	144	0.102	-	224									
				9-11 Tap	6.3	3.15	-	G									
				12-14 Tap	6.3	2.0	-	G									
352AF	50-60	1-2	115	3-5	5.06	1.5	4	G	-	Yes	8.5	5-1/2	3-9/16	4-19/32	SSF	A2B	
				6-7	10	0.32	-	G									
				8-10	140	0.05	9	G									
				11-13	2.56	14	12	G									

SS - Single Side SSF - Single Side Flanged

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
352AK	50-60	1-2 3-5 See Remarks	115/ 200/ 230	6-7	5.0	1.2	-	G	-	Yes	8.5	5-1/2	3-9/16	4-19/32	SSF	A2B	**Primaries connected in series or parallel**
				8-9	5.0	2.0	-	G									
				10-12	900	0.077	11	G									
				13-14	10.0	0.3	-	G									
360AC	50-60	1-2	208	3-5	550	0.068	4	360	2a	Yes	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	
				6-7	5.1	3.0	-	470									
				8-10	6.4	0.75	9	50									
				11-12	6.4	2.4	-	250									
367H	60	1-2	210	3-5	140	0.05	4	300	4c	Yes	8.75	4-5/8	3-7/16	4-3/8	SS	A2B	
				6-8	5.1	17.0	7	300									
				9-10	9.5	0.32	-	300									
				11-12	6.3	2.5	-	300									
352AG	50-60	1-2	210	3-5	5.06	1.5	4	G	-	Yes	8.5	5-1/2	3-9/16	4-19/32	SSF	A2B	
				6-7	10	0.32	-	G									
				8-10	140	0.05	9	G									
				11-13	5.06	23	12	G									
352AE	50-60	1-2	210	3-5	5.06	1.5	4	G	-	Yes	8.5	5-1/2	3-9/16	4-19/32	SSF	A2B	
				6-7	10	0.32	-	G									
				8-10	140	0.05	9	G									
				11-13	2.56	14	12	G									

SS - Single Side SSF - Single Side Flanged

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
385A	60	1-2	115	3-5	980	0.097	4	690	-	Yes	6.3	3-5/8	3-1/16	5-9/32	-	A3V	
				6-7	5.0	2.0	-	525									
				8-9	6.3	1.5	-	200									
				10-12	(10-11) 6.3	2.5	-	100									
				Tap	(10-12) 10	0.02											
				13-14	35	0.15	-	100									
352AP	50-60	1-3 Tap	110/120	4-5	5.0	1.2	-	G	-	Yes	8.5	5-1/2	3-9/16	4-19/32	SSF	A2B	
				6-7	5.0	2.0	-	G									
				8-10	900	0.077	9	G									
				11-12	45	0.2	-	G									
				13-15	(13-14) 10	0.32	-	G									
				Tap	(14-15) 24	0.2											
360L	50-60	1-4 Taps	105/115/125	5-7	645	0.038	6	500	2a	Yes	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	
				8-9	120	0.035	-	170									
				10-11	6.3	0.9	-	170									
				12-13	6.3	1.3	-	520									
				14-16	6.3	0.6	15	170									
352AR	60	1-4 Taps	105/115/125	5-7	630	0.143	6	G	-	Yes	8.5	5-1/2	3-9/16	4-19/32	SSF	A2B	
				8-9	5.0	2.0	-	G									
				10-12	2.5	2.5	11	G									
				13-14	6.4	4.0	-	G									
				15-16	10.1	2.0	-	G									
381C	60	1-3 Tap	110/120	4-5	30	0.052	-	G	-	Yes	2.75	2-15/16	2-5/8	3-5/32	-	A3V See Re-marks	End housings
				6-8	125	0.208	-	G									
				9-11	1.3	0.2	10	G									
				12-14	1.3	0.2	13	G									
				15-17	6.25	0.65	16	G									

SS - Single Side SSF - Single Side Flanged

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
376B	60	1-2	115	3-5	690	0.18	4	G	-	Yes	8.5	3-5/8	3-5/8	5-1/4	-	A3V	
				6-7	5.0	3.0	-	500									
				8-9	6.3	2.7	-	220									
				10-12	(10-11) 6.3	3.2	-	G									
				Tap	(10-12) 10	0.02											
				13-14	12.6	0.35	-	220									
				15-16	35	0.15	-	G									

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
381D	60	1-3 Tap	110/ 120	4-6	81	0.084	5	G	-	Yes	2.75	2-15/16	2-5/8	3-5/32	-	A3V See Re-marks	End housings
				7-8	110	0.003	-	G									
				8'-10 Tap	(8'-9) 110	0.003	-	G									
					(8'-10) 125	0.208											
				11-13	1.3	0.20	12	G									
				14-16	1.3	0.20	15	G									
				17-19	1.3	0.20	18	G									
				20-22	6.45	0.80	21	G									

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
373A	60	1-3	60	5-7	6.1	0.6	-	G	6a	No	1.0	1-11/16	1-11/16	3-9/16	SS	A2B	
				9-11	60	0.005	-	G									
419D	60	1-3	45.8/	4-5	126	0.45	-	500	8c	Yes	14.5	4-3/8	4-1/4	5-29/32	SS	A2B	1-3 not more than 2850V peak to ground
		Tap	54					See Remarks									
				6-7	6.4	2.8	-	G									
				8-9	3.4	1.0	-	325									

SS - Single Side

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
367B	50-60	1-2	115	3-4	115	1.35	-	G	4c	Yes	8.75	4-5/8	3-7/16	4-3/8	SS	A2B	
352AD	50-60	1-3 Taps	107.5/ 115/ 122.5	5-6	115	0.7	-	G	-	No	8.5	5-1/2	3-9/16	4-19/32	SSF	A2B	
344C	50-60	Rd-RdWh	115	3-4 5-7	115 6.3	0.051 5.4	- 6	G G	-	No	3.5	3-13/32	2-9/16	3-7/16	SS	A2B	
377S	60	1-2 3-4 2 Con-nected to 3	230	5-6	115	0.41	-	G	4e	Yes	11	4-5/8	4-7/16	4-3/8	SS	A2B	
358H	60	1-2,3-4, 5-6,7-8 See Remarks	440/ 220/ 110	9-10	110	9.1	-	G	1c	Yes	75	9	8-7/8	8-3/4	SS	A2B See Re-marks	Connected as required for primary voltage. End housings
360T	50-60	1-2,3-4 See Remarks	115/ 230	5-6	110	0.9	-	G	2a	No	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	1-2 3-4 connected in series or parallel
360AG	50-60	1-2 3-4 See Remarks	115/ 230	5-6	110	0.9	-	G	2a	No	6.25	4-11/32	3-1/16	3-3/4	SS	A2B See Re-marks	1-2 3-4 connected in series or parallel. Moisture resistant

SS - Single Side SSF - Single Side Flanged

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
392B	50-60	1-2	115	3-5	1052	0.442	4	1000	4f	Yes	24	6-11/16	5-3/16	6-1/2	SS	A2B	
377A	50-60	1-2 3-4 See Remarks	115/ 230	5-7	890	0.18	6	275	4e	Yes	11	4-5/8	4-7/16	4-3/8	SS	A2B	Primaries connected in series or parallel
377J	50-60	1-2	115	3-7 Taps	790/760	0.295/ 0.32	5	700	4e	Yes	11	4-5/8	4-7/16	4-3/8	SS	A2B	
377M	50-60	1-4 Taps	111/ 117/ 123	5-7	686	0.31	6	G	4e	Yes	11	4-5/8	4-7/16	4-3/8	SS	A2B	
377H	50-60	1-2	115	3-7 Taps	640/580	0.315/ 0.34	5	450	4e	Yes	11	4-5/8	4-7/16	4-3/8	SS	A2B	
388B	50-60	1-2 3-4 See Remarks	115/ 230	5-7	430	0.67	6	175	-	Yes	16	4-11/16	4-3/32	5-21/32	SS	A2B	Primaries connected in series or parallel
371A	50-60	4-120 Tap	110/ 120	1-3	420	2.12	2	G	4d	Yes	40	6-11/16	6-21/32	6-17/32	SS	A2B	
383A	50-60	RdBl-RdBr	105-125	Rd-BrWh Taps	271	0.125	-	G	-	No	2	2-1/2	2-1/2	3-3/16	-	A3V	
367L	60	1-2	117	3-4	250	0.54	-	G	4c	Yes	8.75	4-5/8	3-7/16	4-3/8	SS	A2B	
420A	50-60	1-2 Taps	115	7-13 Taps	118-190	0.87	-	G	-	No	14	4-1/2	3-3/4	6 See Remarks	SS	A3V See Re-marks	1 end housing Includes terminals
2005A	50-60	1-6 Taps	115	7-13 Taps	114-186	0.52	-	G	-	Yes	8	3-3/4	3-1/8	5 See Remarks	SS	A3V See Re-marks	1 end housing Includes terminals
353B	50-60	D-125 Taps	105/ 115/ 125	5-7	155-180	2.1	6	G	-	Yes	27	7-5/8	5-11/16	6-3/4	SSF	A2B	
363A	60	D-125 Taps	105/ 115/ 125	5-7	176	7.1	6	G	4a	Yes	45	7-13/32	6-11/16	6-13/32	SS	A2B	
361D	50-60	Rd-RdWh Bl-BlWh Taps	105/ 210	Gn-GnWh	160	0.04	-	G	3a	No	1.5	1-3/4	1-3/4	3-1/4	SS	A2B	
367M	60	1-2	117	3-4	134	0.95	-	G	4c	Yes	8.75	4-5/8	3-7/16	4-3/8	SS	A2B	

SS - Single Side SSF - Single Side Flanged

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
377W	60	1-2	115	3-5 Tap	74/133	0.515/ 1.02	-	G	4e	Yes	11	4-5/8	4-7/16	4-3/8	SS	A2B	
363C	50-60	4-250 Taps	110/ 120	1-3	120/140	7.1	2	G	4a	Yes	45	7-13/32	6-11/16	6-13/32	SS	A2B	
368A	50-60	Rd-Gn Taps	100/ 110/ 120/ 210/ 220/ 230/ 240	GnWh-Or Taps	90	0.01	-	G	5b	No	1.75	2-1/2	1-11/16	3-7/16	SS	A2B	
414B	60	1-2	108	3-6 Taps	66.5-73	10.2	-	G	-	Yes	40	8	7	5-3/16	-	A3V	
371D	60	1-4 Taps	117	5-9 Taps	60-61.5	0.5-8.4	-	G	4d	Yes	40	6-11/16	6-21/32	6-17/32	SS	A2B	
382A	50-60	RdBl-RdBr	115	Rd-Br Taps	49.2	0.70	-	G	-	No	2.5	2-3/4	2-1/2	3-3/16	-	A3V	
2000B	50-60	RdBl-RdBr	115	Rd-GnWh Taps	29-38	1.4	-	100	-	No	5.75	3-5/8	3	4-1/4	-	A3V	
415H	60	Rd-BlWh Taps	111/ 117/ 123	Gn-GnWh	41	0.52	-	G	8a	Yes	3.75	3	2-7/8	3-3/4	SS	A2B See Re-marks	Moisture resistant
373E	60	2-5	115	8-11	31	0.11	-	G	6a	Yes	1.0	1-11/16	1-11/16	3-9/16	SS	A2B	
2019A	60	3-250 Taps	100/ 105/ 110/ 115/ 120/ 125	1-2	30	21	-	G	-	No	32	7	6	5-3/4	SS	A3V	

SS - Single Side

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
2022A	60	1-3 Taps	183	5-6	2700	0.05	-	G	-	Yes	9.5	4-29/32	4-1/16	4-29/32	SS	A1L	
2023A	60	1-3 Taps	230	5-7 or 5-6	1420 1352	0.118 0.118	-	G	2b	Yes	8.5	4-5/8	3-7/16	4-9/32	SS	A2B	
366D	50-60	1-2	230	3-5	1360	0.353	4	G	4b	Yes	32	6-11/16	5-29/32	6-17/32	SS	A2B	
377A	50-60	1-2 3-4 See Remarks	115/ 230	5-7	890	0.18	6	275	4e	Yes	11	4-5/8	4-7/16	4-3/8	SS	A2B	Primaries connected in series or parallel
354C	50-60	AC-250 Taps	190/ 210/ 230/ 250	1-3	460	7.2	2	G	1a	Yes	130	9	11-29/32	8-3/4	SS	A2B See Re-marks	End housings
362B	50-60	AC-250 Taps	190/ 210/ 230/ 250	1-3	460	1.45	2	G	-	No	36	7-7/8	6-5/8	6-11/16	SSF	A2B	
360R	60	1-2	230	3-5 Taps	415/450	0.12	-	G	2a	Yes	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	
415C	60	1-2	210	3-5 Taps	415/450	0.085	-	G	8a	No	3.75	3	2-7/8	3-3/4	SS	A2B	
401A	60	AC-250 Taps	200/ 210/ 220/ 230/ 240/ 250	1-5 Taps	372/440	6.5	3	300	9a	Yes	88	9	9	8-1/2	SS	A3V	
388B	50-60	1-2 3-4 See Remarks	115/ 230	5-7	430	0.67	6	175	-	Yes	16	4-11/16	4-3/32	5-21/32	SS	A2B	Primaries connected in series or parallel
354D	50-60	AC-250 Taps	210/ 230/ 250	1-5 Taps	360/420	7.2	3	G	1a	Yes	130	9	11-29/32	8-3/4	SS	A2B See Re-marks	End housings
371B	50-60	4-250 Taps	210/ 230/ 250	1-3	420	2.12	2	G	4d	Yes	40	6-11/16	6-21/32	6-17/32	SS	A2B	
417A	60	1-2	250	1-3	375	5.8	-	175	-	No	22	7	6	7-5/16	-	A3V	
415M	60	1-2	185	3-4	285	0.042	-	G	8a	Yes	3.75	3	2-7/8	3-3/4	SS	A2B	
415G	60	1-2	208	3-6 Taps	230/236/ 247	0.062	-	G	8a	Yes	3.75	3	2-7/8	3-3/4	SS	A2B	

SS - Single Side SSF - Single Side Flanged

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
2018A	60	7-250 Taps	230/ 240/ 250/ 260/ 270/ 280	1-6 Taps	191/201/ 214/220/ 230	24	-	G	-	No	166	13-1/2	9	9-3/16	SS	A3V	
2026A	60	1-3 Tap	230	4-5	175 or 220	0.48	-	G	-	Yes	6.0	4-1/8	3-7/16	3-1/4	SS	A3V	Winding projects through panel
377U	58	1-2	230	3-6 Taps	(3-4) 220 (4-5) 90 (4-6) 110	0.63 0.35 0.75	-	G	4e	Yes	11	4-5/8	4-7/16	4-3/8	SS	A2B	
353C	50-60	D-250 Taps	190/ 210/ 230/ 250	5-7	155-180	2.1	6	G	-	Yes	27	7-5/8	5-11/16	6-3/4	SSF	A2B	
363B	60	D-250 Taps	190/ 210/ 230/ 250	5-7	176	7.1	6	G	4a	Yes	45	7-13/32	6-11/16	6-13/32	SS	A2B	
358B	50-60	D-250 Taps	190/ 210/ 230/ 250	5-7	150-175	9.0	6	G	1c	Yes	75	9	8-7/8	8-3/4	-	A2B See Re-marks	End housings
360AA	60	1-5 Taps	210/ 230/ 250	6-9 Taps	155/155	0.55	-	330	2a	Yes	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	
361D	50-60	Rd-RdWh Bl-BlWh Taps	105/ 210	Gn-GnWh	160	0.04	-	G	3a	No	1.5	1-3/4	1-3/4	3-1/4	SS	A2B	
377T	58	1-2	230	3-5 Taps	(3-4) 133 (4-5) 74	1.02 0.515	-	G	4e	Yes	11	4-5/8	4-7/16	4-3/8	SS	A2B	
366A	60	4-250 Taps	199/ 218/ 237	1-3 Tap	94/132	4.2/ 7.8	-	G	4b	No	32	6-11/16	5-29/32	6-17/32	SS	A2B	
2027A	60	1-3 Tap	230	4-5	89.7 or 122.8	0.65-0.75	-	G	-	Yes	3.25	3-3/8	3	2-9/16	SS	A3V	Winding projects through panel
363D	50-60	4-250 Taps	210/ 230/ 250	1-3	120	7.1	2	G	4a	Yes	45	7-13/32	6-11/16	6-13/32	SS	A2B	
360AG	50-60	1-2 3-4 Connected in series	115/ 230	5-6	110	0.9	-	G	2a	No	6.25	4-11/32	3-1/16	3-3/4	SS	A2B See Re-marks	Primaries connected in series or parallel. Moisture resistant

SS - Single Side SSF - Single Side Flanged

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
360T	50-60	1-2 3-4 Connected in series	115/ 230	5-6	110	0.9	-	G	2a	No	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	Primaries connected in series or parallel
2024B	60	1-3 Tap	230	4-5	88 or 107	0.269	-	G	-	Yes	3.75	3	2-9/16	3	SS	A3V	Winding projects through panel
368A	50-60	Rd-Gn Taps	100/ 110/ 120/ 210/ 220/ 230/ 240	GnWh-Or Taps	90	0.01	-	G	5b	No	1.75	2-1/2	1-11/16	3-7/16	SS	A2B	
2015A	60	1-2	210	3-4	79	67	-	G	-	No	120	10-1/4	9	8-1/2	-	A3V	
364K	60	1-5 Taps	200/ 210/ 220/ 230/ 240/ 250	6-8 Tap	65/71	0.22	-	G	5a	No	2.0	3-9/32	1-11/16	3-7/16	SS	A2B	
360K	60	1-4 Taps	210/ 230/ 250	5-8 Taps	60/65/70	1.0	-	42	2a	Yes	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	
413B	60	1-3 Tap	218	4-6 Tap	47/53	49	-	250	9d	No	75	9	8-3/8	8-1/4	-	A3V	
382B	50-60	RdBl-RdBr Tap	200/ 230	Rd-Br Taps	49.2	0.70	-	G	-	No	2.5	2-3/4	2-1/2	3-3/16	-	A3V	
2000C	50-60	RdBl-RdBr	220	Rd-GnWh Taps	29-38	1.4	-	100	-	No	5.75	3-5/8	3	4-1/4	-	A3V	
2026C	60	1-3 Tap	230	4-6	26.8 or 31.2	1.27	5	G	-	Yes	6.0	4-1/8	3-7/16	3-1/4	SS	A3V	Winding projects through panel

SS - Single Side

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
377K	50-60	1-2	115	3-7 or (4-6)	930 890	0.164 0.176	5	650	4e	Yes	11	4-5/8	4-7/16	4-3/8	SS	A2B	
				8-9	120	0.004	-	G									
377G	50-60	1-2	115	3-5	550	0.305	4	G	4e	Yes	11	4-5/8	4-7/16	4-3/8	SS	A2B	
				6-7	120	0.004	-	G									
360AF	60	1-2	120	3-4	168	0.2	-	G	2a	Yes	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	
				5-6	76	0.2	-	G									

SS - Single Side

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
2021A	60	1-3	230	4-13 Taps	700-2200	1.5	-	G	-	Yes	350	15-3/4	13	15-3/4	-	A1L	To be operated at not more than 1500 volts between terminals 13 and 14.
		Tap		14-23 Taps	700-2200	1.5	-	See Remarks G See Remarks									
2002B	60	1-3	230	4-10 Taps	100-1400	1.7	-	G	-	Yes	200	16-1/4	11	16	-	A3V	
		Tap		11-17 Taps	100-1400	1.7	-	G									
2014A	60	1-4	230	5-10 Taps	200/269/ 362/485/ 650	1.5	-	G	-	No	110	15	11	11-1/2	-	A3V	1330 peak volts between secondary windings
		Taps		11-16 Taps	200/269/ 362/485/ 650	1.5	-	See Remarks G									
415P	60	1-5 Taps	206/ 220/ 230/ 240	6-7	150	0.125	-	G	8a	Yes	3.75	3	2-7/8	3-3/4	SS	A2B	
				8-9	28	0.250	-	G									
361G	50-60	Rd-RdWh	230	Bl-BlWh	100	0.01	-	240	3a	Yes	1.5	1-3/4	1-3/4	3-1/4	SS	A2B	
				Gn-GnWh	80	0.015	-	270									

SS - Single Side

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
392A	60	1-4 Taps	115/ 120/ 125	5-6 7-8 9-13 Taps	75 75 234	0.425 0.212 0.82	- - -	G G G	4f	Yes	24	6-11/16	5-3/16	6-1/2	SS	A2B	

SS - Single Side

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
358G	60	1-5 Taps	200/ 210/ 220/ 230/ 240/ 250	6-7	700	0.50	-	G	1c	No	75	9	8-7/8	8-3/4	SS	A2B See Re-marks	End housings. By various arrange-ments of secondary windings and taps, voltages from 70 to 2800 volts may be obtained
				8-13 Taps	700	0.50	-	G									
				14-19 Taps	700	0.50	-	G									
				20-21	700	0.50	-	G									

SS - Single Side

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
2020A	50-60	3-5 Taps	270	6-7	755	0.3	-	6500	-	Yes	14.6	4-11/16	4-3/32	6-1/2	SS	A1L	
360AH	60	1-2	85	3-5 Tap	247/260	0.4	-	G	2a	Yes	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	
373M	60	1-2	20	3-6 Taps	250/230/210	0.034/0.031/0.028	-	G	6a	Yes	1,0	1-11/16	1-11/16	3-9/16	SS	A2B	
2018A	60	7-250 Taps	230/240/250/260/270/280	1-6 Taps	191/201/214/220/230	24	-	G	-	No	166	13-1/2	9	9-3/16	SS	A3V	
360W	55-65	1-4 Taps	19/21	5-8 Taps	165/175	0.015	-	600	2a	Yes	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	
361B	50-60	Rd-RdWh	75	Bl-Gn	150	0.0015	BlWh	G	3a	No	1.5	1-3/4	1-3/4	3-1/4	SS	A2B	
365A	60	4-230 Tap	276/290	1-3	148	21	2	G	1d	Yes	100	9	9-7/8	8-3/4	SS	A2B See Re-marks	End housings
419B	60	1-4 Taps	39/44/48	5-6	126	0.4/0.45/0.5	-	G	8c	Yes	14.5	4-3/8	4-1/4	5-29/32	SS	A2B	
419E	60	1-4 Taps	75/82/90	5-6	115	0.9/1.0/1.1	-	G See Remarks	8c	Yes	14.5	4-3/8	4-1/4	5-29/32	SS	A2B	1-4 not more than 2850V peak to ground
419C	60	1-4 Taps	75/82/90	5-6	115	0.9/1.0/1.1	-	G See Remarks	8c	Yes	14.5	4-3/8	4-1/4	5-29/32	SS	A2B	1-4 not more than 710V peak to ground
367E	60	1-4 2 Con-nected to 3	145	5-14 Taps	115	0.5	-	G	4c	Yes	8.75	4-5/8	3-7/16	4-3/8	SS	A2B	
358F	60	4-250 Taps	320/350/380	1-3	92	21	2	G	1c	Yes	80	9	8-7/8	8-3/4	SS	A2B See Re-marks	End housings
360AE	60	1-2	22.6	3-8 Taps	49.5-57.5	0.5-0.58	-	700	2a	Yes	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	

SS - Single Side

Design-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
414C	60	1-2	133	3-6 Taps	52.5/ 53.5/ 55/ 56	19.6	-	G	-	No	40	8	7	5-3/16	-	A3V	
377Y	60	1-2	85	3-7 Taps	348/406/ 464/487	0.055	-	G	4e	Yes	11	4-5/8	4-7/16	4-3/8	SS	A2B	
				8-13 Taps	576/634/ 691/749/ 786	0.075	-	G									
415L	60	1-2	85	3-6 Taps	535/510/ 487	0.027	-	G	8a	Yes	3.75	3	2-7/8	3-3/4	SS	A2B	
				7-8	360	0.020	-	400									
352AT	60	1-4 Taps	40/ 60/ 80	5-6	300	0.1	-	G	-	No	8.5	5-1/2	3-9/16	4-19/32	SSF	A2B	
				7-8	300	0.1	-	G									
				9-10	300	0.1	-	G									
				11-12	300	0.1	-	G									

SS - Single Side SSF - Single Side Flanged

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
355A	60	1-2	4000	3-4	4000	See Re-marks	-	G	-	No	140	13-3/8	10-5/8	17-1/2	-	A2B	Neutralizing trans-former for outdoor mounting
				5-6	4000	See Re-marks	-	G									
356A	60	1-2	4000	3-4	4000	See Re-marks	-	G	1b	No	90	9	10-7/8	8-3/4	-	A2B	Neutralizing trans-former for indoor mounting. End housings
				5-6	4000	See Re-marks	-	G									
362C	60	1-2	2000	3-4	2000	See Re-marks	-	G	-	No	36	7-7/8	6-5/8	6-11/16	SSF	A2B	Neutralizing trans-former
				5-6	2000	See Re-marks	-	G									
415J	60	1-2 3-4	See Re-marks	5-6	130	0.037	-	350	8a	No	3.75	3	2-7/8	3-3/4	SS	A2B	Each transformer at 4.5 amperes RMS. Metering transformer
377N	60	1-2	4500	3-4	45	0.0173	-	G	4e	Yes	11	4-5/8	4-7/16	4-3/8	SS	A2B	Metering transformer
367D	60	1-2	2800	3-4	28	0.036	-	G	4c	Yes	7.25	4-5/8	3-7/16	4-3/8	SS	A2B	Metering transformer
415E	60	1-2	See Re-marks	3-4	See Re-marks	-	-	G	8a	Yes	3.75	3	2-7/8	3-3/4	SS	A2B	Primary at 1.6 amperes RMS. Metering trans-former
360AK	60 Square wave	1-3 4-6 Taps	20	7-10 Taps	90 & 12.5	0.002	-	G	2a	Yes	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	One half cycle applied alternately to 1-2 & 4-5
418A	240-800	1-2	63	3-4	198	0.008	-	G	8b	No	2.0	1-7/8	1-7/8	3-9/16	SS	A2B	1-2 not more than 190V peak to ground
415D	120-500	1-2	105	3-4	165	0.1	-	325	8a	No	3.75	3	2-7/8	3-3/4	SS	A2B	
364E	540-600	1-2 Tap	12	3-6 Taps	2.62-5.25	See Re-marks	-	G	5a	No	2.0	3-9/32	1-11/16	3-7/16	SS	A2B	Maximum-100 Milli-watts power output
364M	600&Tones	1-3	3.0	1-2	0.470	0.21	-	G	5a	No	2.0	3-9/32	1-11/16	3-7/16	SS	A2B	Autotransformer
367P	Low Tone	1A-3 Taps	3.1	4-8 Taps	10	0.2	-	G	4c	No	8.75	4-5/8	3-7/16	4-3/8	SS	A2B	
364J	160 See Re-marks	1-2	15-20	3-4	4-5	5.0 Inter-mittent	-	G	5a	No	1.75	3-9/32	1-11/16	3-7/16	SS	A2B	Interruptions per second

SS - Single Side SSF - Single Side Flanged

Desig-nation	Frequency	Primary		Secondary			Ctr Tap	Operating Volts Peak to Ground	Fig.	Elect Shld	Wt. Lbs	Dimensions - inches			Mtg	Cate-gory	Remarks
		Wdg	Volts	Wdg	Volts	Amps						Length	Width	Height			
304A	100 See Re-marks	1-2	17.5	3-4	7.5	0.05	-	G	5a	No	1.75	3-9/32	1-11/16	3-7/16	SS	A2B	Interruptions per second
344H	100 See Re-marks	6-7	15-20	1-5 Taps	0.3-1.6	0.5-0.666	-	G	-	No	3.5	3-13/32	2-9/16	3-7/16	SS	A2B	Interruptions per second
344F	160 See Re-marks	3-4	15-20	1-2	0.3-0.4	5.0	-	G	-	No	3.5	3-13/32	2-9/16	3-7/16	SS	A2B	Interruptions per second
360Y	18-20	1-2	88	3-6 Taps	155/160/ 165/170	0.03	-	530	2a	Yes	6.25	4-11/32	3-1/16	3-3/4	SS	A2B	
399A	20	1-2	84-88	3-4	94-101	0-0.2	-	G	4g	Yes	15	5-3/16	4-5/8	4-3/8	SS	A2B	
307F	20	1-3 Tap	84-88	4-5	94-101	0-0.05	-	G	4c	Yes	8.75	4-5/8	3-7/16	4-3/8	SS	A2B	
373J	40	2-5	18	8-11	6.0	0.0035	-	350	6a	No	1.0	1-11/16	1-11/16	3-9/16	SS	A2B	
373C	50-60	1-2 See Re-marks	85	5-7 10-12	90 500	0.01 0.009	6 8	200 G	6a	No	1.0	1-11/16	1-11/16	3-9/16	SS	A2B	Primary also supplies 100V, 0.001 amperes and 200V, 0.005 amperes to trans. loads
2003A	60	1-2	3.2	3-4	3.2	0.4	-	G	-	No	4.5	4-3/16	2-9/16	4-5/32	SS	A2B	For use in a pro-tector circuit
403B	60	1-2 3-4	See Re-marks	5-10 Taps 11-13	See Re-marks See Re-marks	- -	- 12	G G	-	No	19	6-1/4	5-5/16	6-1/32	-	A3V	Used in bridge circuit with 340A retard coil
2017A	60	1-7 Taps	220 3 phase	8-9	52.3-59.2 See Re-marks	97.5	-	G	-	No	350	18	10-5/8	16-3/4	-	A3V	Adjusted by means of primary taps

SS - Single Side

DESIGNATION	POWER INPUT			DC CONTROL			WEIGHT POUNDS	DIMENSIONS - INCHES			MTG.	CATE-GORY	FUNCTION	REMARKS
	FREQ.	WINDING	VOLTS	WINDING	MAX. DC RESIST. (OHMS)	OPERATING VOLTS PEAK TO GROUND		LENGTH	WIDTH	HEIGHT				
329A Inductor	60	(1-2)(3-4) in parallel	327	(5-6)	0.191	75	100	12-1/2	8-1/4	8-1/2	SS	A3V	Regulating	
342A Inductor	60	(1-2)(5-6) in parallel	260	(3-4)	21	350	30	8-3/4	5-1/2	6-13/16	-	A3V	Regulating	
337A Inductor	60	(1-2)(5-6) in parallel	260	(3-4)	30	200	50	8-3/4	8	6-13/16	-	A3V	Regulating	
1012A Inductor	60	(1-2)	145	(3-4)	8600	3300	13	4-11/16	4-3/32	6-1/2	SS	A1L	Regulating	
340A Inductor	60	(1-2)(5-6) in parallel	100	(3-4)	1847	100	17	8-3/8	4-1/4	5-3/16	-	A3V	Regulating	
337B Inductor	60	(1-2)(3-4) in parallel	62	(5-6)	470	200	50	8-3/4	8	6-13/16	-	A3V	Regulating	
329B Inductor	60	(1-2)(3-4) in parallel	41	(5-6) (7-8)	0.191 14.2	G	100	12-1/2	8-1/4	8-1/2	-	A3V	Self saturating	
295A Inductor	60	(1-3)(4-6) in parallel	30	(7-8)	4800	G	9.0	3-7/8	3-3/4	5-1/2	SS	A2B	Regulating	
375A Transformer	60	(1-2)(5-9) in series	100	(3-4) (10-11) in series	65	G	6.75	5-7/8	2-5/8	4-3/16	-	A3V	Regulating	
402A Transformer	60	(1-2)	86	(11-12) (6-10)	9.5 0.05	G	28	7-3/8	5-3/16	6-1/16	SS	A3V	Self saturating	(3-5) output = 38V 10 amps
406A Transformer	60	(1-2)	60	(6-12) (13-14)	0.165 17.1	G	12	5-1/16	4-7/8	4-1/8	SS	A3V	Regulating	(3-5) output = 30.5V 3.4 amps
1A Magnetic Amplifier	45-64	(1-2)	25 to 40	(3-4) (5-6)	2.2 0.46	- 5000	2.75	4-3/4	2-7/16	4-5/16	SS	A1L	Metering	Winding (3-4) for test
2A Magnetic Amplifier	45-64	(1-2)	25 to 40	(3-4) (5-6)	2.2 3800	- 3200	3.75	4-3/4	2-7/16	4-5/16	SS	A1L	Metering	Winding (3-4) for test
3A Magnetic Amplifier	57-63	(1-2)	105 to 129	(4-5) (6-2)	10k-30k 2700-3600	-	13	6	5-1/2	5-5/8	SS	A2V	Regulating	Load-4.5 amps 85 volts pf=.9 lagging

SS - Single Side

DESIGNATION	POWER INPUT			DC CONTROL			WEIGHT POUNDS	DIMENSIONS - INCHES			MTG.	CATE-GORY	FUNCTION	REMARKS
	FREQ.	WINDING	VOLTS	WINDING	MAX. DC RESIST. (OHMS)	OPERATING VOLTS PEAK TO GROUND		LENGTH	WIDTH	HEIGHT				
4A Magnetic Amplifier	57-63	(1-2)	218-242	(4-5)	15000	-	5.0	5	3-25/32	4-5/16	SS	A2V	Regulating	Load-0.8 amps 190 Volts c-terminated rectifier
5A Magnetic Amplifier	60	(1-2)	70	(3-4) (7-8)	24 145	-	0.75	2	2	2-1/2	SS	A2B	Switching	bi-state amplifier works with 6A or 6B
6A Magnetic Amplifier	55-65	(1-2)	10±1	(3-4)	1950	2600	1.0	2-1/16	2-1/16	2-7/8	SS	A1L	Metering	
6B Magnetic Amplifier	55-65	(1-2)	10±1	(3-4)	15	1200	1.0	2-1/16	2-1/16	2-7/8	SS	A1L	Metering	
7A Magnetic Amplifier	18kc-20kc	(1-2)	Square wave 105V peak	+(3-4) -(5-4)	6.5 1000	- -	0.75	2	2	2-1/2	SS	A2B	Switching	
153A Regulator	60	(1-2) (3-4) in parallel	45-80	(15-16) shunt (9-14) series	54 1.25	- -	4.88	4-15/16	2-7/8	3-17/32	-	A3V	Regulating	
155A Regulator	60	(1-2)	95-110	3-4	45	-	1.5	1-3/4	3-15/16	2-3/4	-	A3V	Regulating	

SS - Single Side

CODE	INPUT CHARACTERISTICS				OUTPUT CHARACTERISTICS			WT.	DIMENSIONS - INCHES	CATE-GORY	REMARKS
	FREQ-CPS	TERMINALS	VOLTAGE	MAX. AMPS.	TERMINALS	*VOLTAGE	AMPERES	LBS.			
150A	60	(1-2)	105-125	6.0	(3-4)	115±2 Regulated to ±1.5% for input voltage at fixed load.	4.4 at .20 p.f. lag to 6.0 at .70 p.f. lag	55	23 x 5-7/32 x 6-1/16 deep behind panel & 1-1/8 deep in front of panel.	A3V	Designed for use in J86243A Regulated Rectifier.
151A	60	(1-2)	105-125	3.3	(3-4)	115±2.5 Regulated to ±1% for input voltage at fixed load.	2.2 at .15 p.f. lag to 2.9 at .45 p.f. lag	32	19 x 5-7/32 x 4-3/4 deep behind panel & 1-1/8 deep in front of panel.	A3V	Designed for use in J86242A Regulated Rectifier.
152A	57-62	(L1-L2)	90-120	1.5	(AC-G)	61-62 Regulated to ±3% for input voltage at fixed load and frequency.	1.3 at .45 p.f. lead to .28 at .99 p.f. lag	33	23 x 3-15/32 x 3-1/16 deep behind panel & 5-1/4 deep in front of panel.	A2V	Output voltage adjustable by screw. Primarily intended for amplifier filament supply in 420A Power Plant.
156A	57-63	(1-2)	117±12	8.0	(4-6)	117±2 Regulated to ±0.5% for input voltage at fixed load and freq.; to ±2% for freq. at fixed load and input voltage; to ±3% for load at nominal freq. and line voltage.	1.7 at .655 p.f. lag to 6.4 at .85 p.f. lag	175	19 x 13-13/32 x 4-7/8 deep behind panel & 5-3/8 deep in front of panel.	A3V	Output voltage adjustable by 2 screws. Primarily intended for use as a regulated source of power in the J86268A A-C Line Regulator Circuit. Tap 5 is used for testing purposes only.
		Or (1-3)	230±25	4.1	Or (4-7)	230±1 Regulated to ±1% for input voltage at fixed load and freq.; to ± 2.5% for freq. at fixed load and input voltage; to ±2% for load at nominal freq. and line voltage.	.9 at .655 p.f. lag to 3.3 at .85 p.f. lag				
157A	60	(1-2)	105-125	5.0	(3-4)	113.2-118 Regulated to ±1% for input voltage at fixed load.	.5 at .70 p.f. lag to 4.2 at at .80 p.f. lag	55	19 x 6-1/8 x 6-1/8 deep behind panel & 7/8 deep in front of panel.	A3V	Primarily intended for use as a line voltage regulating feature in the J86459A Power Supply.
158A	60	(X1-X2)	105-125	2.2	(1-2)	10.25-11.0 Regulated to ±2% for input voltage at fixed load; to ±5% for load and input voltage.	0-17 unity p.f.	11.5	4-7/16 x 7-7/8 x 8-1/4	A3V	Primarily intended for use as a regulated supply for lamps in the 1A Key Telephone System.
159A	60	(1-2)	190-240	0.2	(3-5) (6-7) (8-9)	484 6.3 6.3 Regulated to ±0.5% for line voltage at fixed load; to ±3% for load at nominal line.	.017 at .90 p.f. lag. 1.15)Unity 2.4)p.f.	7	4-3/8 x 4-7/8 x 6-5/8	A2V	Primarily intended for use in the J86239C Rectifier. 4 is center tap of (3-5)

* Output voltage tolerances are for nominal input voltage and frequency over given load range, unless otherwise specified. RMS voltages unless otherwise specified.

CODE	INPUT CHARACTERISTICS				OUTPUT CHARACTERISTICS			WT.	DIMENSIONS - INCHES	CATE-GORY	REMARKS
	FREQ-CPS	TERMINALS	VOLTAGE	MAX. AMPS.	TERMINALS	*VOLTAGE	AMPERES	LBS.			
159B	60	(1-2)	105-129	0.6	(3-4) (5-6) (7-8)	67±1% 28.5±1% 8.4±1% Regulated to ±2.3% for all variables.	.025-.525 .100-.220 .006 Unity p.f.	7	4-3/8 x 4-7/8 x 6-5/8	A2V	Primarily intended for use as a line regulating feature in the J22652A Line Concentrator Summarizer for No. 5 Crossbar.
160A	60	(1-2)	105-125	6.0	(3-4-5)	51.6-52.6 D-C For all variables.	0-7.5 D-C (See Note 1)	43	16-9/16 x 6-3/16 x 6-1/4	A3V	3 Phase Regulated Rectifier Supply. Used in J86281 Regulated Rectifier as the load compensating and line voltage regulating feature.
161A	44-64	(1-2)	207-253	1.0	(3-2)	230±1% For all variables.	0.80 0.9 p.f. lag	11	7 x 4-13/16 x 5-7/16	A2V	Designed for use in Terminating Equipment Hawaiian Submarine Cable.
162A	60	(1-2)	105-129	2.1	(4-6) Or (3-7) (8-9) (10-11)	42±1% Or 55±1% 10.5±1% 18±1% Regulated to ±3% for all variables.	0-2 Or 0-4 0-5 0-1.6 .88 p.f. lag	15	10 x 6-9/32 x 6-7/8	A3V	5 is center tap of (4-6) and (3-7). Use in J86471 Power Plant.
103A Current Supply Set	58.8-61.2	(L1-L2)	105-125	2.8	(AC-G)	5.8-6.6 Regulated to ±1.5% for line voltage at fixed load and freq.	2.5-12 Unity p.f.	35	19 x 3-15/32 x 7-15/32 deep behind panel & 5 deep in front of panel	A2V	Output voltage adjustable by screw. Primarily intended as a regulated filament supply for the 3A amplifier detector in Type "L" Carrier Telephone Systems.
104A Current Supply Set	55-65	(1-2)	6.2-7.0	0.30	(3-4)	3.6-4.0 Regulated to 1% for input voltage at fixed load and freq.; to ±3% for freq. at fixed load and input voltage.	.010-.050	2	5-1/4 x 3-3/4 x 1-3/4	A2V	Primarily intended to provide regulated thermistor heater current to control amplifier gain in Type "L1" Carrier Telephone Manual Regulator Unit.

Note 1 - Output voltages tolerances and current are given in terms of the output of the 3 phase rectifier and filter circuit supplied by the regulator.

* Output voltage tolerances are for nominal input voltage and frequency over given load range, unless otherwise specified. RMS voltages unless otherwise specified.

CODE	INPUT CHARACTERISTICS				OUTPUT CHARACTERISTICS				WT. LBS.	DIMENSIONS - INCHES	CATE-GORY	REMARKS
	FREQ-CPS	TERMINALS	VOLTAGE	MAX. AMPS.	TERMINALS	VOLTAGE	FREQ-CPS	RATED POWER MILLI-WATTS				
101A	60	(Cord & Plug)	105-125	0.28	(1-2) (3-4) (5-6)	4.6-13.0) 0.6-1.9) 15 D.C.	600/120	25	4.5	5-1/2 x 3-9/16 x 4-19/32	A2V	Primarily intended to produce dial and busy tone in 806 Type Ringing Power Plants for small community dial offices.
102A	60	(Cord & Plug)	105-125	0.28	(1-4)	4.95-5.2	540	60	5.25	5-1/2 x 4-5/16 x 4-19/32	A2V	Primarily intended to produce high tone for operators trunking and "Zip" tones in 806 Type Ringing Power Plants
103A	18-22	(1-3)	84-88	0.6	(2-3)	83-87	420/40	40	6.15	7-1/2 x 3-15/32 x 4-25/32	A2V	Primarily intended to supply audible ringing tone in the 805C Ringing Power Plant for No. 5 Crossbar Offices
104B	60	(Cord & Plug)	105-125	0.8	(1-4) (7-10) (11-12) (5-6)	0.85-2.0) 0.9-3.5) 12 D.C. Inter-rupter	600/120	500	19.5	23 x 3-15/32 x 5-3/4	A2V	Primarily intended to produce dial and busy tones in the 805C Ringing Power Plant for No. 5 Crossbar Offices
105A	60	(Cord & Plug)	105-125	0.8	(1-5) (6-7)	6.0-9.9 5.0 D.C.	540	900	20.5	23 x 3-15/32 x 5-29/32	A2V	Primarily intended to supply high tone in the 805C Ringing Power Plant for No. 5 Crossbar Offices
106A	18-1/3-20 500	(3-4) (1-2)	84-88 8.7-9.3	1.2 0.05	(4-5)	83-87	500/40	100	10	10-1/2 x 3-15/16 x 4-5/16	A2V	Primarily intended to supply audible ringing tone in the 804C Ringing Power Plant for crossbar, toll, manual and step-by-step offices
107B	60	(B1K-B1K)	105-125	0.5	(G-±)	75-100	20	(See Note 1)	9.7	7 x 7-7/8 x 3-7/8	A3V	Furnishes ringing power for 1A Key Telephone System and 101G Power Supply for subscriber's premises
107C	60	(B1K-B1K)	105-125	0.65	(Com-105) (Com-90) Chassis	75-105 75-90 Gnd	20	(See Note 2)	10.4	7 x 7-7/8 x 3-3/4	A3V	D.C. voltages may be applied between chassis and common terminals for special applications. Designed primarily to furnish ringing power for 6A Key Telephone System

Notes: 1 - Rated to handle 8 high impedance ringers without capacitors or 2 high impedance ringers with capacitors.
2 - Rated to handle 8 high impedance ringers without capacitors or 6 high impedance ringers with capacitors.