

Ep-100V  
Es-2800V.C.T. - 250ma

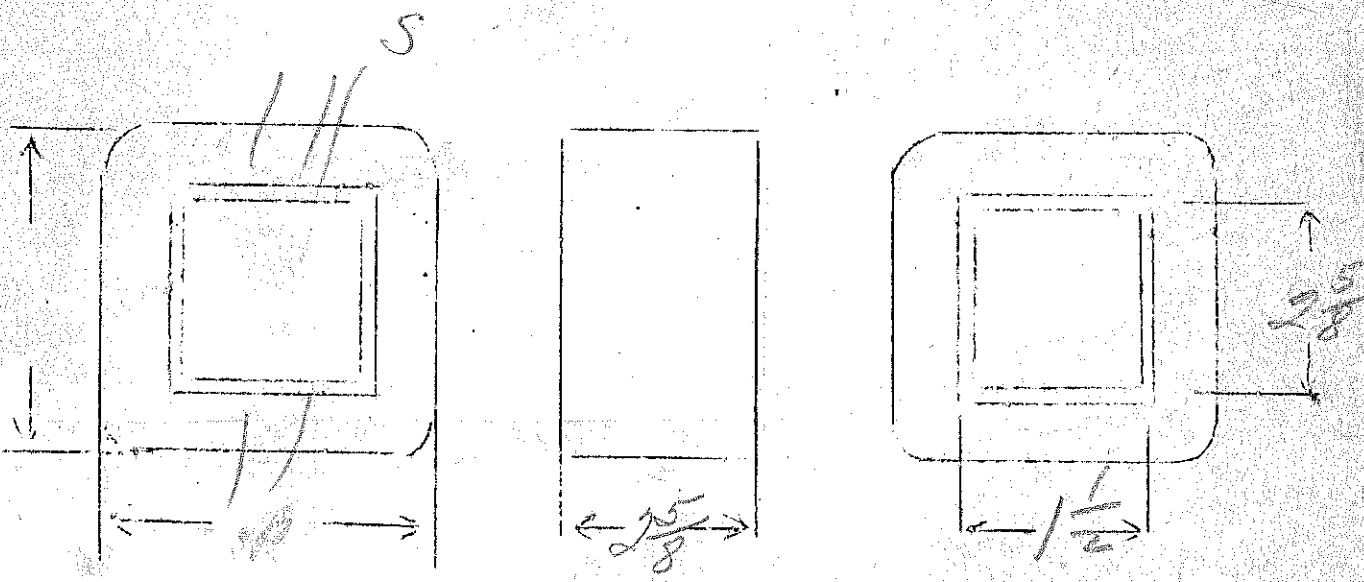
VA = 350 watts

15

SPEC. NO. 2200

Western Industrial

Winding	SEC	PRI				
Turns	4650	173				
Taps	2325					
Wind. Lgth.	2 <sup>3</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>8</sub>				
Wire Size	#28	double #19				
T.P.L.	167-38	62				
Kind Term.	WIRE ONLY					
Term. Lgth.	6"	6"				
Layer Insul.	double 30A	007 Kraft				
Wrapper	21007VE	21005BA				
TUBE	7L007+2100		IMPREGNATION		VARNISH	
CURE	1 1/2 x 2 5/8					



Pri to lugs  
Sec to bakelite panel

PRV. 115 PA 400  
SEC. 2200 Su Amp 250  
2200

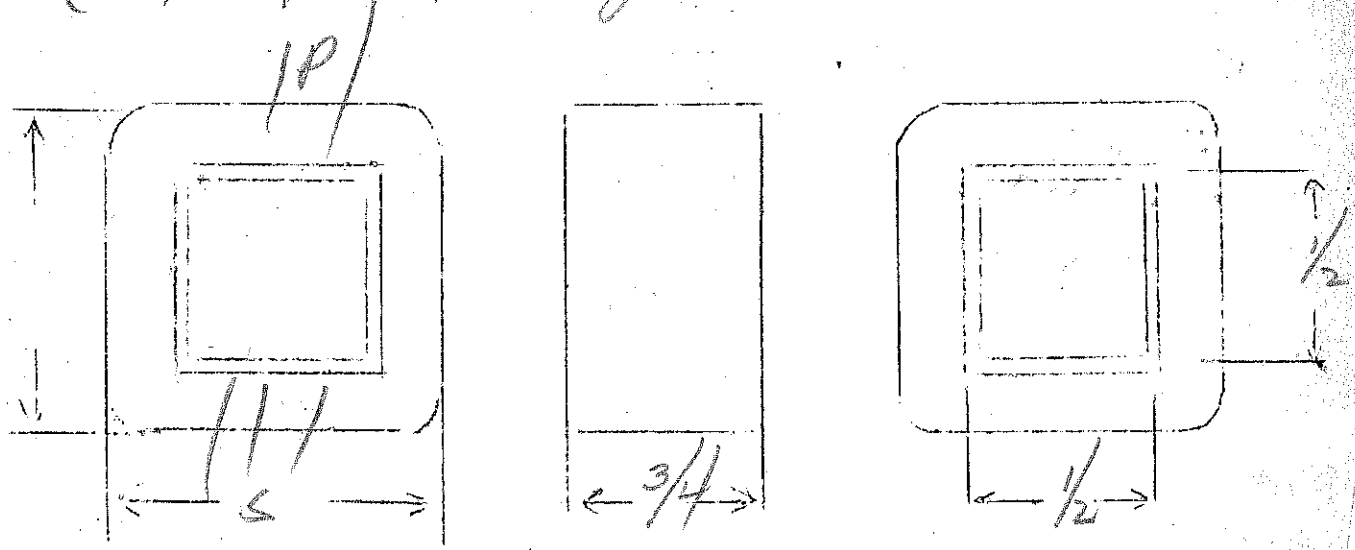
Ep - 115  
 Es - 6.3V - 3 amps

VA = 2.02 watts

SPEC. NO. 2201-D

Winding	PR1	SEC				
Turns	2560	170				
Taps	—	85				
Wind. Lgth.	5/8	5/8				
Wire Size	#38	#27				
T.P.L.	129-20	37-5				
Kind Term.	SIP <sub>3</sub>	W.O				
Term. Lgth.	3"	3"				
Layer Insul.	20#	40#				
Wrapper	2L005GA	2L005GA				
TUBE	52007		IMPREGNATION		VARNISH	
CURE	1 1/2 x 1/2 - 2 x 2					

(wrap in panel, not regular D panel)



Ep- 115V-500n

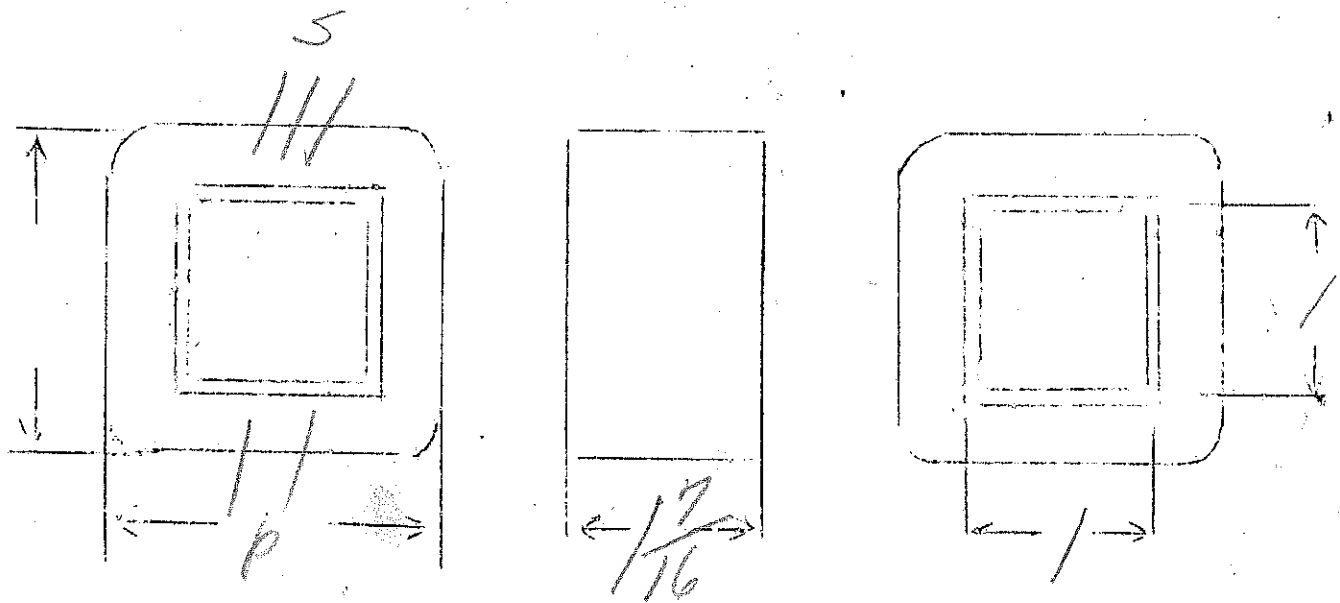
Es- 2200V-20ma (CT) - 44 watts

"F" mty

28

SPEC. NO. 2202

Winding	PRI	SEC				
Turns	322	6600				
Taps	—	3300				
Wind. Lgth.	1.25	.875				
Wire Size	#26	#38				
T.P.L.	66-5	183-36				
Kind Term.	WIRE ONLY	SILVER				
Term. Lgth.	3"	3"				
Layer Insul.	40#	double 16#				
Wrapper	2100TVC	2100TVC				
TUBE	72007		IMPREGNATION		VARNISH	
CURE	1X1					



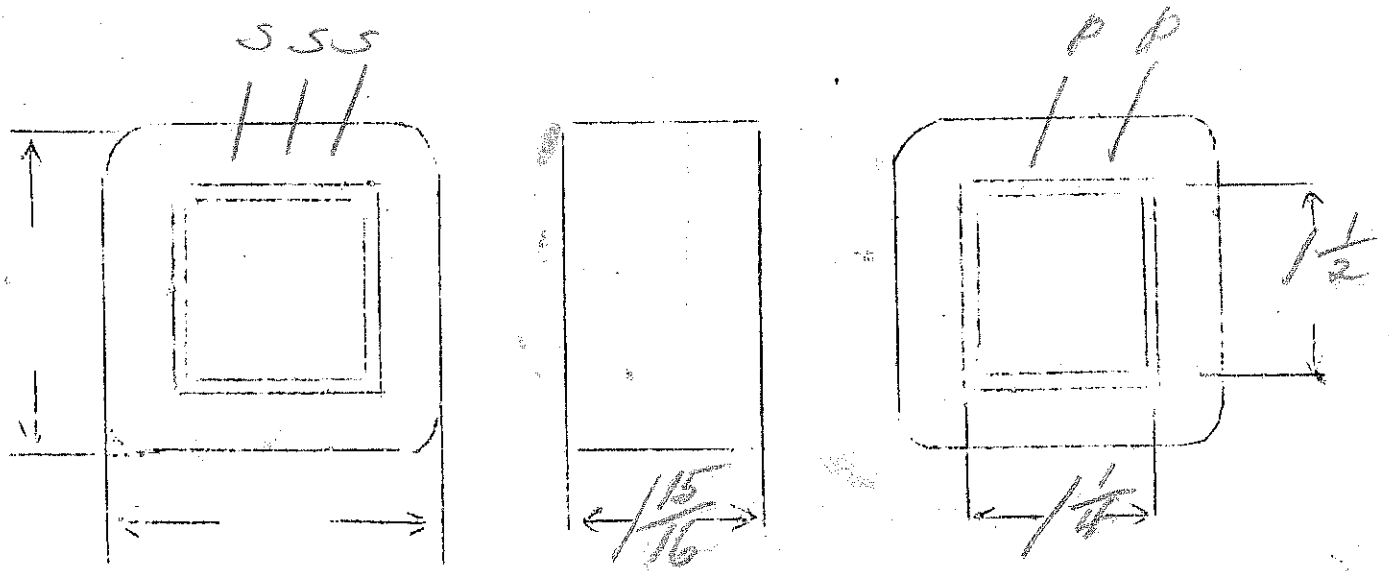
115-500  
CT  
2202

1100  
0  
CT  
1100

Ep - 115V - 500W  
 Es - 900VCT - 500 ma 225 watts

Fmtg N/E-154 SPEC. NO. 2203

Winding	SEC	PRI				
Turns	1480	178				
Taps	740	—				
Wind. Lgth.	1.75	1.75				
Wire Size	#26	#18				
T.P.L.	94-16	37-5				
Kind Term.	WIRE ONLY					
Term. Lgth.	3"	3"				
Layer Insul.	40#	005				
Wrapper	2L007VC 3L005GA	2L005GA				
TUBE	7L007+1L007VC		IMPREGNATION	VARNISH		
CURE	1/4 x 1/2					



450  
 0 0  
 CT 115  
 500CYL  
 0 0  
 450 0  
 0 2203

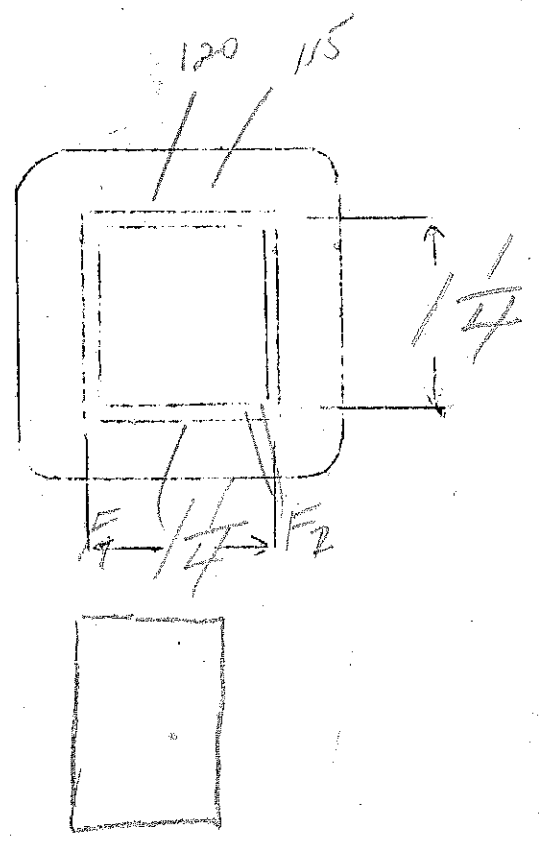
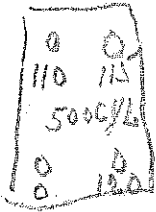
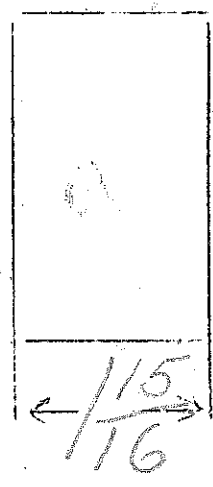
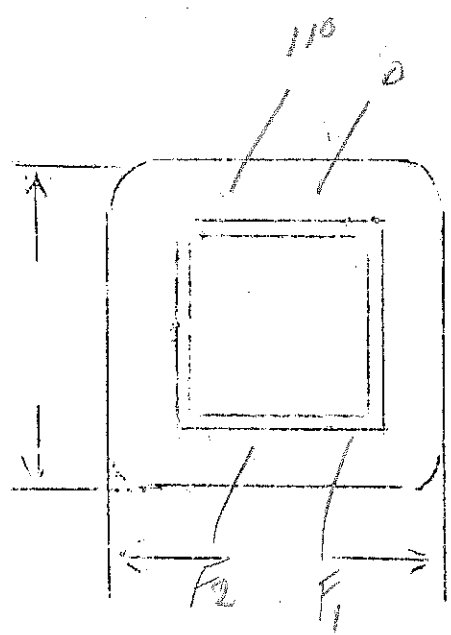
0 0  
 115  
 0 0  
 0 0  
 0 0

Ep # 110-115-120V-500W  
 Es - 2.5V-10 amp - 5000V Ins  
 Es - 10V-16amps  $N/E = 185$

VA = 185

SPEC. NO. 2204

Winding	PRI	F <sub>2</sub>	F <sub>1</sub>				
Turns	222	20	5				
Taps	213 204	10	-				
Wind. Lgth.	1.75	square					
Wire Size	#20	#13	#12				
T.P.L.	48-51	2L					
Kind Term.	WIPE ONLY						
Term. Lgth.	3"	3"	3"				
Layer Insul.		21007V	21007V				
Wrapper	21007G	21007G	21007G				
TUBE	72007			IMPREGNATION	VARNISH		
CURE	1/4 x 1/4						



Ep - 115V

Es - 750VCT. - 85MA

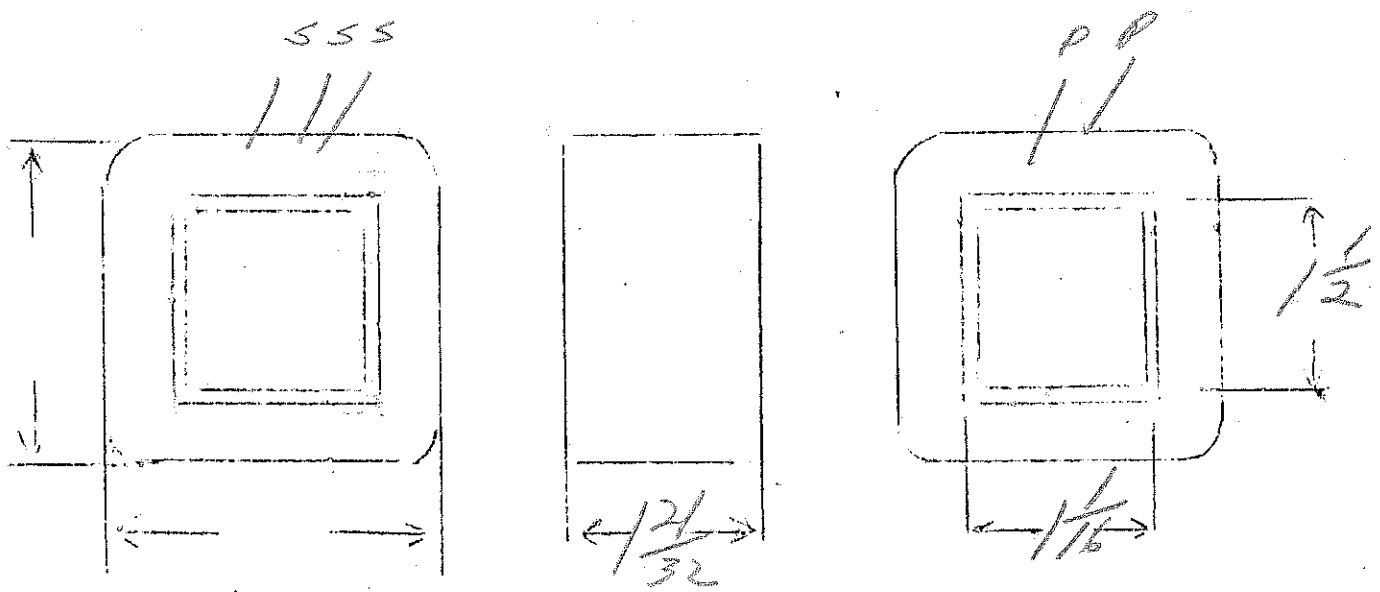
363

Ep - 6.3V - 3amp

Es - 5V - 3amp

SPEC. NO. 2205

Winding	SEC	SHIELD	PRI	F <sub>1</sub>	F <sub>2</sub>		
Turns	3000	190	418	25	20		
Taps	500			—	—		
Wind. Lgth.	$\frac{15}{32}$	$\frac{15}{32}$	$\frac{15}{34}$				
Wire Size	#34	#34	#23	#18	#18		
T.P.L.	190-16		58-7				
Kind Term.	#26 Par. Brand			WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	30#		50#				
Wrapper	2007VC	2007VC	2005GA	2005GA	2005GA		
TUBE	7L097			IMPREGNATION		VARNISH	
CURE	176X 1/2						



3000  
1500  
750  
300  
150

meter transformer

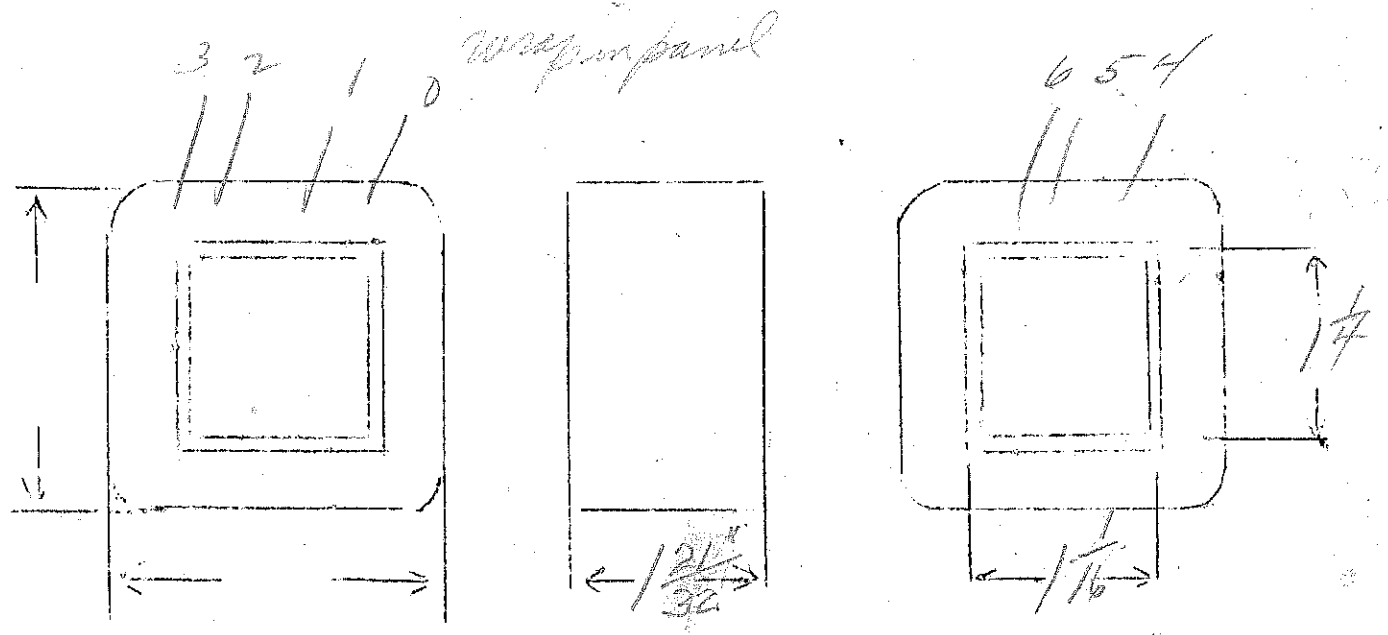
7500V Ins

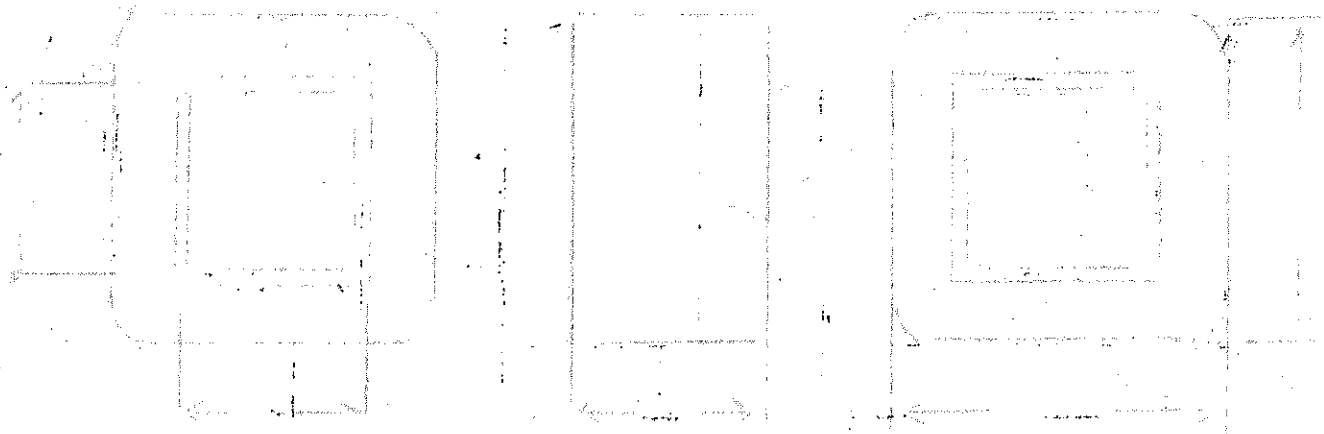
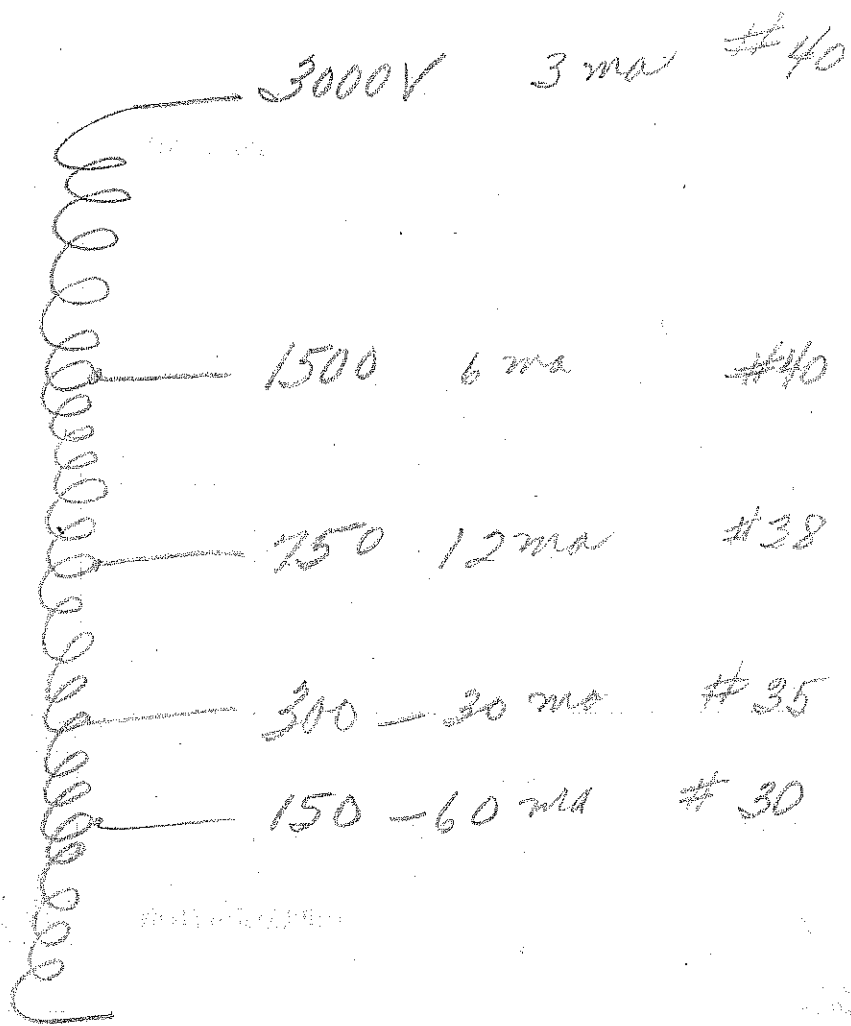
5.25

continuous

SPEC. NO. 2208

Winding						
Turns	820	755	2375	11800		
Taps				3940		
Wind. Lgth.	1"	1"	1"	1"		
Wire Size	#30	#35	#38	#40		
T.P.L.	82-10	151-5	208-12	280		
Kind Term.	silbr - finish as wound.					
Term. Lgth.	3"	3"	3"	3"		
Layer Insul.	30#	30-#1	double 16#	double 16#		
Wrapper				21007VC 210076A		
TUBE	72007+21007VC			IMPREGNATION	WAX	
CURE	1 1/2 x 1 1/4					

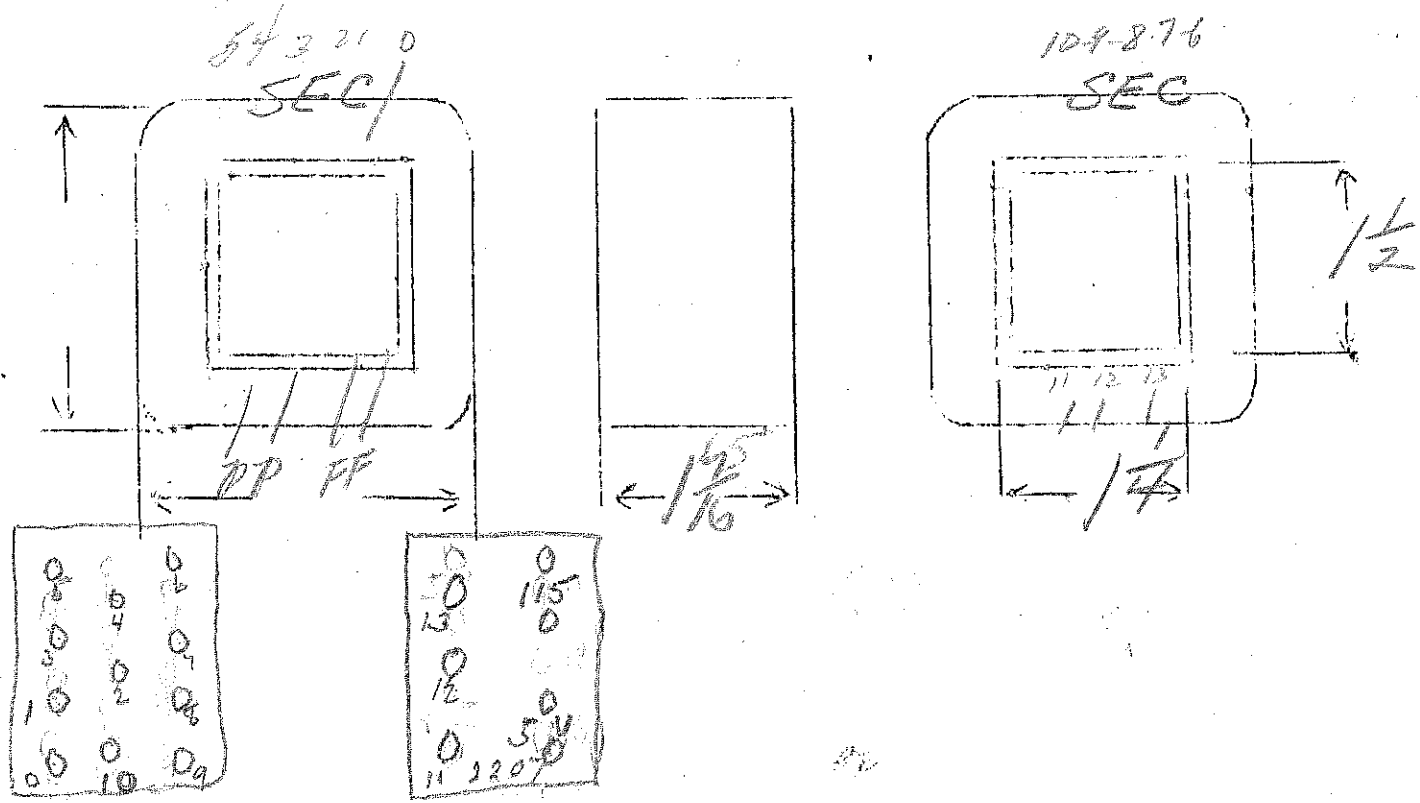






P-115V  
 5- 5V- 3amp  
 5- 350- 325- 300- 275- 250- 225  
 200- 175- 150- 100- 75- 50V- 1/4amp half wave  
 613- 525- 438- 350  
 44- 125- 32  
 SPEC. NO. 2207

Winding	SEC	PRI	FIL			
Turns	1230-1140-1050 965-875-790-700	368	18			
Taps	262-175					
Wind. Lgth.	1.75	1.75	1.75			
Wire Size	#28	#20	double #20			
T.P.L.	12L	8L				
Kind Term.	WIRE	ONLY				
Term. Lgth.	3"	3"	3"			
Layer Insul.	40#					
Wrapper	210076A	210076A	210076A			
TUBE	7L007	IMPREGNATION		VARNISH		
CURE	1 1/4 x 1 1/2					

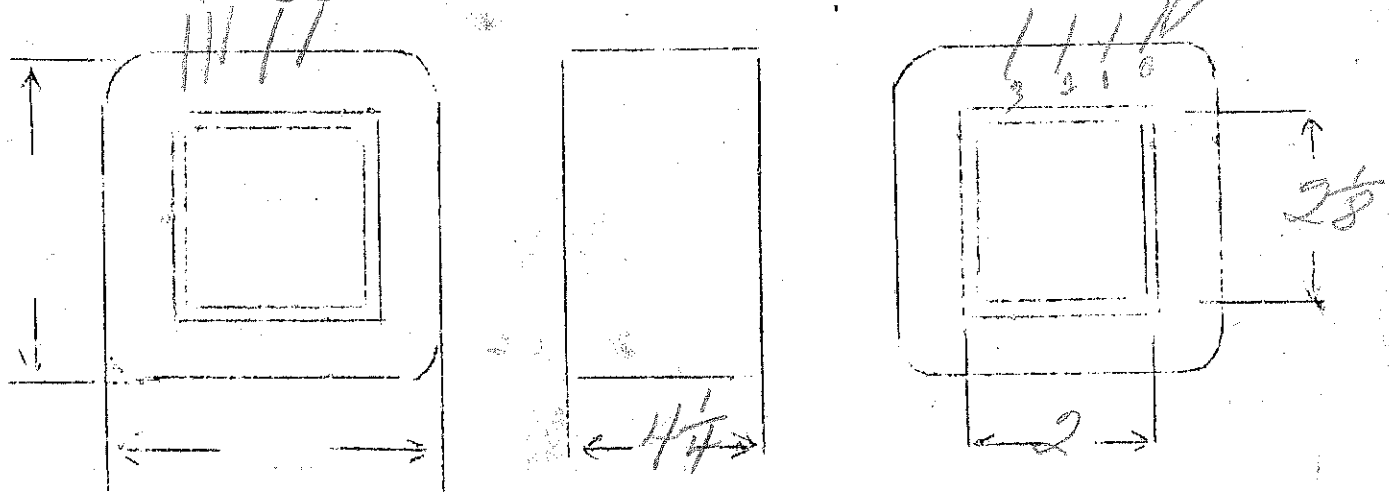


Ep- 105-112-120  
 E3- 2000V- top at 1500  
 Ef- 10.5V- 8amps CT

SPEC. NO. 2208

Winding	SEC	PRI	FIL			
Turns	3100	158	16			
Taps	2250	148	8	ground CT		
Wind. Lgth.	3 5/8	3 5/8				
Wire Size	#25	#11	#13			
T.P.L.	173-18	35-5				
Kind Term.	#70 Paral. W.	WIPE ONLY				
Term. Lgth.	9"	3"	18"			
Layer Insul.	double 40#	007 KRAFT				
Wrapper	31007V0 31005GA	31005GA	31005GA			
TUBE	10L007			IMPREGNATION	Varnish	
CURE	2x2 1/2					

ground start of sec and CT of filament



1/2" mtg

P- 50, 100, 200, 300V 75 watts

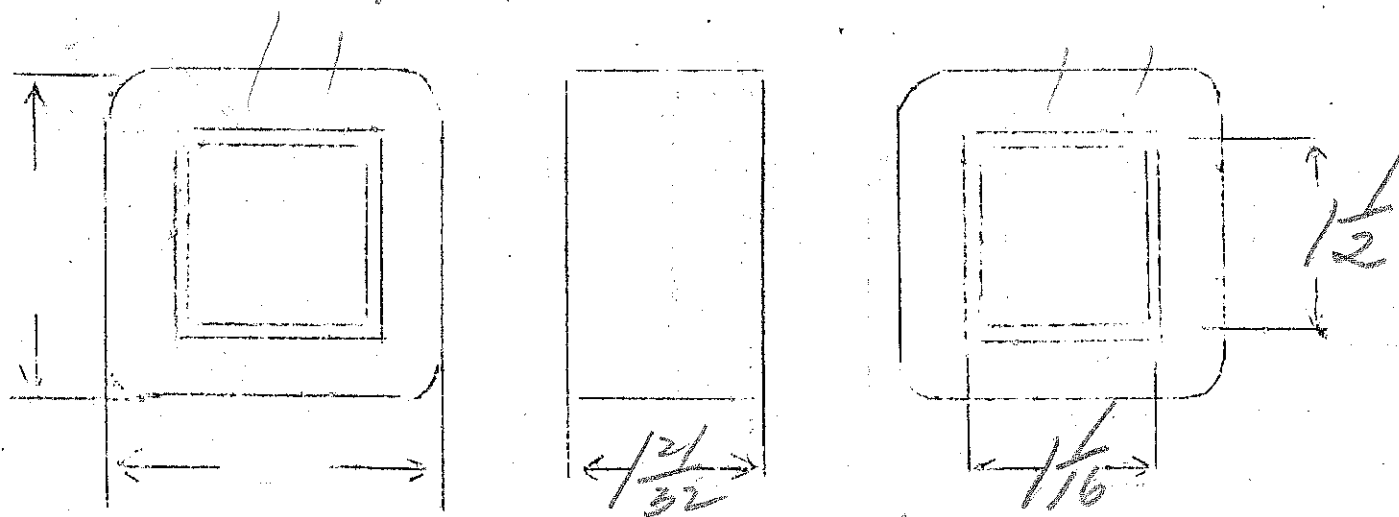
S- 200V- 120 cycles

N/E 2.9

SPEC. NO. 2209

	continuous					
Winding	SEC	SHIELD	PRI			
Turns	640	1	145	145	290	290
Taps	—		—	—	—	—
Wind. Lgth.	$1\frac{15}{32}$	$1\frac{15}{32}$	→			
Wire Size	26	Shun	20	24	26	28
T.P.L.	80-8	—	40-4	63-3	78-4	98-3
Kind Term.	#20 par. Bind	—	→			
Term. Lgth.	9	3	9	9	9	9
Layer Insul.	40#		double 40#	40#	40#	40#
Wrapper	L007VC	2005GA				2005GA
TUBE	7L007		IMPREGNATION		VARNISH	
CURE	$1\frac{1}{16} \times 1\frac{1}{2}$		26	28	28	28

Lead Positions not critical



PRI. START white  
BAL - BLACK

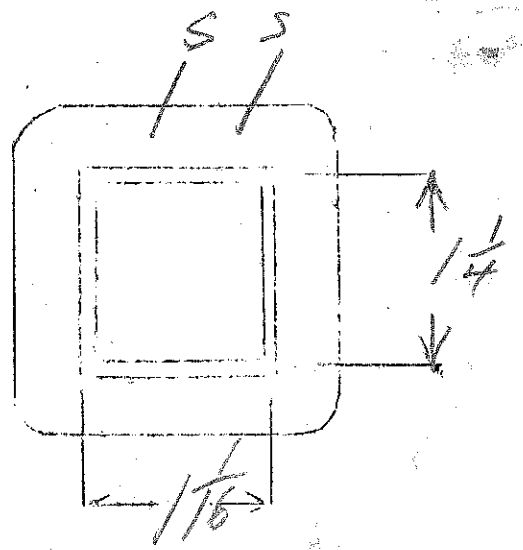
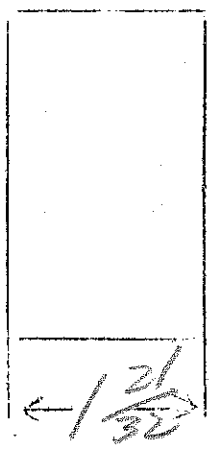
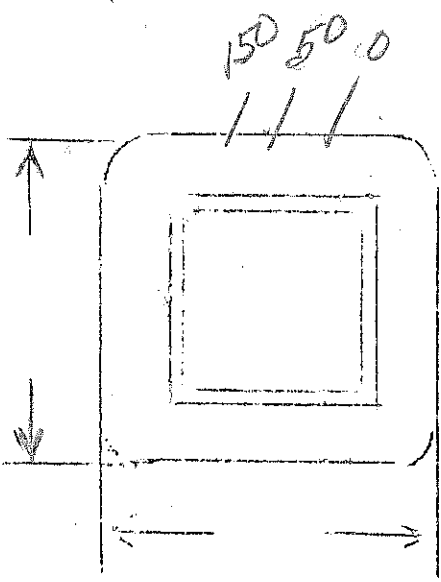
(unshield) Pri - 50, 150V - 120N (shield) - 50 watt  
 Sec - 25 volts - suspended 1/2" clearance overall

8" mtg

35

SPEC. NO. 2210

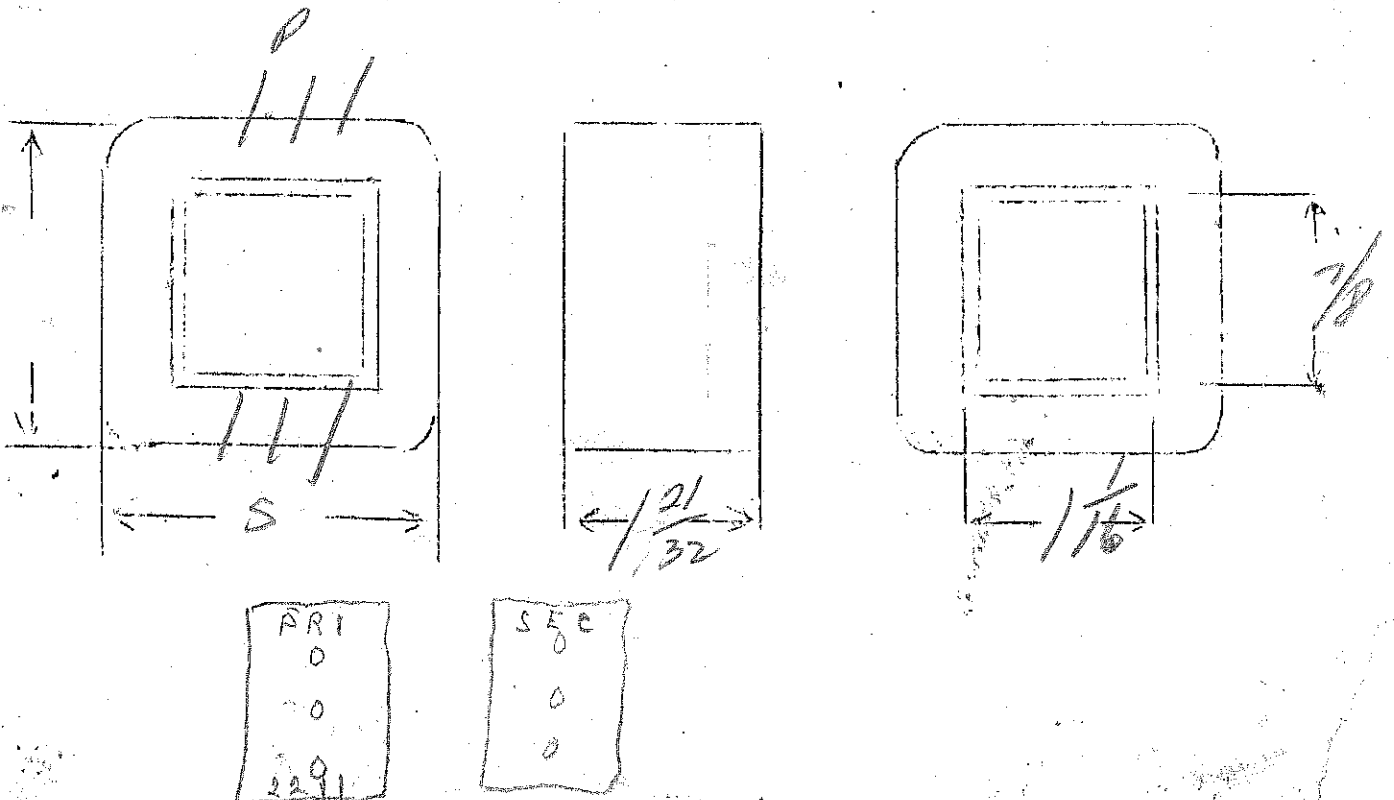
Winding	PRI	SHIELD	SEC			
Turns	525	1	99			
Taps	175					
Wind. Lgth.	$1\frac{15}{32}$	$1\frac{15}{32}$	$1\frac{15}{32}$			
Wire Size	#26	shinn stank	#20			
T.P.L.	79	—	—			
Kind Term.	WIRE ONLY	sil con	WIRE ONLY			
Term. Lgth.	3"	3"	3"			
Layer Insul.	40#	—	—			
Wrapper	21005GA	18L007Kn	18L007Kn 11005GA			
TUBE	7L007	IMPREGNATION		VARNISH		
CURE	$1\frac{1}{16} \times 1\frac{1}{4}$	26" 2x2				



4-1 PP to PP input (to resinate 100%)  
 sec suspended 8" overall

SPEC. NO. 2211

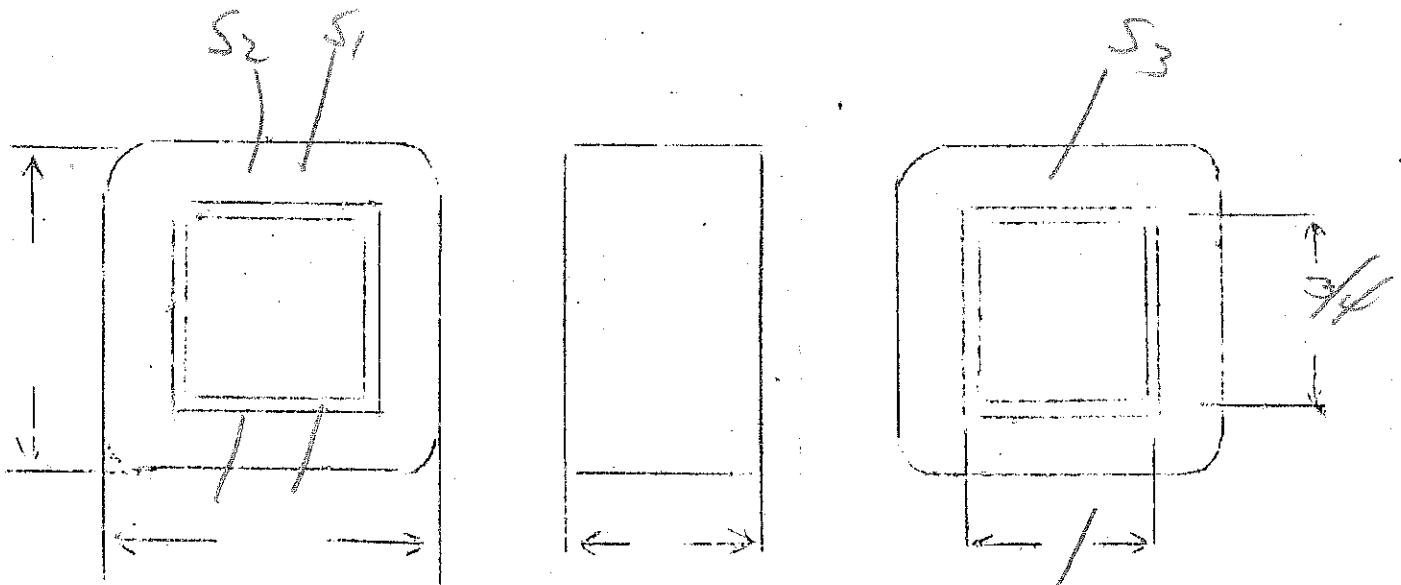
Winding	P	3	-				
Turns	4550	18,800					
Taps	2275	9,400					
Wind. Lgth.	1 $\frac{7}{16}$	1 $\frac{7}{16}$					
Wire Size	#40	#40					
T.P.L.	380-12	380-48					
Kind Term.	Silver	Lead					
Term. Lgth.	3"	3"					
Layer Insul.	12#	12#					
Wrapper	18L007Kc.	16L007Kraft					
TUBE	7L007		IMPREGNATION		WAX		
CURE	1 $\frac{1}{16}$ X $\frac{7}{8}$		- 24 hr annealed		2x2		



Same as 823 except  
Ep-250 volt

SPEC. NO. 2212

Winding	PR1	SEC				
Turns	1850	197				
Taps	-	65				
Wind. Lgth.	1.25	1.25				
Wire Size	#31	23				
T.P.L.	116-16					
Kind Term.	#14 Braid					
Term. Lgth.	3 1/2" by - lead wire					
Layer Insul.	30#	-				
Wrapper	21005 GA	21005 GA				
TUBE	7L007		IMPREGNATION	Varnish / Prim. etc		
CURE	1 X 3/4					



35-3500VCI-27514a

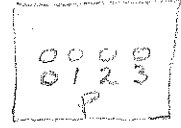
$E_p = 115, 140, 175V$

1.2.86

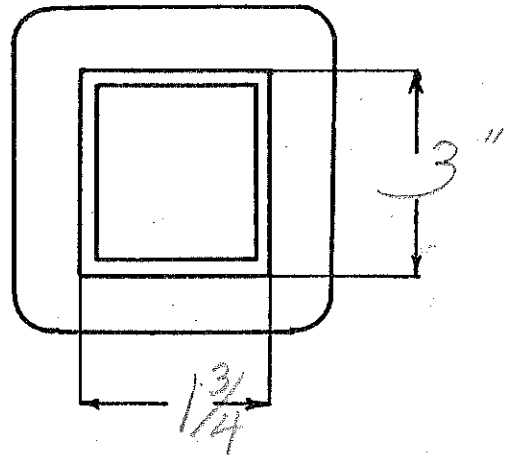
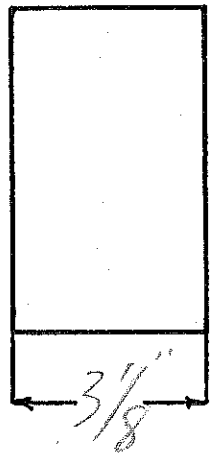
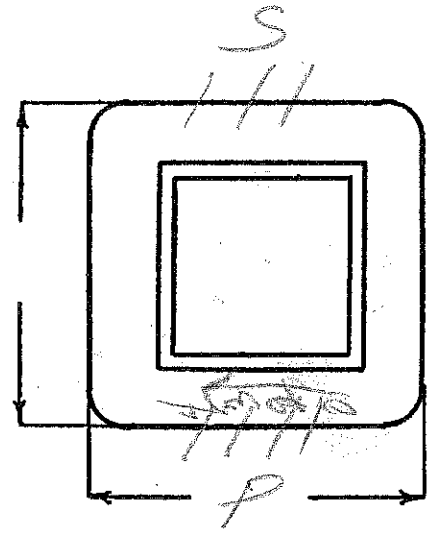
SPEC. NO. 2213

Winding	Sec	Pri					
		continued					
Turns	4680	148	32	4.5			
Taps	2340	-					
Wind. Lgth.	2 5/8	-	-	-			
Wire Size	#27	#15	#17	#19			
T. P. L.	156-30	4L	-2L	-			
Finish	-						
Type Lead	Datalac C.T.-W.O.	Wire On Lead					
Lead Lgth.	5"	6"	6"	6"			
Layer Insul.	double 30#	007K					
Test Volt.	5000						
Wrapper	4L007VC 2L007GA			2L007GA			
TUBE	10L007GK+2L007VC			IMPREGNATION	Varnish		
CORE	1 3/4 X 3" GA. 24		GRADE	D	STACK 2 X 2		
MOUNTING	G						

Insulators



- stud bolts  
#1-115V  
#2-140V  
#3-175V



DESIGNED BY JCS

DATE 4-4-39

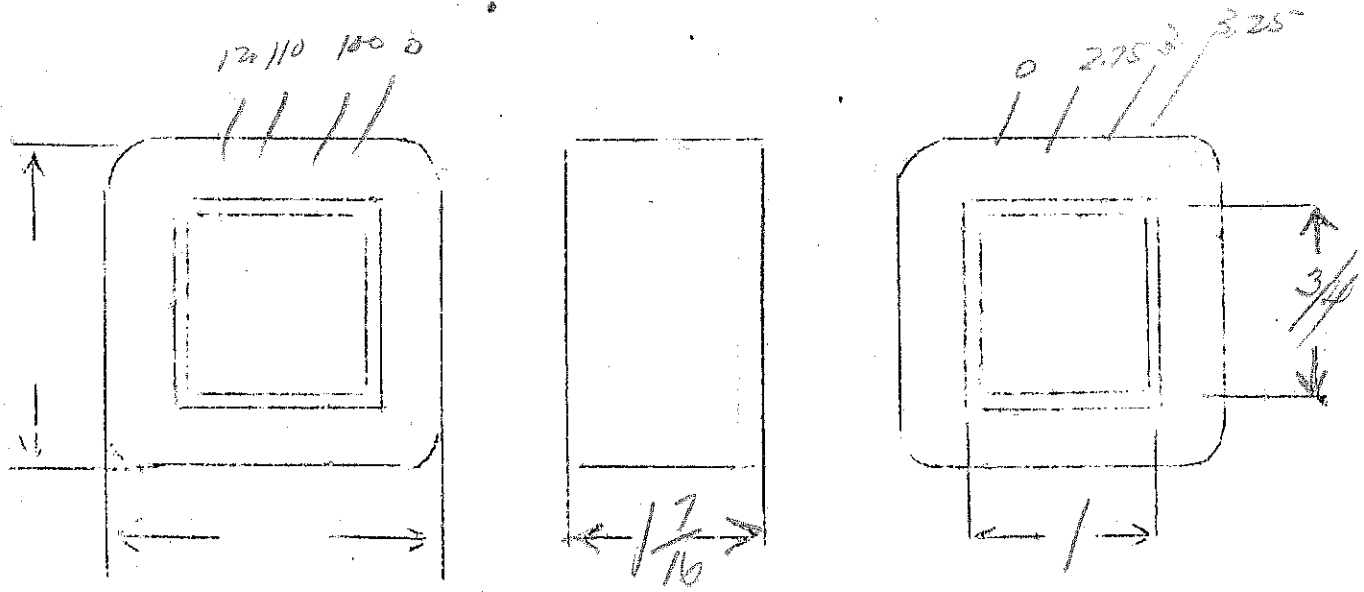
Exp: 100-110-120

ES - 3.25 - 3 - 2.75 volts - 8 amps

VA = 26

SPEC. NO. 2214

Winding	PRI	SEC				
Turns	880	26				
Taps	808	24				
	738	22				
Wind. Lgth.	1.25	1.25				
Wire Size	#28	#13				
T.P.L.	81					
Kind Term.	W.O.	W.O.				
Term. Lgth.	3"	3"				
Layer Insul.	40#					
Wrapper	20056A	20056A				
TUBE	7L007		IMPREGNATION	VARNISH		
CURE	1 X 3/4					





Ep - 115, 140, 225, 240  
 S - 700V.C.T. - 85M9  
 F - 5V - 2 amp  
 F - 6.3V - 3.5 amps

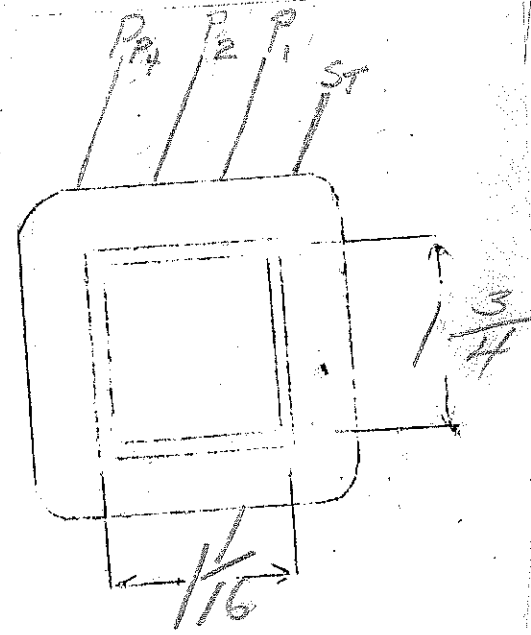
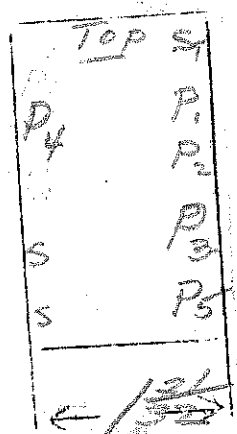
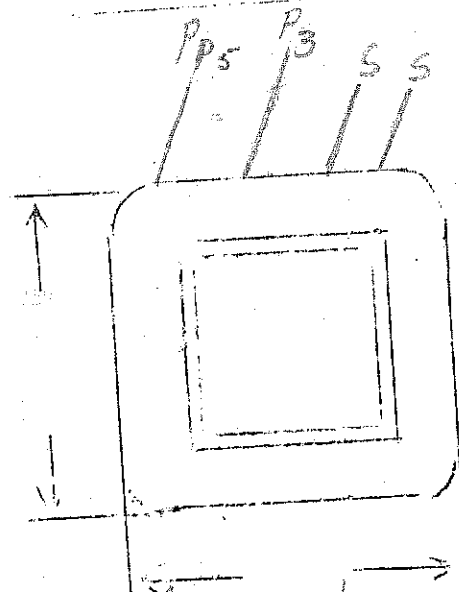
similar to 2059

3.1

SPEC. NO. 2215

Continuous

Winding	SEC	SHIELD	PRI	<i>red yellow</i>	<i>yellow</i> F1	<i>green</i> F2	
Turns	2350	1	435	313	17	22	
Taps	1175		356	264	—	—	
Wind. Lgth.	115 1/32	115 1/32			#19	#17	
Wire Size	#33	Copper Shim	#24	#27			
T.P.L.	170-14		60-8	88-4			
Kind Term.	#20 Per Br	sil Br	#20 Per Br		WIRE ONLY		
Term. Lgth.	9	3"	9	9	9	9	
Layer Insul.	double #16	—	40#	40#			
Wrapper	11007VC	11007VC		21005GA	21005GA	21005GA	
TUBE	71007				IMPREGNATION		
CURE	1 1/16 x 1 3/4				double warm (2nd time)		



Color code  
 Primary  
 0 - brown  
 115 - yellow

Sec - black, blue CT  
 6.3 - green  
 5.0 - yellow

flanged cover -  
 long 8-32 bolts for  
 "SA" nuts

Ep - 110-125

Es - 680V CT - 150MA

24

Ep - 6.3V - 4.5amps

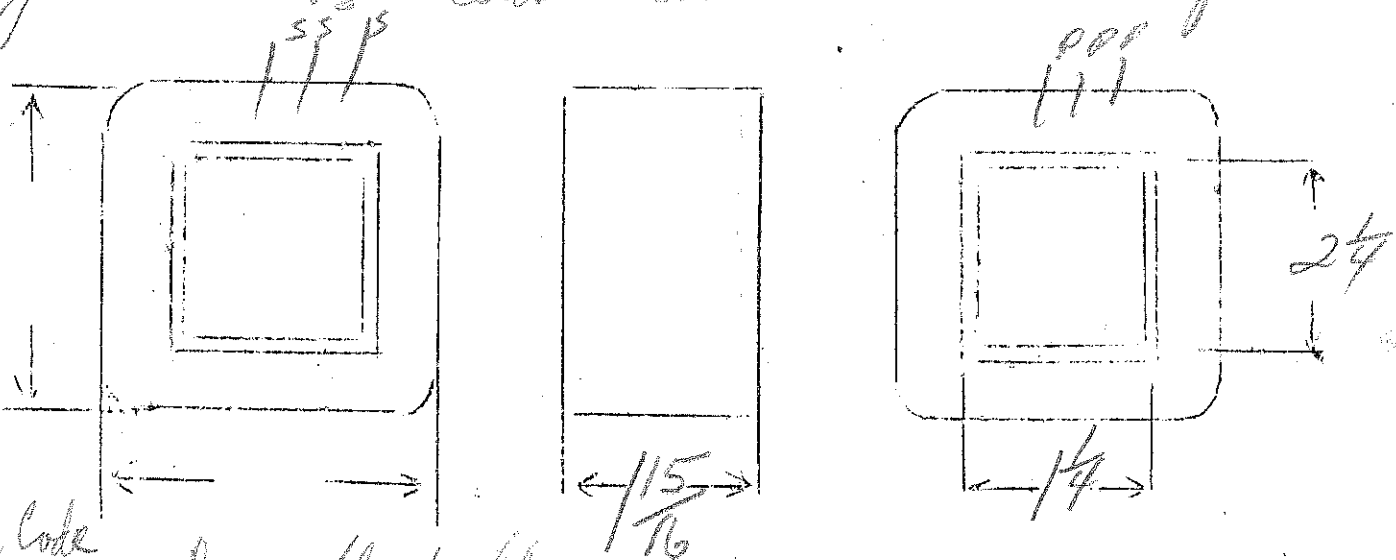
Ep - 5V - 3amps

white color SPEC. NO. 2216

Winding	SEC	SHIELD	PR1	F <sub>1</sub>	F <sub>2</sub>		
Turns	1670	1	306	13	16		
Taps	835		270				
Wind. Lgth.	1.75						
Wire Size	#29	thin shield	#20	#17	#15		
T.P.L.	120-14		46-7				
Kind Term.	#20 Pwr Br	sil Br	#20 Pwr Br	WIPE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	double 30#		double 40#				
Wrapper	2L0076C	2L0076C	2L0076A		2L0076A		
TUBE	2L007			IMPREGNATION		VARNISH	

CURE 1 Hr x 24

SA vnts - long bolts  
2 grommets - 1 3/8" center-center on center line of shell



Color Code  
Pri - brown  
tap - yellow  
1 volt - green

Sec - black, black  
5 volt - yellow sleeving  
6.3 volt - green sleeving

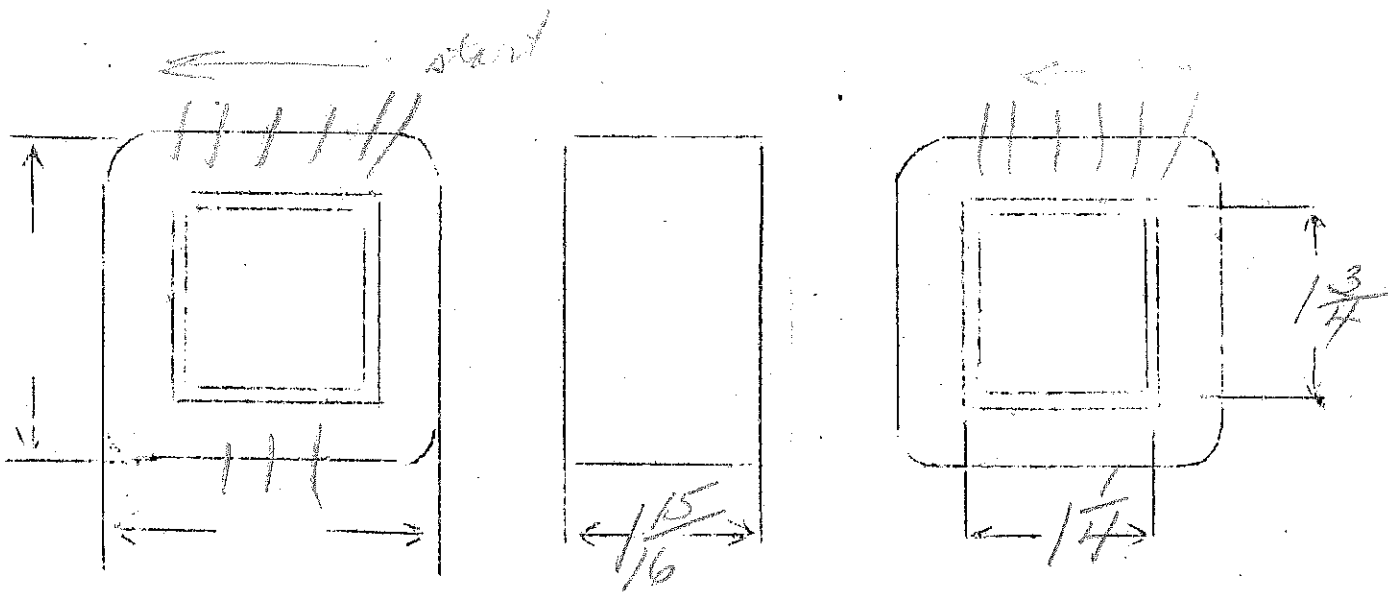
Ep - 107, 110, 113, 116, 119, 121, 124, 127, 130, 133

Es - 900V CT - 250Ma

VA = 115

265 SPEC. NO. 2217

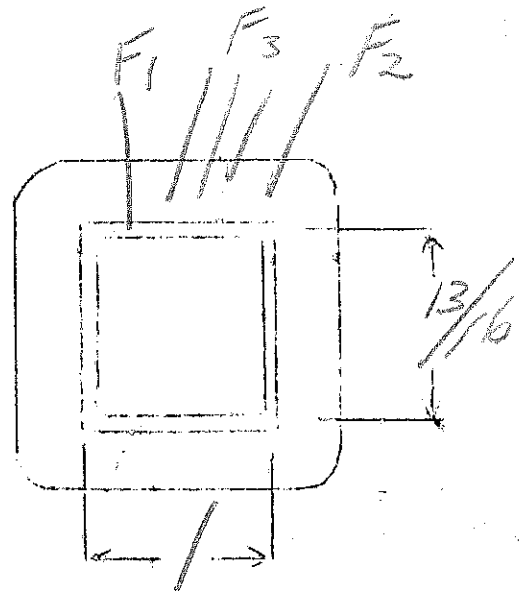
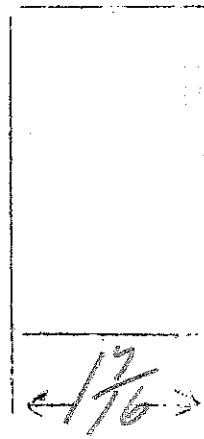
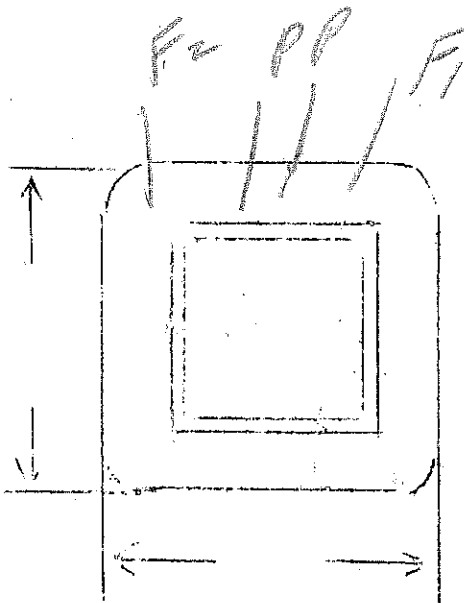
Winding	SEC	PRI					
Turns	2600	353					
Taps	1300	345	337	329	321	317	309 - 300
Wind. Lgth.	1.75	1.75					2.72 - 2.84
Wire Size	#28	#21					
T.P.L.	119-22	53					
Kind Term.	SILBR	W.O.					
Term. Lgth.	3"	3"					
Layer Insul.	double 20#	20#					
Wrapper	2L007VC	2L0076A					
TUBE	7L007+H007VC			IMPREGNATION		VARNISH	
CURE	1/4 x 1/4			2x2249e			



Same as #2218 except for Pri

SPEC. NO. 2218-240V

Winding	PRI						
Turns	1700						
Taps							
Wind. Lgth.	1.25						
Wire Size	#31						
T.P.L.	115-15						
Kind Term.	SIL BR						
Term. Lgth.	3"						
Layer Insul.	30#						
Wrapper	20056A						
TUBE	7L007	IMPREGNATION			Varnish		
CURE	1X 13/16						



Ep - 715

Es<sub>1</sub> - 3V - 2.5 amper

Es<sub>2</sub> - 3V - 2.5 amper

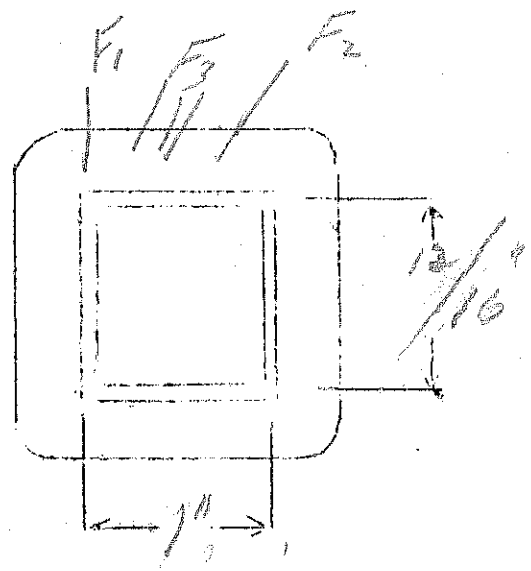
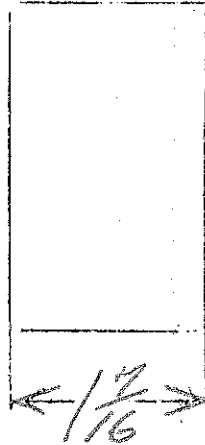
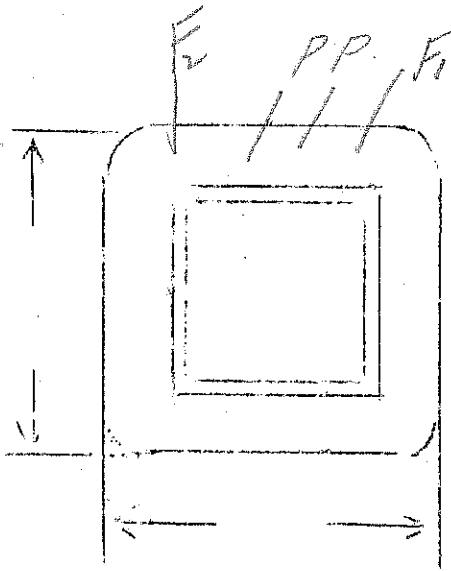
Es<sub>3</sub> - 1V - CT - 2.5 amper

71

SPEC. NO.

2218

Winding	PRI	F <sub>1</sub>	F <sub>2</sub> <sup>3.38</sup>	F <sub>3</sub> <sup>1.16</sup>			
Turns	815	24	24	8			
Taps	—			4			
Wind. Lgth.	1.25	1.25	1.25	1.25			
Wire Size	#28	#18	#18	#18			
T.P.L.	82-10						
Kind Term.	albr	WIRE	ONLY				
Term. Lgth.	3"	3"	3"	3"			
Layer Insul.							
Wrapper	2005GA						
TUBE	7L007	IMPREGNATION		VARNISH			
CURE	1 X <sup>13</sup> / <sub>16</sub>						



Ep-145

VA=50

Es-25V-5amps

Es-75V-3amps

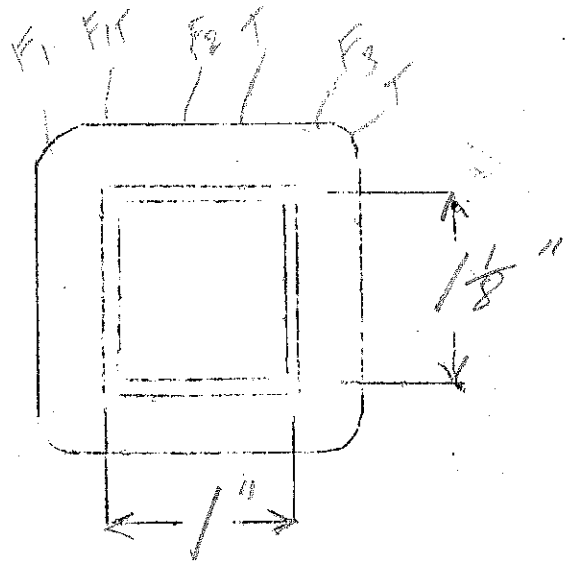
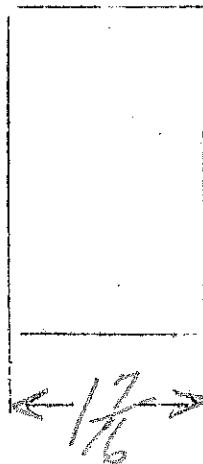
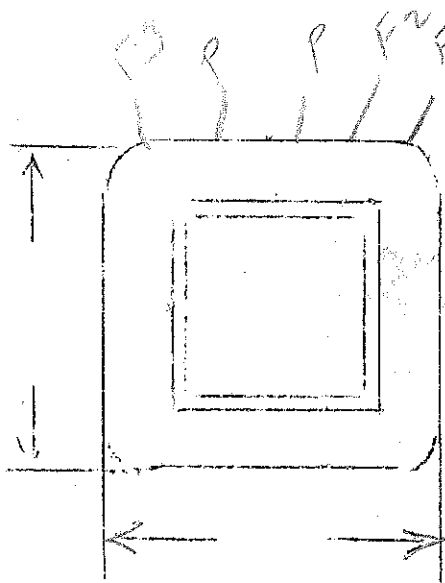
Es-5V-3amps

4.95

SPEC. NO.

2219

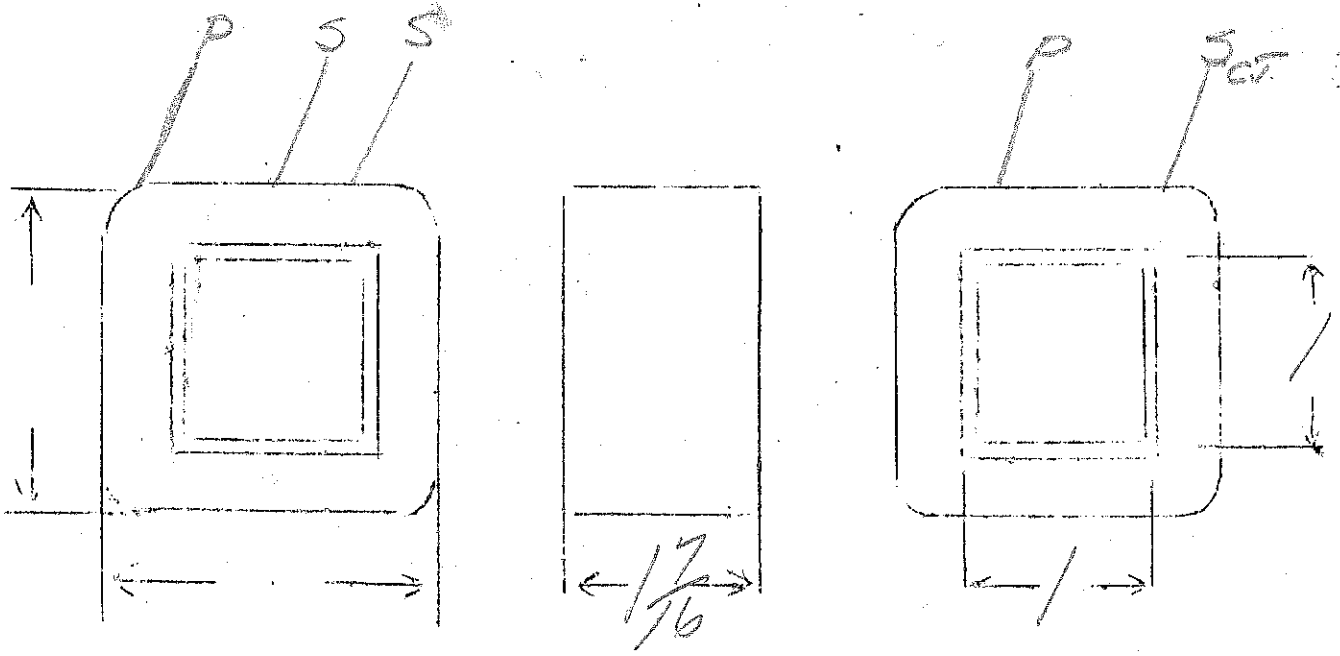
Winding	PRI	F <sub>1</sub> 2.13	F <sub>2</sub> 1.5	F <sub>3</sub> 2.6			
Turns	570	14	42	28			
Taps		7	2*	14			
Wind. Lgth.	1.25	1.25	1.25	1.25			
Wire Size	#26	#16	#18	#18			
T.P.L.	65-9						
Kind Term.	WIRE	ONLY					
Term. Lgth.	3"	3"	3"	3"			
Layer Insul.	40#						
Wrapper	2L005GA	2L005GA	2L005GA	2L005GA			
TUBE	7L007	IMPREGNATION		VARNISH			
CURE	1x1/8"						



Ep - 122 Vopen  
 Es - 670V - open - 45mg 535  
 Ef1 - 2.5  
 Ef2 -

SPEC. NO. 9990

Winding	SEC	SHIELD	PR1	<sup>green</sup> F1	<sup>black</sup> F2		
Turns	3600	74	655	30	15		
Taps	1800	-	-	-	7		
Wind. Lgth.	1.25	1.25	1.25				
Wire Size	36	27	27	#21	double 20#		
T.P.L.	202-18	74-1	74-9				
Kind Term.	#20 Par Braid	W.O.	#20 Par Br.	WIRE	ONLY		
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	double 16	-	40#	-	-		
Wrapper	4007K	4005VP	24005GA	24005GA	24005GA		
TUBE	44007			IMPREGNATION	VARNISH		
CURE	1X	NW					



High Leakage Power

SAVANI ENGR.

115V 60W

5V

1950V

SEPARATE COILS

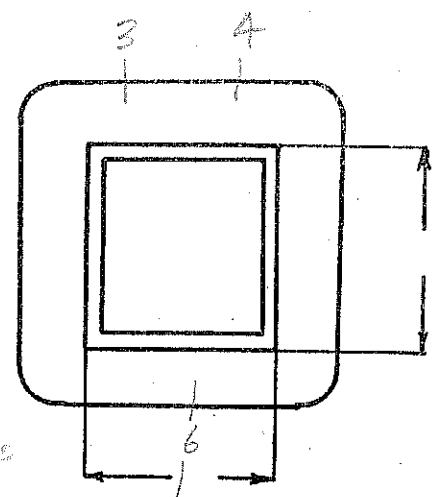
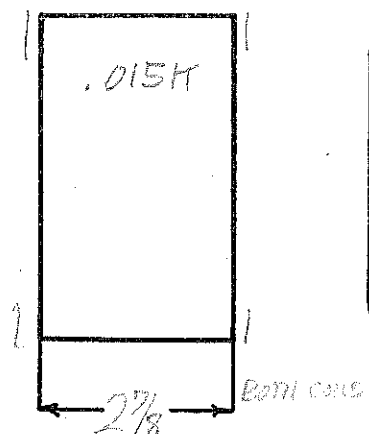
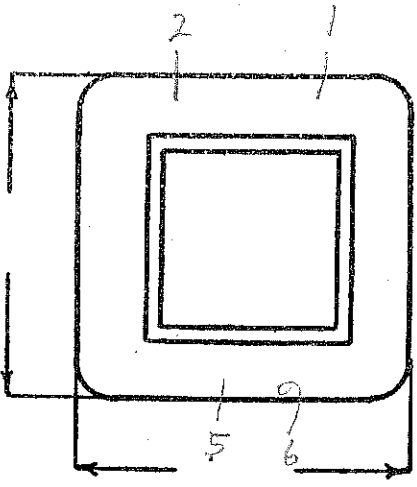
SPEC. NO. 2221

Winding	1-2 PRI	3-4 FIL	5-6 SEC	M.W.
Turns	738	36	12,500	FIN.
Taps	—	—	—	S.W.
Wind. Lgth.	2 1/2	1	2 3/16	STACK
Wire Size	#21	#24	#34 S.F.	1ST
T. P. L.	74-10L	36-1L	285-44L	VAR
Pitch	88%	77%	91%	FINAL
Type Lead	#20 TEFLON	#20 TEFLON	#26 TC D-LUGS	FINISHING NOTE: ON SEC USE 2L001M SADDLE USE 2L005V UNDER & 1L005V + 1L005 GA OVER LEAD 5.
Lead Lgth.	14"	14"	6"	
Layer Insul.	50#	—	30#	
Test Volt.	1500	1500	5000	
Wrapper	3L005GA	2L005GA	5L002M 2L005GA	

TUBE PRI : 5L010M + 1L002M IMPREGNATION Double Varnish (2 DIPS)  
SEC : 5L010M + 4L002M

CORE STRIP 3/4 X 2 1/8 GA. 24 GRADE D STACK IXI  
LAM 3/4 X 3 3/4

MOUNTING UNCASED - SEE BACK



NOTE  
↓  
1 3/16 OFF TO USE 3/16

DESIGNED BY GWW

USE DOUBLE SPACING ON 1/16 ROLLER BAR

DATE 10-22-36

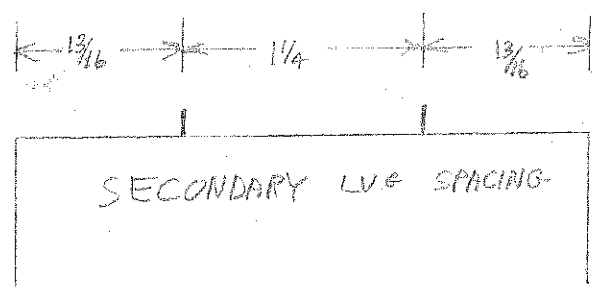
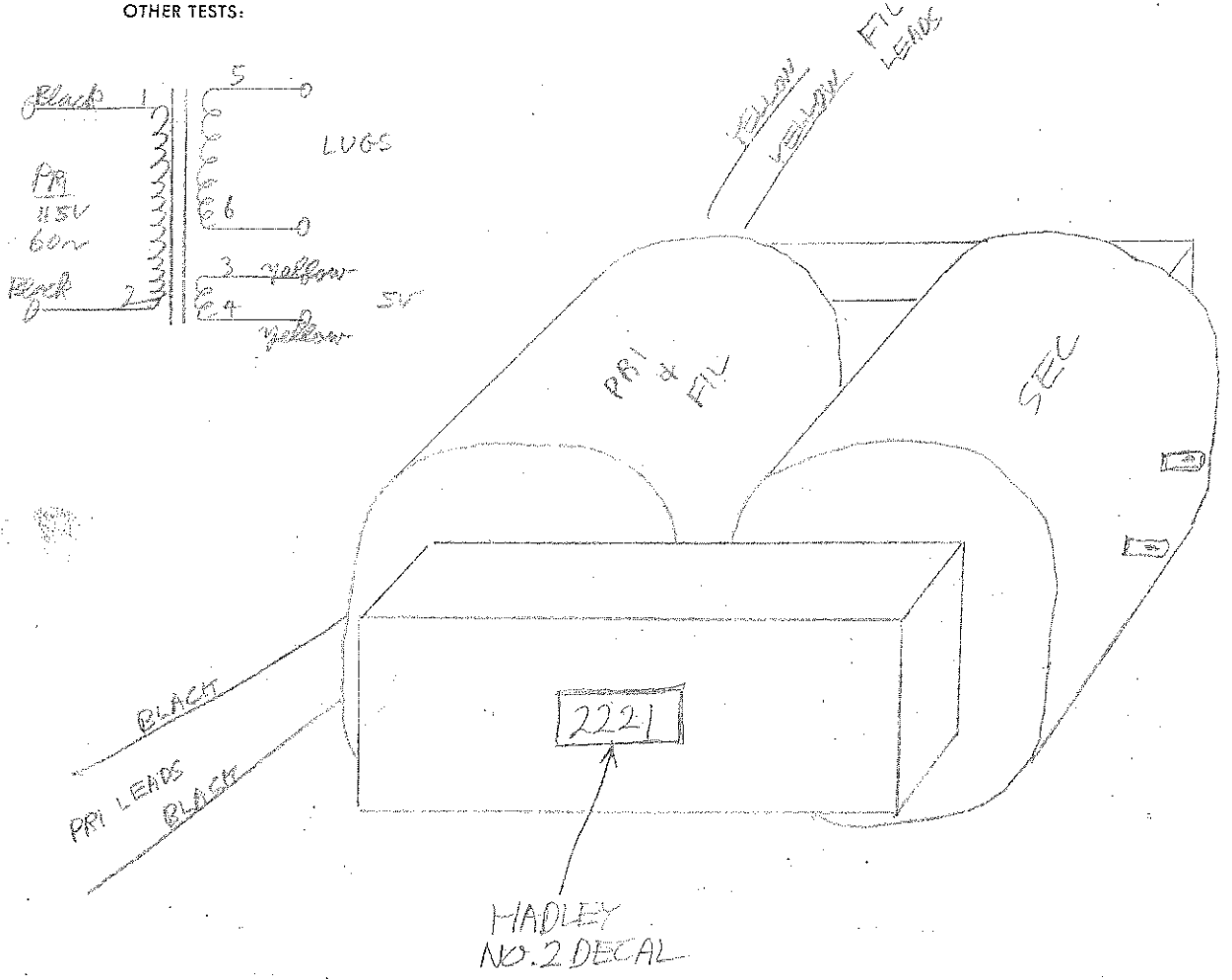
Received 1-24-58 by AHH

S.M.



Copper Density						
Mean Turn	5.23	6.68		5.46		
Pounds Copper	.80	.075		.702		
Resistance 25°C	4.21	.524		1520		
Full Load Ratio						
Volts Cy.						
No Load Ratio						
Volts 60 Cy.	115	5.6		1950		
Test Volts	1500	1500		5000		
Winding	Pri 1-2	Sec 3-4		Fil 5-6		

OTHER TESTS:





2221

Do Not Destroy

ROBERT M. HADLEY CO.

JOB NO. \_\_\_\_\_

SHEET METAL LAYOUT ORDER

CUSTOMER SAVANT ENGR.

APPROVED BY \_\_\_\_\_

FINISH INSIDE None

FINISH OUTSIDE \_\_\_\_\_

DATE WANTED Rush

DESCRIPTION

QUANTITY	PART NO.	ARTICLE
30"	2221	3/4 X 2 1/8 strip lam 29ga delcor
30"	2221	3/4 X 3 3/4 " " " "

Either 24, 26 or 29 Gage is OK

Cut by Template

SHEARING SIZES

QUANTITY	GAUGE	BLANK SIZES	QUANTITY	GAUGE	BLANK SIZES
30"	29	3/4 X 2 1/8			
30"	29	3/4 X 3 3/4			

2221

230 V @ 50 Hz

TO

1950 V } open  
5 V }

ROSE

230 V  
SPEC. NO. 2221-50 Hz

SEPARATE COILS

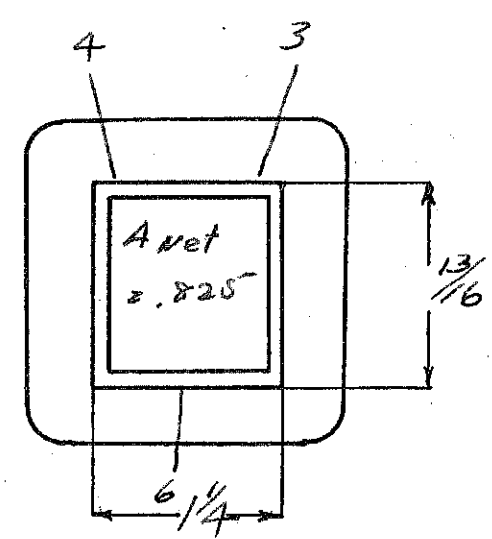
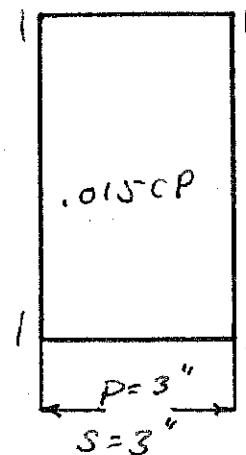
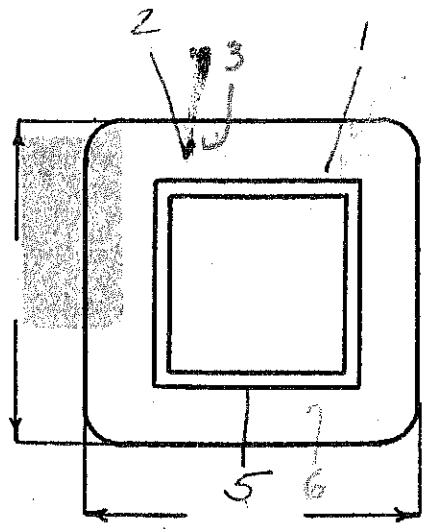
Winding	1-2 PRI	3-4 FIL			5-6 SEC.		
Turns	1476	36			12500		
Taps	-	-			-		
Wind. Lgth.	2 1/2"	7/8"			2 1/4"		
Wire Size	#24	#24			#34		
T. P. L.	106-142	36-14			285-442		
Finish	90.5%	90 1/2%			86 1/2%		
Type Lead	#20 Black Pr. Br.	#20 Pr. Br. - Yellow			Sil. Br. TULYS VINY SL.		
Lead Lgth.	14"	14"			6"		
Layer Insul.	50 #	-			30 #		
Test Volt.	1500	1500			5000		
Wrapper	2L007VC	2L005GA			2L007VC 2L005GA		

TUBE P-7L007GK+1L005VC IMPREGNATION DOUBLE VARNISH  
S-7L007GK+1L007VC

CORE STRIP Laminations 3/4 x 1 1/4 GA. 24 GRADE D STACK 1 x 1

MOUNTING UNCASSED - WRAP ENDS WITH scotch TAPE

Strip Lam. Size  
3/4 x 2 1/8  
3/4 x 3 3/4



DESIGNED BY *A. Frazier*

DATE 10-21-46

SM

# DESIGN AND TEST DATA

Rating:

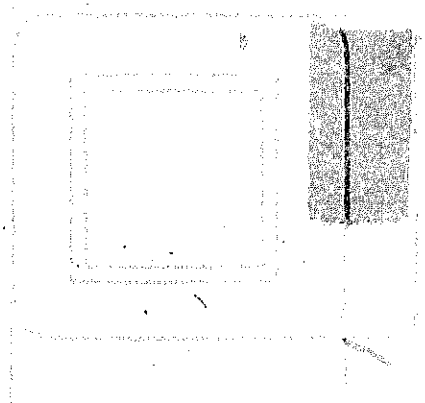
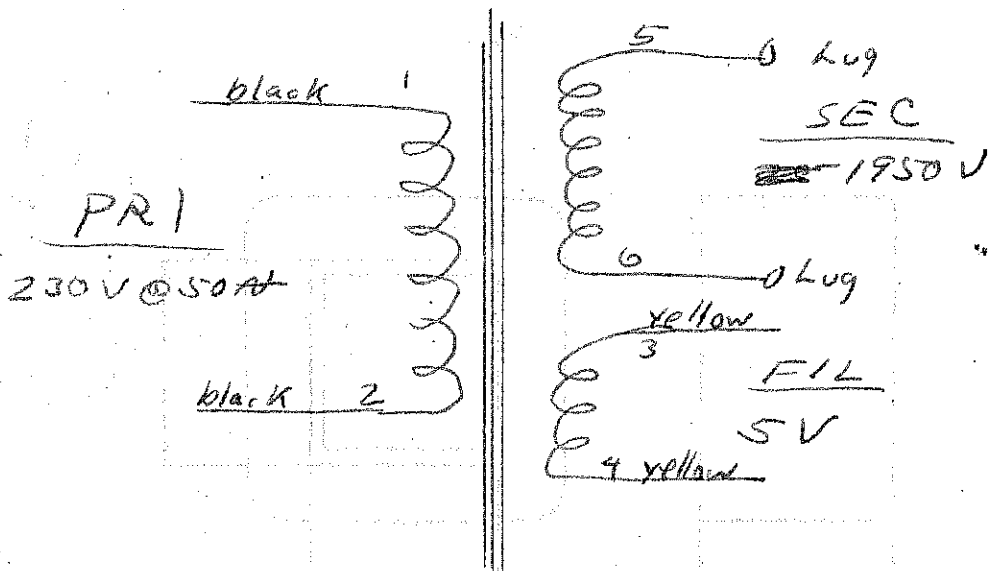
	.334	.622	.370			
Winding	1-2 Black PRI	3-4 Yellow FIL	5-6 SEC			
Mean Turn	5.77	7.18	5.90			
Resistance 25° c	18.6	.640	1640			
Pounds Copper	.881	.031	.757			
Copper Density	—	—	—			
Ratio Volts	230 59	5.62	500			
Test to Ground	1500	1500	5000			

Iron Induction 13.2 Kg @ 50 Cycles

Exciting Current 110 Milliampere @ 230 volts 60 cycles on 1-2

Induced Test: Apply \_\_\_\_\_ Volts at \_\_\_\_\_ Cycles on \_\_\_\_\_ with \_\_\_\_\_ grounded

Remarks: See 2221 - 60A for finishing & stacking details

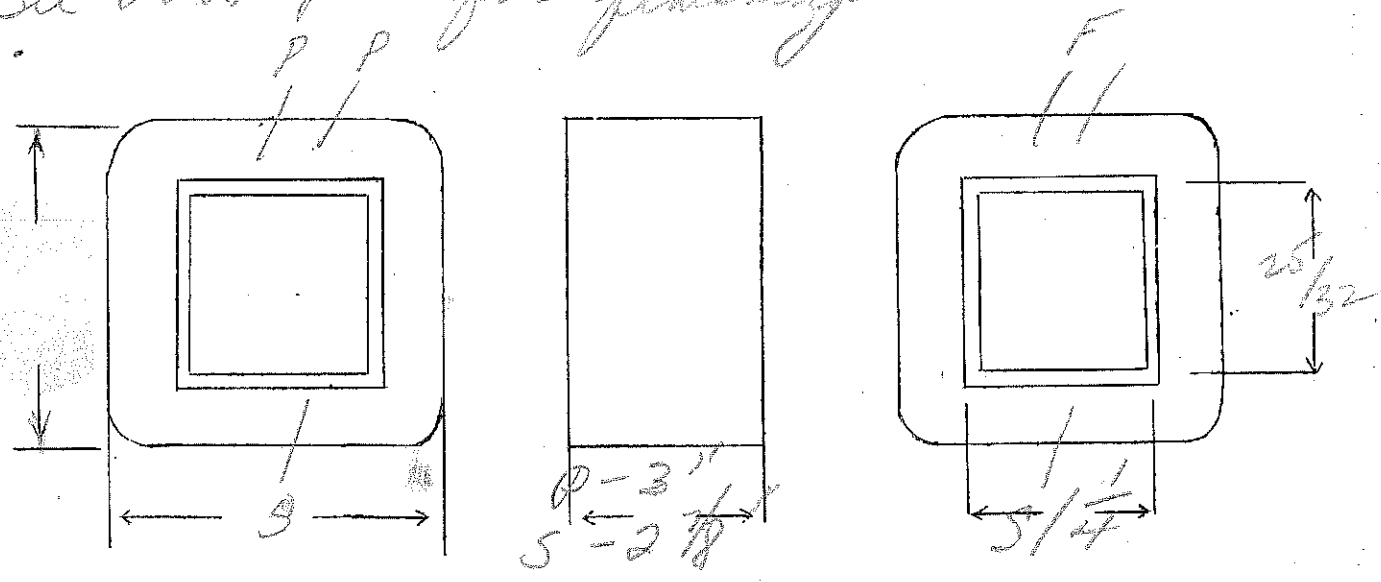


# Leakage Transformer

SPEC. NO. 2221-40

Winding	P	F	S			
Turns	738	37	12500			
Taps	—					
Wind. Lgth.	2½		2¼			
Wire Size	#21	#24	#34			
T.P.L.	74-10		300-½			
Kind Term.	#20 Pw Br		sil Br to lugs spaced ¼"			
Term. Lgth.	8"	8"	3"			along length of coil
Layer Insul.	double 40#		double 20#			
Test Volt.	1500		5000			
Wrapper	210050A	210050A	1000 VC 210050A			
TUBE	P-71007 S-71007+ 21007VC		IMPREGNATION		VARNISH	
CORE	Strip laminations			PRIMARY V.A.		
MOUNTING	unsused - wrap ends with scotch tape					

P & S are separate coils  
 See 2221 spec. for finishing details



DESIGNED BY Yw      DATE 2/23/37

2221

Do Not Destroy

ROBERT M. HADLEY CO.

JOB NO. \_\_\_\_\_

SHEET METAL LAYOUT ORDER

CUSTOMER SAVANT ENGR.

APPROVED BY \_\_\_\_\_

FINISH INSIDE None

FINISH OUTSIDE \_\_\_\_\_

DATE WANTED Feb 8 25

DESCRIPTION

QUANTITY	PART NO.	ARTICLE
30"	2221	3/4 X 2 1/8 strip lam 29ga silver
30"	2221	3/4 X 3 3/4 " " " "

Either 24, 26 or 29 Gauge is OK

Cut by Template

SHEARING SIZES

QUANTITY	GAUGE	BLANK SIZES	QUANTITY	GAUGE	BLANK SIZES
30"	29	3/4 X 2 1/8			
30"	29	3/4 X 3 3/4			

2221

READ THIS LIKE MATH

SPEC. NO. 2221-25A  
 USED WITH 2258-25A

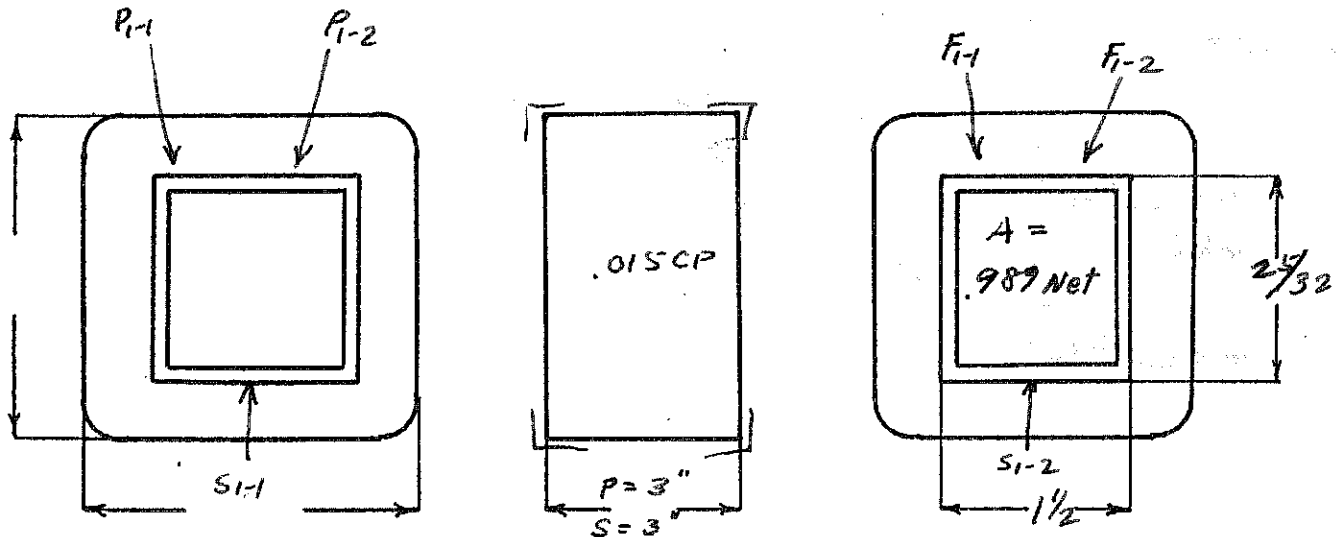
TWO COILS PER UNIT

Winding	PRI.	FIL.			SEC.		
Turns	850	38			15000		
Taps	-	-			-		
Wind. Lgth.	2 5/8	2 5/8			2 1/4		
Wire Size	#22	#22			#34		
T. P. L.	90-10L	38-12			300-50L		
Finish	92%	39%			92%		
Type Lead	#20 Pr. Br.	#20 Pr. Br.			Sil Br.		
Lead Lgth.	14"	14"			6"		
Layer Insul.	Double 40#	-			Double 20#		
Test Volt.	1500	1500			5000V.		
Wrapper	2L005GA	2L005GA			2L007VC 2L005GA		
TUBE	P-2L-0076K S-7L-0076K + 3L007VC		IMPREGNATION		DOUBLE VARNISH		

CORE STRIP Laminations GA. 24 GRADE D STACK 1X1

MOUNTING UnCased - ~~wrap ends with catch tape to hold E's~~

Strip Sizes  
 3/4 x 2 1/8  
 3/4 x 3 3/4



DESIGNED BY G.W.W.  
 Checked K. Frazer

DATE 3-13-46



# DESIGN AND TEST DATA

Rating: 115V 25A TO  
1950V.  
5V

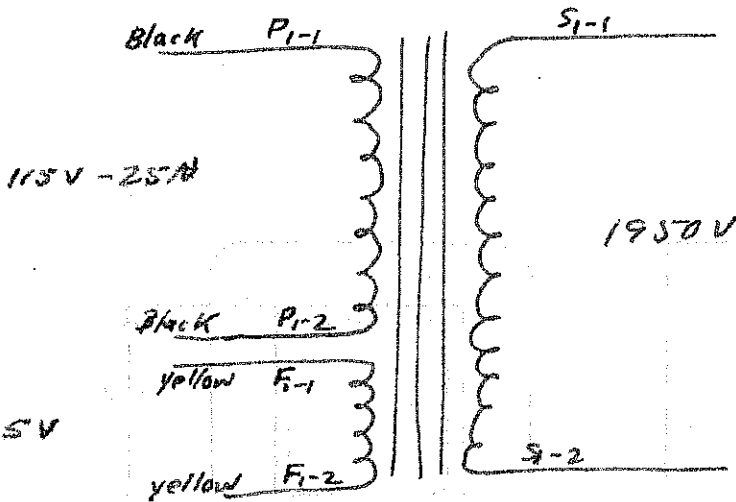
Winding	Pri	Fi		SEC.		
Mean Turn	6.08	7.33		6.73		
Resistance 25° c	7.08	.39		2224		
Pounds Copper	.848	.046		1.035		
Copper Density	UNKNOWN					
Ratio Volts	115	5.14		2027		
Test to Ground	1500	1500		5000		

Iron Induction 123 @ 25 Cycles

Exciting Current .054 amperes @ 115 volts 60 cycles on P<sub>1-1</sub> - P<sub>1-2</sub>

Induced Test: Apply 230 Volts at 60 Cycles on P<sub>1-1</sub> - P<sub>1-2</sub> with grounded

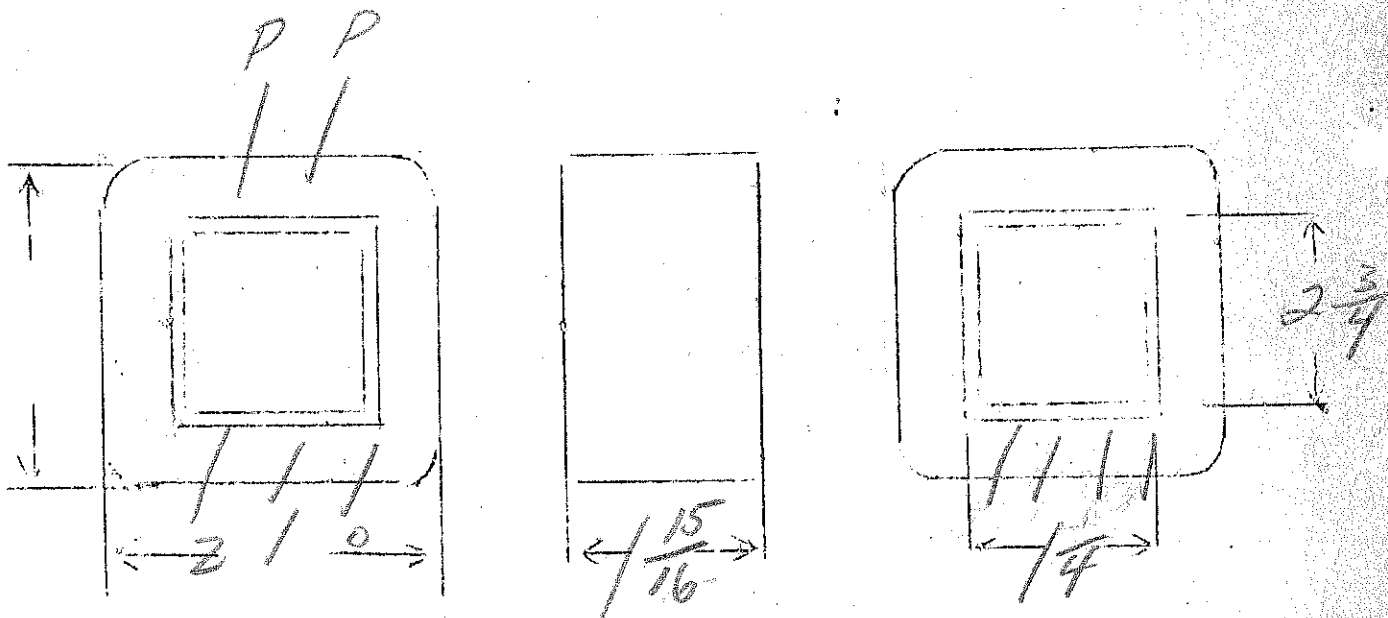
Remarks: FOLLOW Assembly Information as given on Spec 2221-60A



HY EFE

SPEC. NO. 2222

Winding	PRI	SEC					
Turns	250	85					
Taps	—	78-71-64-58-30					
Wind. Lgth.	1.75	1.75					
Wire Size	#18	#14					
T.P.L.							
Kind Term.	WIRE ONLY						
Term. Lgth.	3"	3"					
Layer Insul.	007 Kraft						
Wrapper	2407BA	2407BA					
TUBE	7L007			IMPREGNATION			Varnish
CURE	HX 2 <sup>3</sup> / <sub>7</sub>						



Ep-115

E<sub>3</sub> - 320V-5MA

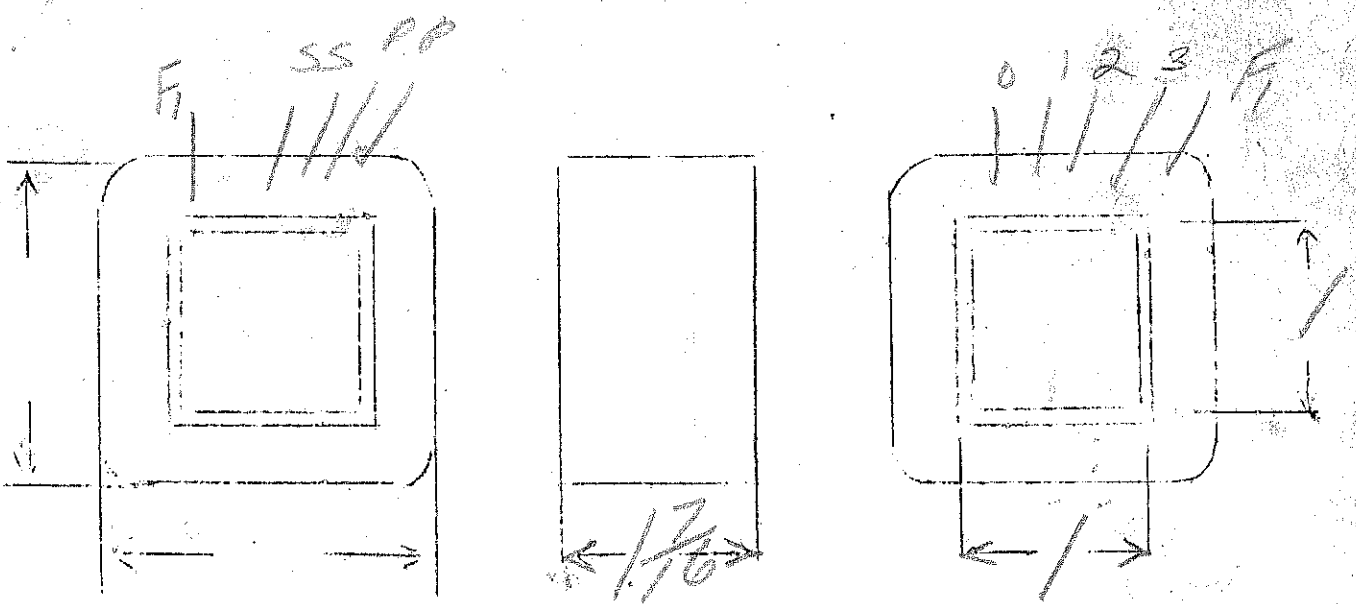
56

E<sub>F1</sub> - 58V-2000 (open)

E<sub>F2</sub> - 145, 85, 48 V (open) 2.5amps

SPEC. NO. 2223

Winding	SEC	PRI	F <sub>1</sub>	F <sub>2</sub>			
Turns	1800	645	32	82			
Taps	—	—	—	48-27			
Wind. Lgth.	1.25	1.25	—	—			
Wire Size	#40	#27	#20	#19			
T.P.L.	330-6	74-9					
Kind Term.	pl Br	WIRE ONLY	—	→			
Term. Lgth.	3"	3"	3"	3"			
Layer Insul.	16#	30#					
Wrapper	2L007VC	2L005GA	2L005GA	2L005GA			
TUBE	2L007				IMPREGNATION	Varnish - after	
CURE	1X1					3 hr pre-he	

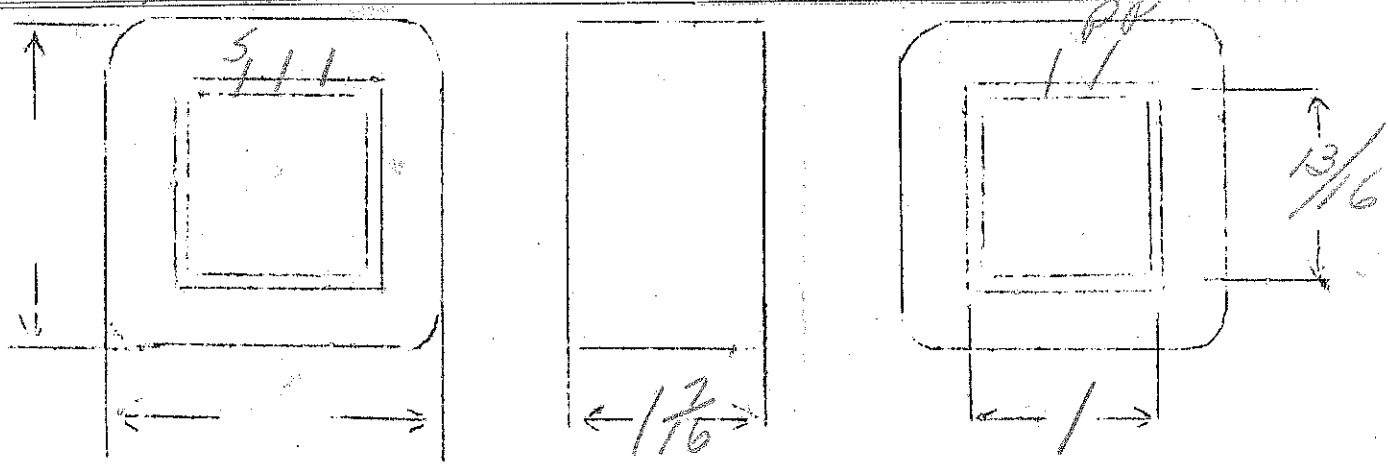


4.8 - 3.4 = 1.4  
 over 5.4  
 9.1  
 15.5

SPEC. NO.

2224 (same as 1502)

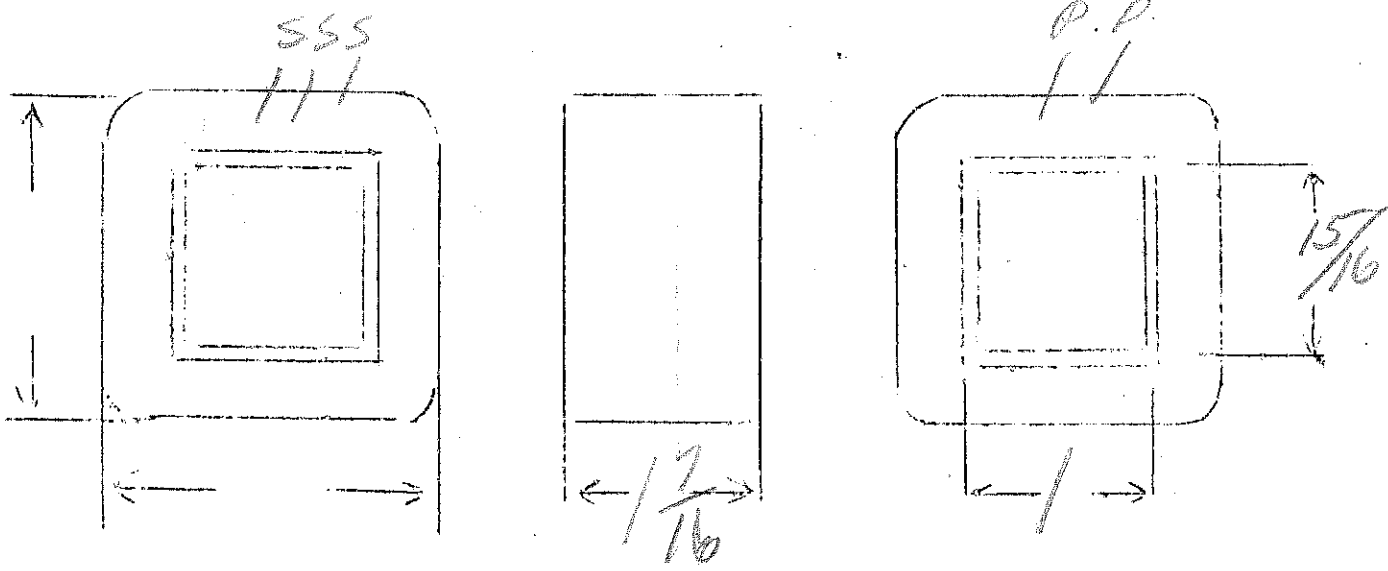
Winding	SEC	SHIELD	PRI	FIL	FIL		
Turns	4050	76	760	35	17		
Taps	2025	—	—	—	8		
Wind. Lgth.	1.25	1.25	1.25	—	—		
Wire Size	37	#27	#27	#21	double #21		
T.P.L.	226-18	—	76-10				
Kind Term.	#22 P Braid	W.O.	#22 P Braid	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	double 16#		40#				
Wrapper	1L007VC	1L005VP	2L0056A	2L0056A	2L0056A		
TUBE	52007+ 1L3A			IMPREGNATION		Varnish	
CURE	1 X 13/16						



SPEC. NO.

2225 (Same as 210N)

Winding	SEC	SHIELD	PRI	F1	F2		
Turns	3700	45	675	31	15		
Taps	1850	—	—	—	7		
Wind. Lgth.	1.25	1.25	1.25	—	—		
Wire Size	#36	#27	#27	#21	Double #20		
T.P.L.	206-18		75-9				
Kind Term.	#20 P.B.v.	W.O.	#20 P.B.v.	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	double 16 #		40 #				
Wrapper	1L007VC	1L005VA	2L005GA	2L005GA	2L005SA		
TUBE	5L007H1L005GA			IMPREGNATION	VARNISH		
CURE	1 x 15/16						



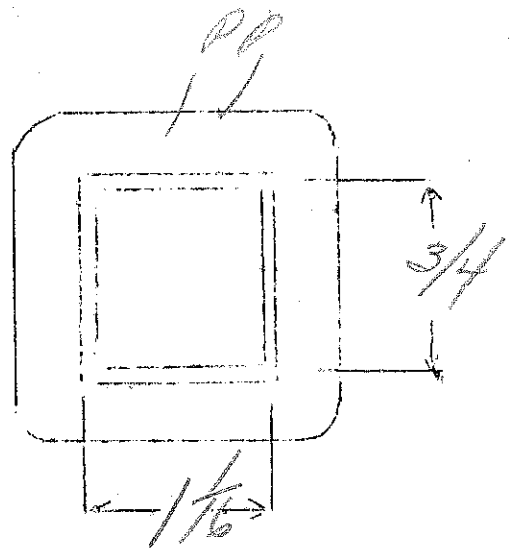
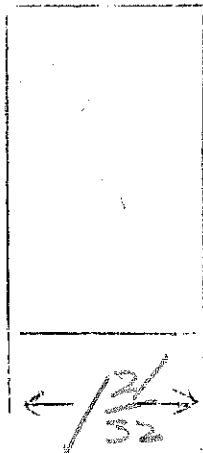
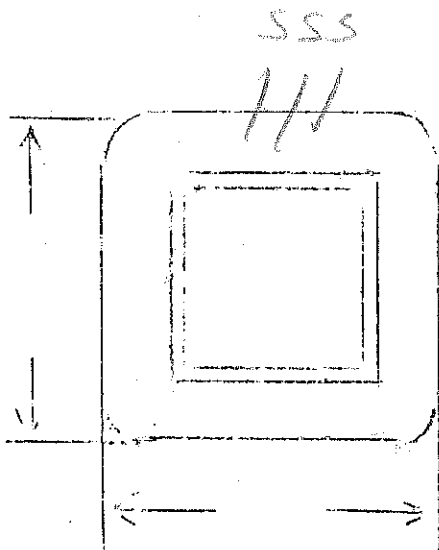
7.0

SPEC. NO.

2226

similar to  
Spec 1505  
for 122V  
Pri

Winding	SEC	SHIELD	PRI	F <sub>1</sub>	F <sub>2</sub>		
Turns	4800	78	840	40	20		
Taps	2400			—	10		
Wind. Lgth.	1 15/32	1 15/32	1 15/32	—	—		
Wire Size	#36	#26	#26	#20	#16		
T.P.L.	24-20		78-11	—	—		
Kind Term.	#20 Pur Br	WIRE ONLY	#20 Pur Br	WIRE	ONLY		
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	double 16#		40#				
Wrapper	1L007VC	1L007VC	2L005GA	2L005GA	2L005GA		
TUBE	7L007			IMPREGNATION		VARNISH	
CURE	1 Hr 3/4						

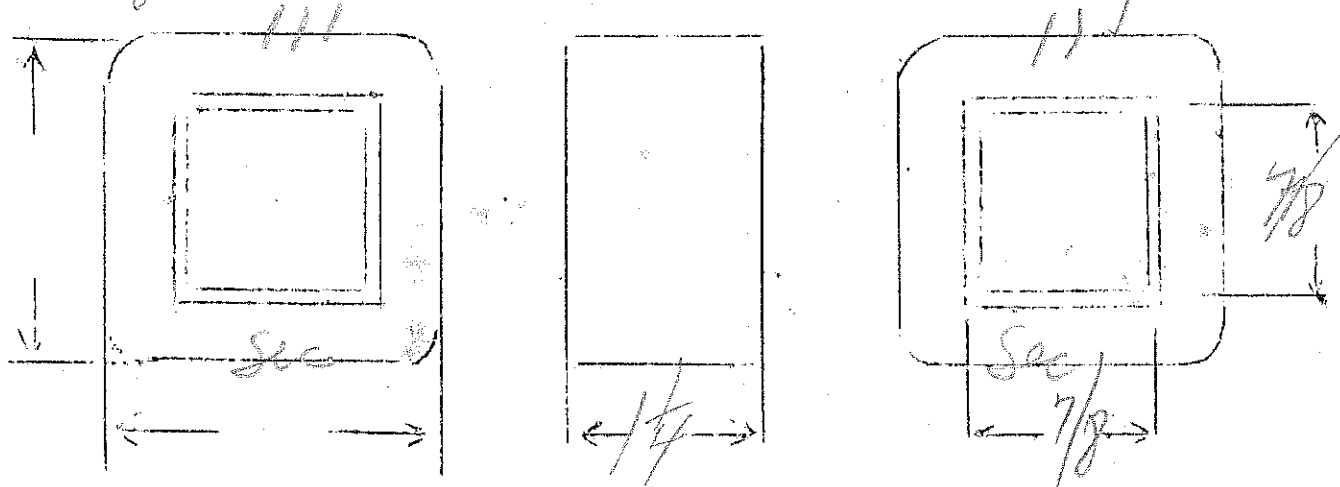


Two pri windings - 120V tap 110  
 Sec - 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12  $\frac{N}{E} = 7.6$   
 15 watt

SPEC. NO. 2224 X

Winding	P <sub>1</sub>	P <sub>2</sub>	SEC			
Turns	910	910	101			
Taps	835	835	93-84-76-67-59-50			
Wind. Lgth.	1 7/16	1 7/16		42-33-25-17-9		
Wire Size	#33	#33	#20			
T.P.L.	124-8	124-8	4L			
Kind Term.	#20 PM Br		#20 PM Br			
Term. Lgth.	9"	9"	9"			
Layer Insul.	30#	30#				
Wrapper	1L007VC	2L005GA	2L005GA			
TUBE	7L007		IMPREGNATION		VARNISH	
CURE	7/8 x 7/8	2x2	29		lamination	

Pri start black  
 110 - white  
 120 - yellow P



use tap as markers

To deliver 1500V dc at end of filter - 375 Ma

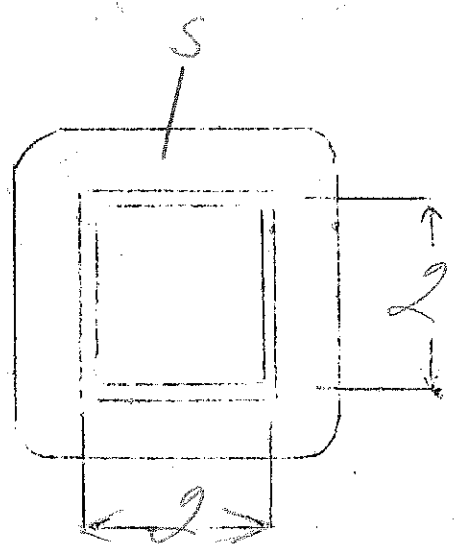
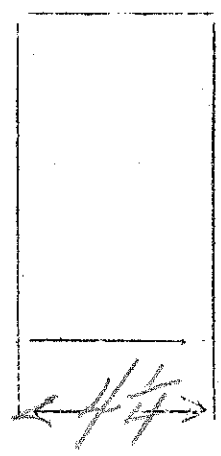
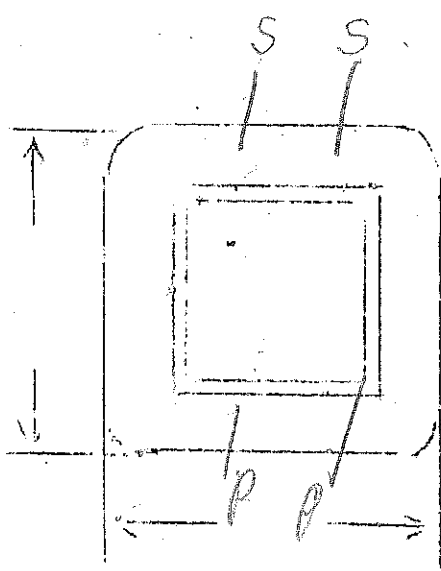
$E_p - 115 - 125 V$

$$\frac{N}{E} = 147$$

$E_s - 3530V - CT - 375 Ma$

SPEC. NO. 2222

Winding	SEC	PR1				
Turns	5600	184				
Taps	2800	169				
Wind. Lgth.	3 7/8					
Wire Size	#26	#13				
T.P.L.	190-30	50-4				
Kind Term.	WIRES	ONLY				
Term. Lgth.	6"	6"				
Layer Insul.	double 30*					
Wrapper	21005GA	21005GA				
TUBE	102007 + 11007VC		IMPREGNATION		VARNISH	
CURE	2x2					





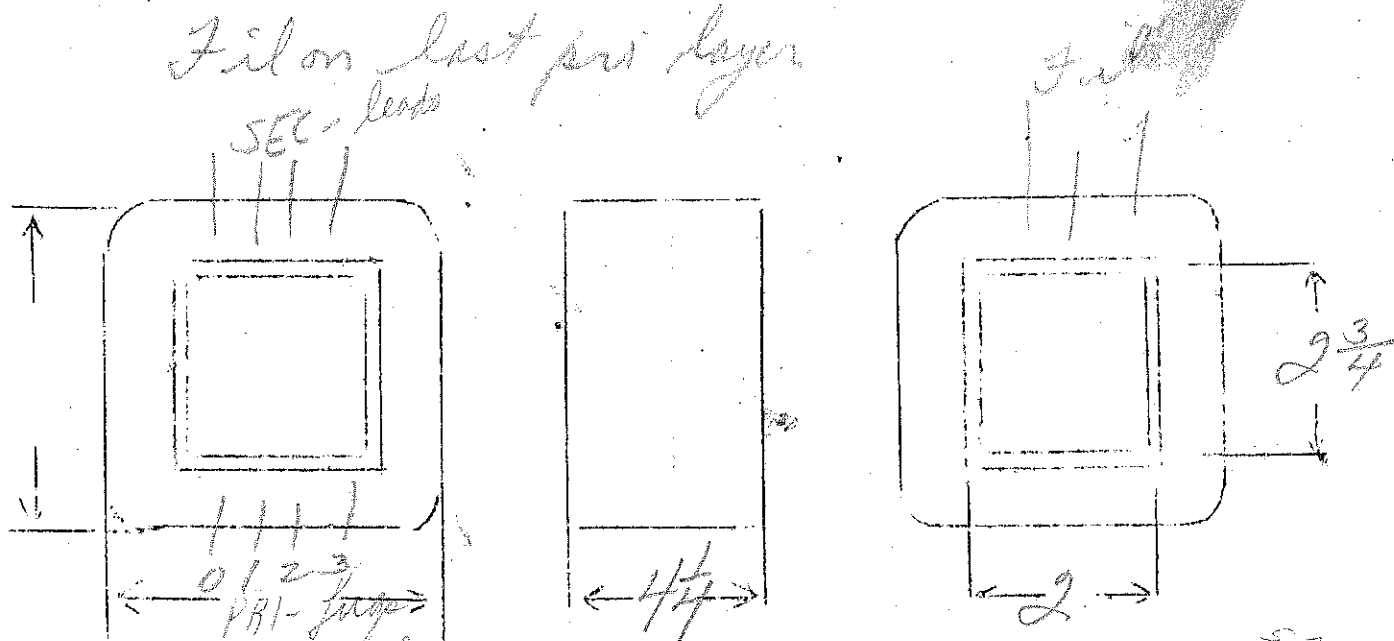
Ep - 105, 112, 120

Es - 2880, 2730, 2570 v - open (circuit)

Ef - 5VCF 20amps

SPEC. NO. 2229

Winding	SEC	PRI	FIL			
Turns	2970	123	6			
Taps	2820	115				
Wind. Lgth.	3 7/8	108	3			
Wire Size	#24	#10 square	#10 square	- Sil Duct - 6" long		
T.P.L.	166-18			- 18" long		
Kind Term.	#20 Kraft	WIRE ONLY				
Term. Lgth.	9"	3"	9"			
Layer Insul.	408	407 Kraft				
Wrapper	210056A 31007VC 210056A	210056A	210056A 110108D			
TUBE	92007 + 11007VC		IMPREGNATION		VARNISH	
CURE	2x2 3/4					



ground start of sec.

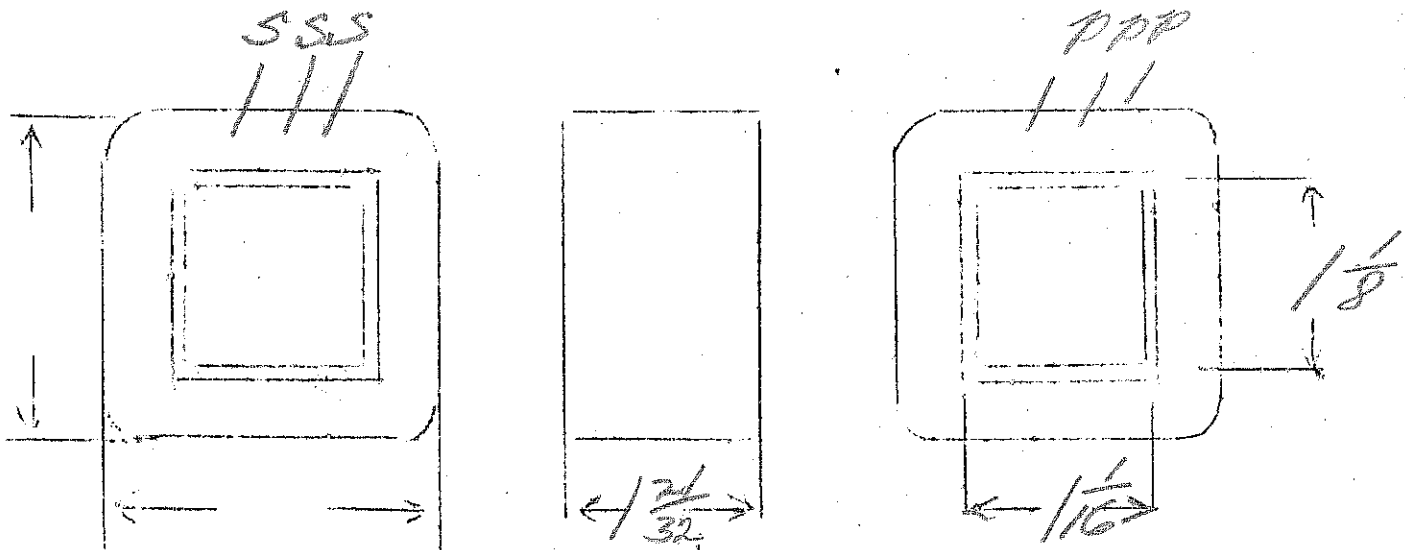


Ep - 110-120  
 Es - 700V (open) - 65 ma.  
 Ef - 5V - 2 amp  
 Ef - 6.3V - 2.5 amps

485

SPEC. NO. 2230

Winding	SEC	SHIELD	PRI	F <sub>1</sub>	F <sub>2</sub>		
Turns	3400	1	580 533	27	33		
Taps	1700			—	—		
Wind. Lgth.	1 <sup>15</sup> / <sub>32</sub>	1 <sup>15</sup> / <sub>32</sub>	1 <sup>15</sup> / <sub>32</sub>	—	—		
Wire Size	#34	shiny stock	#24	#19	#18		
T.P.L.	190-18		62				
Kind Term.	#20 P/B	sil Br	#20 P/B	WIFE	ONLY		
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	double 16#	—	40#				
Wrapper	11007VC	11007VC	210056A	210056A	210056A		
TUBE	7L009			IMPREGNATION	VARNISH		
CURE	1/16 x 1/8						



Pri 0 - brown  
 110 - yellow  
 120 - green

Sec - black, blue et.  
 6.3 - blue  
 5.0 - yellow

E<sub>D</sub> - 110-120  
 E<sub>S</sub> - 750V CT  
 E<sub>F1</sub> - 5V-3amp  
 E<sub>F2</sub> - 25V-5amp

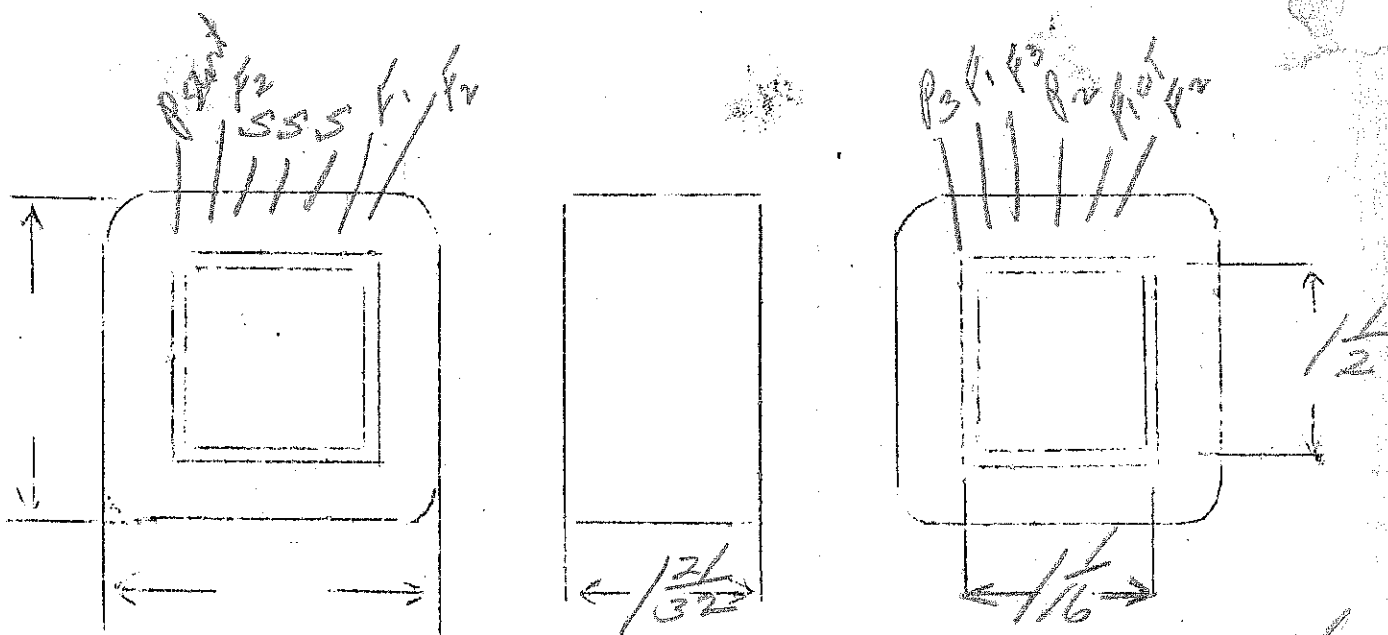
E<sub>F3</sub> - 25V-3.5amp



SPEC. NO.

2231

Winding	SEC	SHIELD	PR1	F <sub>3</sub>	F <sub>2</sub>	F <sub>1</sub>	
Turns	2920	170	433	10	10	20	
Taps	1460		37	5	—		
Wind. Lgth.	1 21/32	1 21/32	1 21/32				
Wire Size	#33	#33	#23	#17	double #18	#18	
T.P.L.	170-18		57-8L	1 layer			
Kind Term.	Silver Braid		WIPE ONLY	WIPE ONLY			
Term. Lgth.	3"	3"	3"	3"	3"	3"	
Layer Insul.	double 16#	—	double 20#	—	—	—	
Wrapper	2007VC	2007VC	20056A		20056A	20056A	
TUBE	7L007			IMPREGNATION		VARNISH	
CURE	1/16 x 1/2						



note that primary start is no volt tap!

Ep - 0-20-30-50-250-280-310-340-370V-400V

Eg - 2500Vet. - 350ma  
N/E = 95

2232 - 200-220

230 - 250Vet

SPEC. NO.

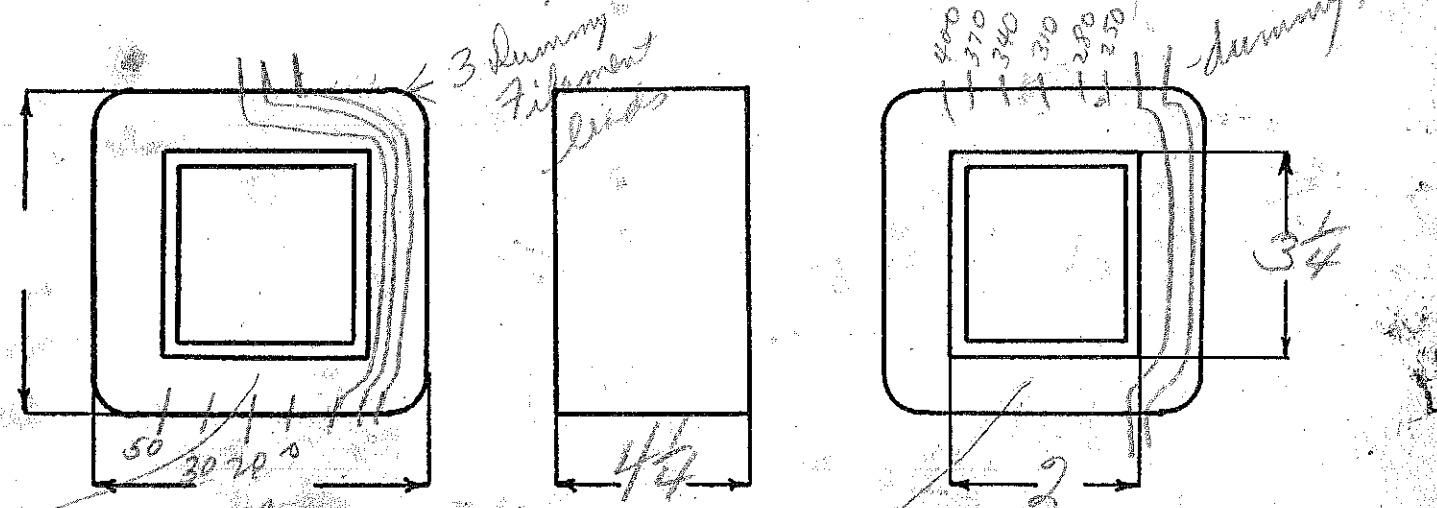
Winding	SEC		Continuouse			
Turns	2400		239	58	87	
Taps	-		19-28-48	34	29-58	
Wind. Lgth.	3 9/16					
Wire Size	#24		#13	#15	#17	
T. P. L.	150-16					
Finish						
Type Lead	#20 Dular	Start lead in coil	WIRE ONLY			
Lead Lgth.	12"		4"			
Layer Insul.	double 50H		007K			
Test Volt.						
Wrapper	2005GA 4007VC 21005GA			3005GA	laible	

TUBE 100007 + 14007VC IMPREGNATION varnish

CORE GA. 24 GRADE D STACK 242

MOUNTING C. Special aluminum casting #200-9 - mount 204H-230M on casting

taps 0-50 to control lines 200V, 220V, 230V, 250V  
taps 250-280-310-340-370 for cable control



DESIGNED BY *JW*

DATE 1/8/39

ES - 2400V

EP - 110 - 125 - 140 - 155 - 170 - 185

SPEC. NO. 2232-25

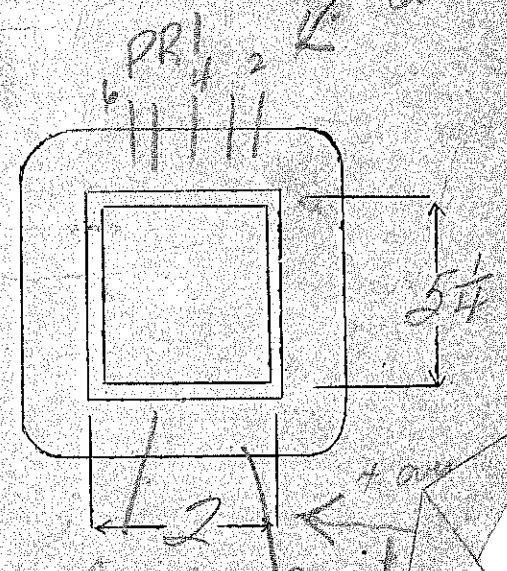
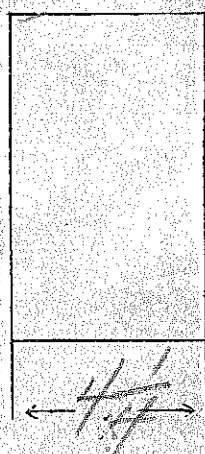
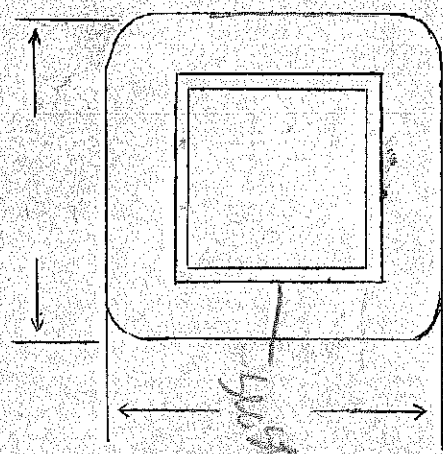
Continuous

Winding	SEC	PRI				
Turns	2400	105	28	43		
Taps	—	—	11	28-14		
Wind. Lgth.	3 $\frac{3}{4}$ "					
Wire Size	#24	#10 SQUARE	#12	#14		
T.P.L.	160-15					
Kind Term.	#20 P Braided	WIRE ONLY	✓	✓		
Term. Lgth.	9"	3"	3"	3"		
Layer Insul.	double 50 $\frac{1}{2}$ "	007 kraft				
Test Volt.	2500	1500	—	—		
Wrapper	2L0056A 3L007VC 2L0056A			2L0056A		

TUBE 9L007H/L007VC IMPREGNATION Varnish  
 CORE 2 x 5 $\frac{1}{4}$  PRIMARY V.A.

MOUNTING C - closed - strip in side of shell for pri. lead

(Rose Coil Black paint) (Wire only for Pri at single winding)



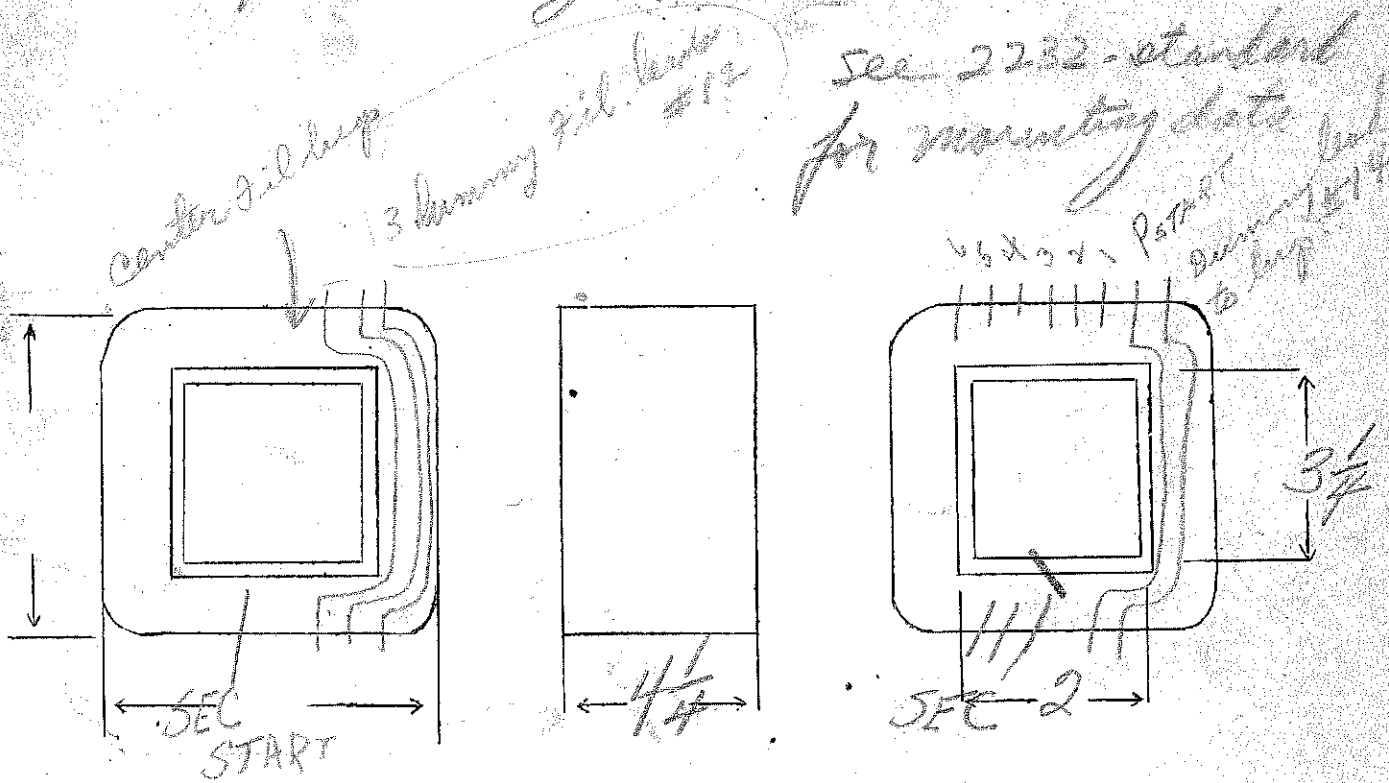
DESIGNED BY *llw*

DATE 11-19-36

KEV GREEN  
 ES- 3070-2730-2340V (open) 2500  
 Ep- 225-250-280-310-340-370V.  
 SPEC. NO. 2232-230  
 .955

Winding	SEC	Continuous					
Turns	2920	PRI	215	56	86		
Taps	2590 2270	—	22	56	28		
Wind. Lgth.	3 3/4			✓	✓		
Wire Size	#24	#13	#15	#17			
T.P.L.	162-18						
Kind Term.	#20 P Cr.	WIRE ONLY →					
Term. Lgth.	6"	3"	3"	3"			
Layer Insul.	double 50#	.007	KRAFT				
Test Volt.	7500						
Wrapper	2.00 5G 3.00 7VC 4.00 5G			2.00 5G 1.00 1RA		Double	

TUBE 9L007H-12007VC IMPREGNATION Varnish  
 CORE 2 X 3 1/4 PRIMARY V.A.  
 MOUNTING C- Special Coating #200-9 with #204. 230



DESIGNED BY *gwr* DATE 2/19/37

Ep - 110-125-140-155-170-185

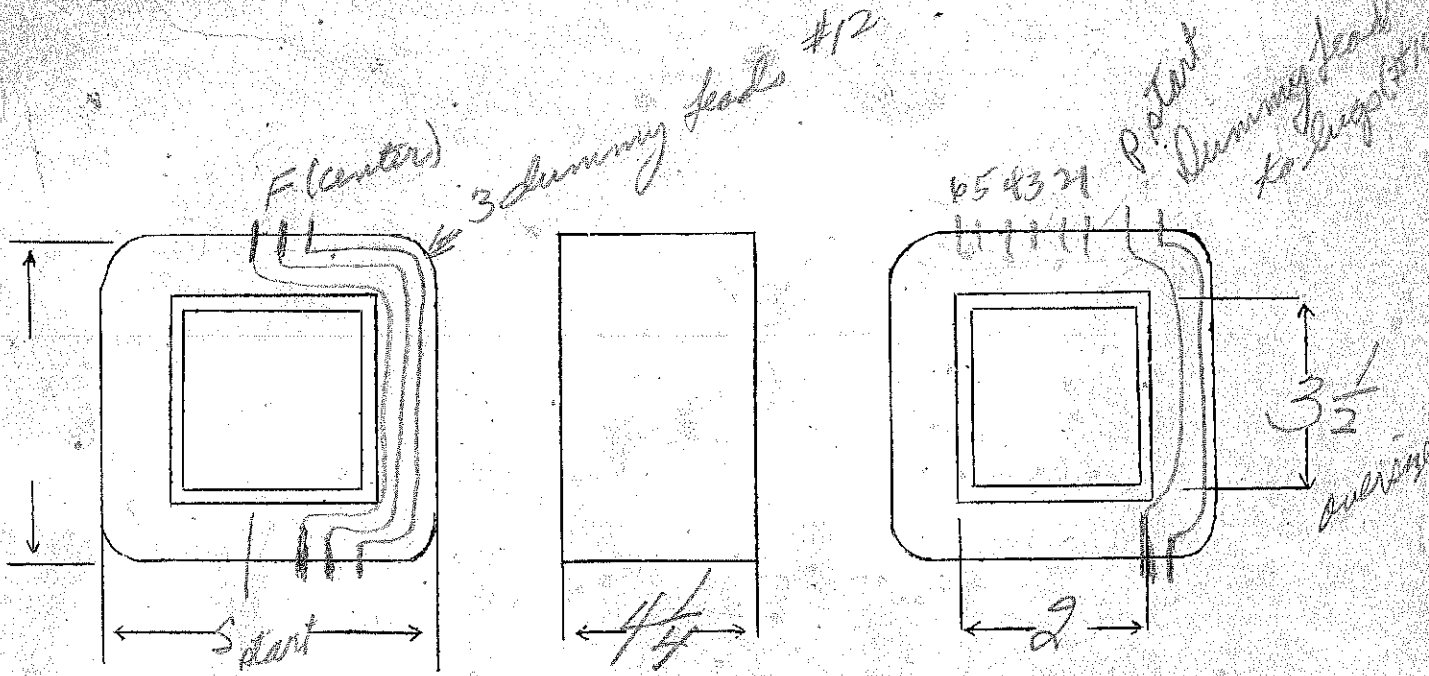
ES- Red Green Black Blue  
3070 - 2730 - 2390 - 0

SPEC. NO. 2232-40A

Winding	SEC	PRI				
Turns	2920 2590	105	28	43		
Taps	2270		11	28-14		
Wind. Lgth.	3 <sup>3</sup> / <sub>4</sub>					
Wire Size	#24	#70 squares	#12	#14		
T.P.L.	162-18					
Kind Term.	#70 Dulac	WIRE ONLY				
Term. Lgth.	12"	3"	3"	3"		
Layer Insul.	double 50#	00K				
Test Volt.	7500					
Wrapper	21005GA 42007VC 21005GA			31005GA		Double

TUBE 91007+21007VC IMPREGNATION 91007VC  
CORE PRIMARY V.A.

MOUNTING C - Special Res Casting for 204°C oil bath  
Start winding coil



DESIGNED BY *SPW*

DATE 7/11/32

Ep-110-125-140-155-170-185

Repaired by

E. J. ROSE

ES. Red Green Black Blue  
3070-2730-2390-0

SPEC. NO. 2232

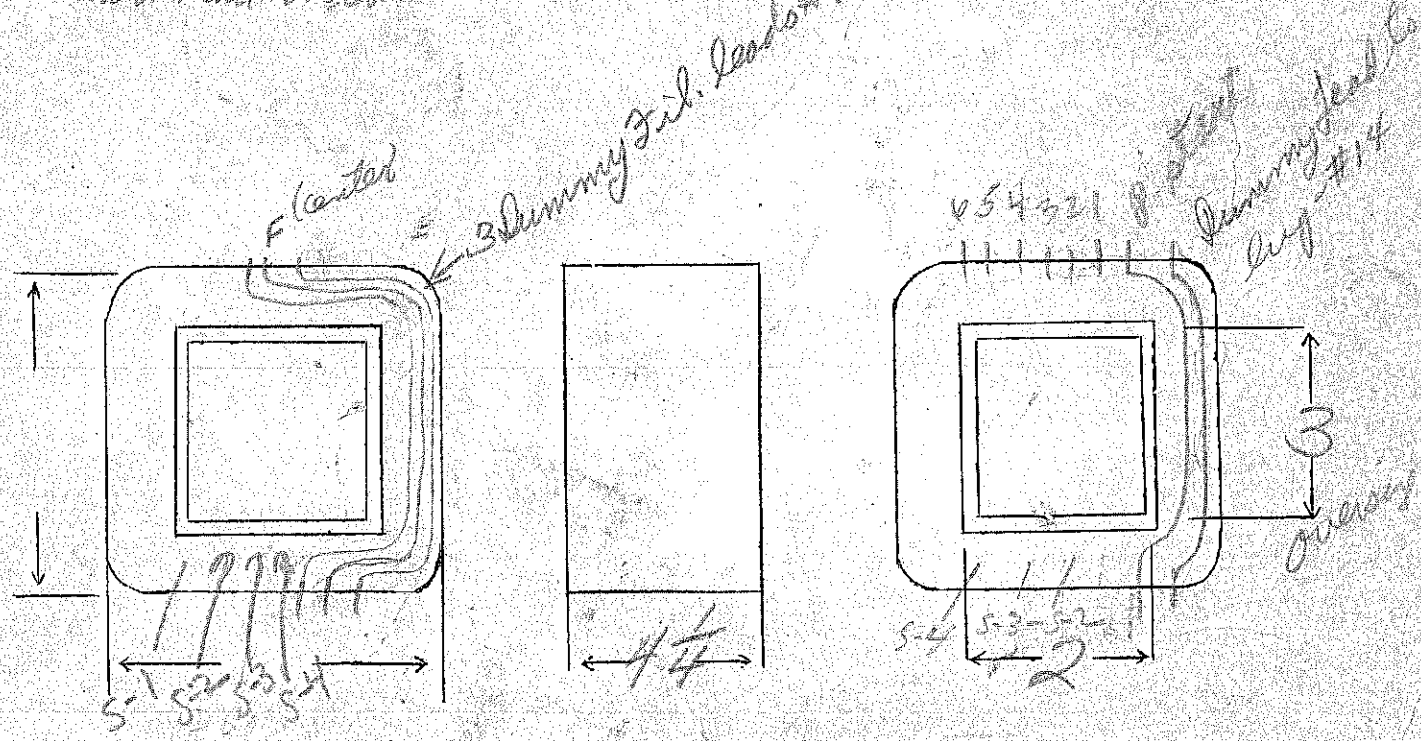
POWER mounted with #2041-c

Winding	SEC	Continuously					
Turns	2920 2590	PRI	28	43			
Taps	2270	105	11	28-14			
Wind. Lgth.	3 3/4						
Wire Size	#24	#10 Square	#12	#14			
T.P.L.	162-18						
Kind Term.	#20 Dulac	WIRE ONLY					
Term. Lgth.	12"	3"	3"	3"			
Layer Insul.	double 50#	1,007 KRAFT					
Test Volt.	7000						
Wrapper	#2005GA #2007VC #2005GA			30055A			

TUBE 9007 + 2600 VC IMPREGNATION Varnish  
CORE PRIMARY V.A.

MOUNTING C - special Rose casting with contact for 2041

Start lead in coil



DESIGNED BY Re [Signature]

DATE 7/11/38



Es — 2360, 2210, 2040 caps et. - open circuit

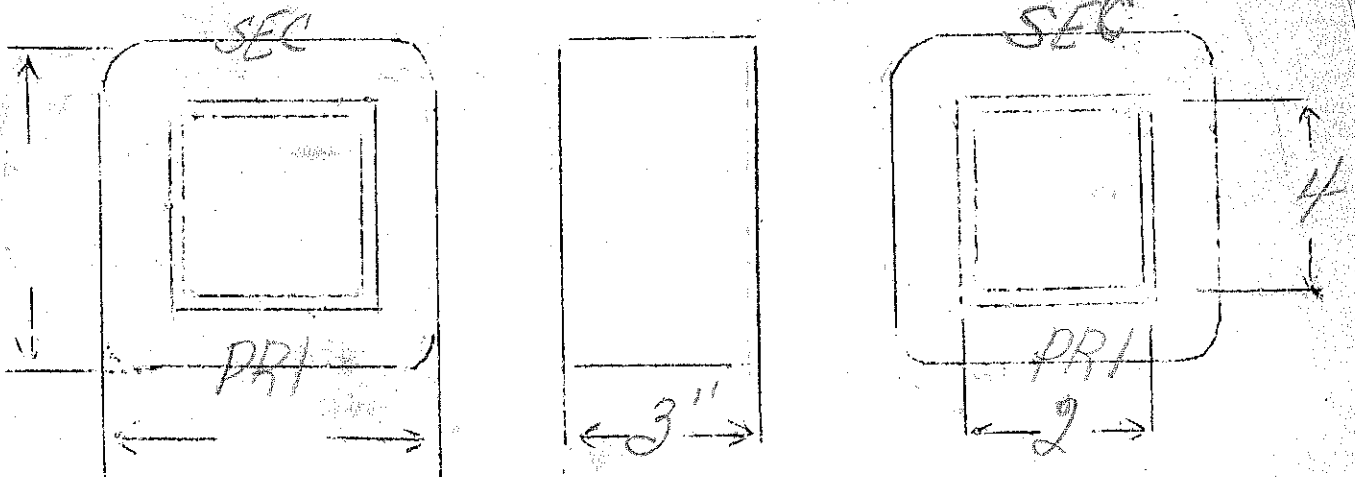
Ep - 110-125-140-155-170-185-200-215-230

.75

SPEC. NO. 2233

*Continuous*

Winding	SEC		PRI			
Turns	3530 3430		83	22	33	33
Taps	3300 1775-254-127			11	22-11	22-11
Wind. Lgth.	23 28					
Wire Size	#26		#11	#14	#17	#19
T.P.L.	127-28		26L	.67L	.7L	.6L
Kind Term.	WIRE OVER		WIRE ONLY			
Term. Lgth.	6"		3"	3"	3"	3"
Layer Insul.	double 50*		007 Kraft			
Wrapper	2L005GA 3L007VC 2L005GA				2L005GA	
TUBE	10L007+1L007VC			IMPREGNATION	VARNISH	
CURE	2 x 4					



03  
01  
02  
01  
03

Ep-105-112-120

Es-11V-8 amps CT

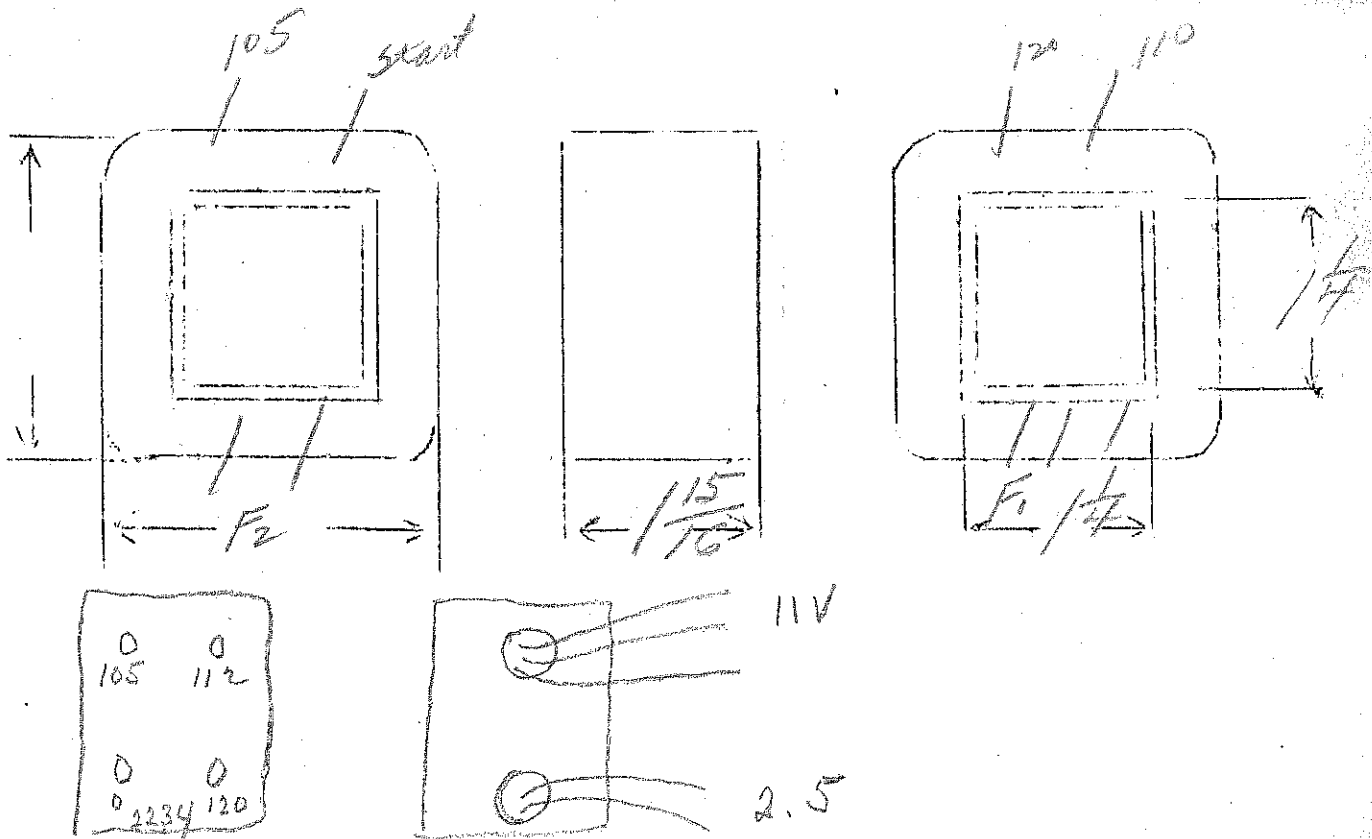
Es-2.5V-10.amps - 4500 V.D.

364

SPEC. NO.

2234

Winding	PRI	F <sub>1</sub>	F <sub>2</sub>			
Turns	435 410	43	10			
Taps	385	22	-			
Wind. Lgth.	1.75	-	-			
Wire Size	#21	#13	#12			
T.P.L.	54	-	-			
Kind Term.	WIPE	ONLY				
Term. Lgth.	3"	3"	3"			
Layer Insul.	40#	-	-			
Wrapper	2L007GA	3L007VC 1L007GA	3L007-VL 1L007GA			
TUBE	7L007	IMPREGNATION		VARNISH		
CURE	1 1/4 x 1 1/4					

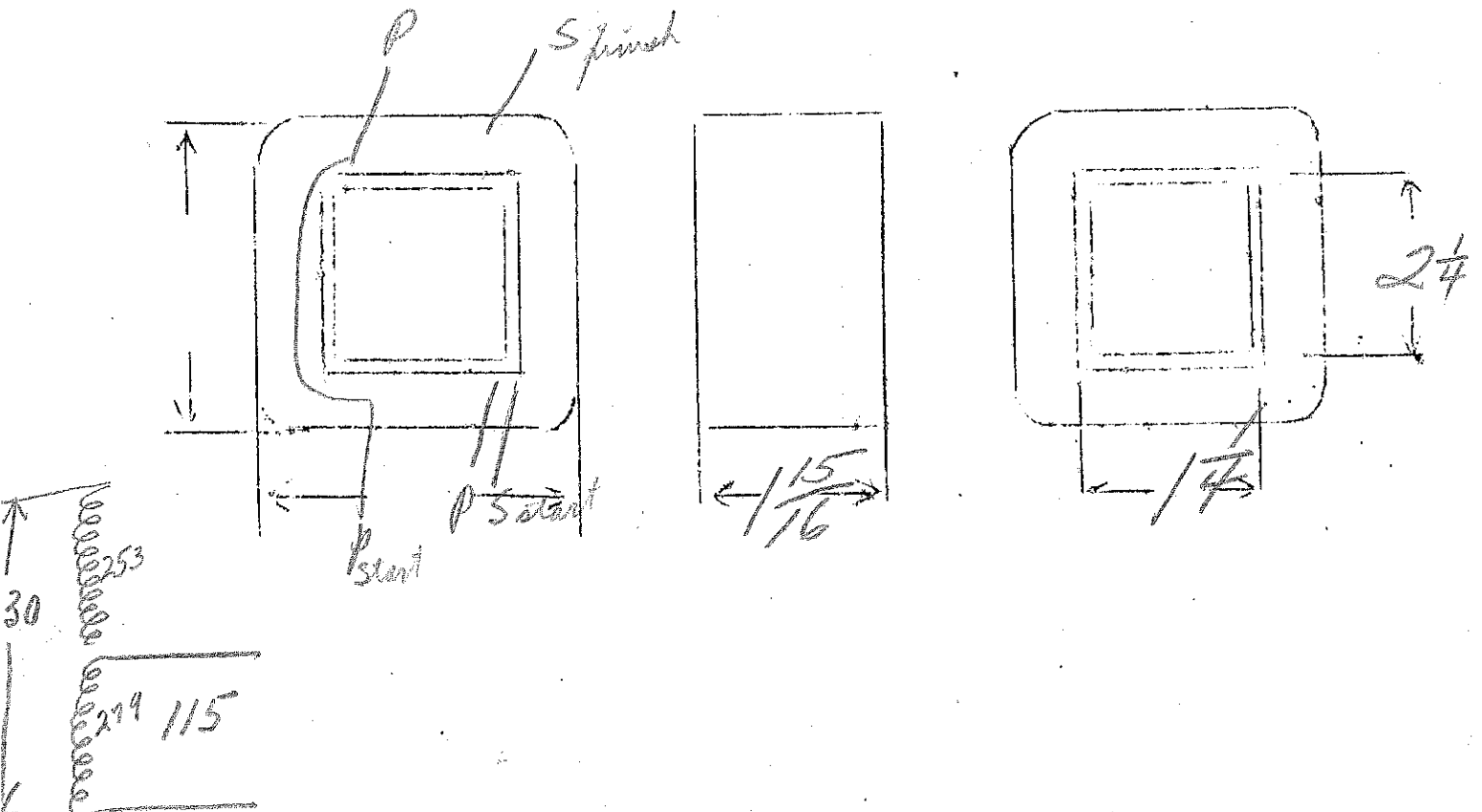


450 wad - 230 to 115 step down

2.3

SPEC. NO. 2235

<i>Continuous</i>						
Winding	PR1	SEC				
Turns	279	253				
Taps	—	—				
Wind. Lgth.	1.75	1.75				
Wire Size	#19	#19				
T.P.L.	—	—				
Kind Term.	WIRE ONLY					
Term. Lgth.	3"	3"				
Layer Insul.	00716 aff					
Wrapper	20075A					
TUBE	76089		IMPREGNATION		VARNISH	
CURE	1 Hr x 2					



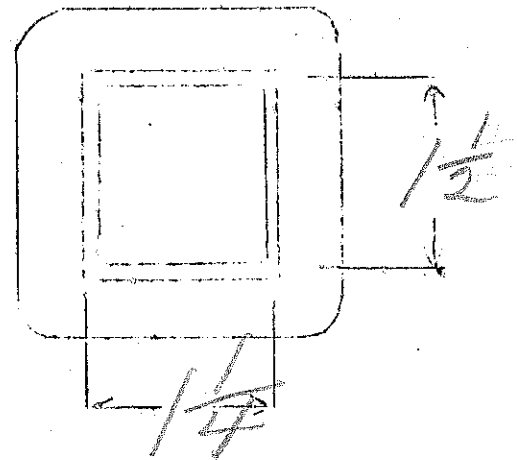
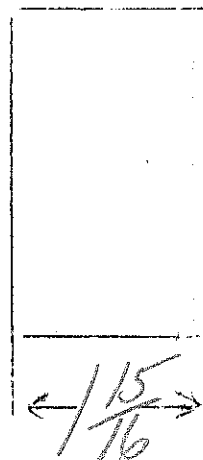
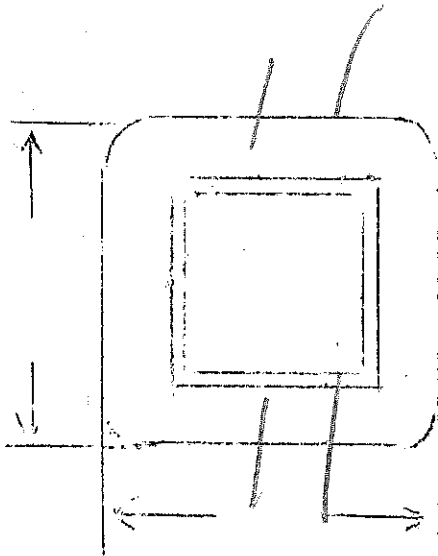
Ep - 115V

31

Es - 6V - 20amp

SPEC. NO. 2236

Winding	PRI	SEC				
Turns	357	20				
Taps	—	—				
Wind. Lgth.	1.75					
Wire Size	#20	#double 12				
T.P.L.	47-8	3-				
Kind Term.	WIRES	ONLY				
Term. Lgth.	3"	3"				
Layer Insul.	.007 Kraft					
Wrapper	20076A	20076A				
TUBE	2007		IMPREGNATION		VARNISH	
CURE	1/4 x 1/2					



Ep - 115

VA = 103

Es - 650V.C.T. - 200ma

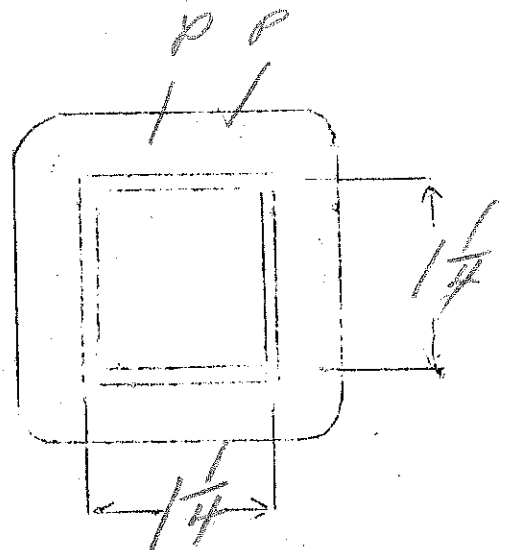
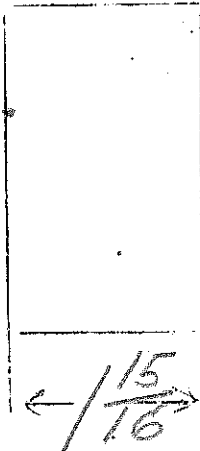
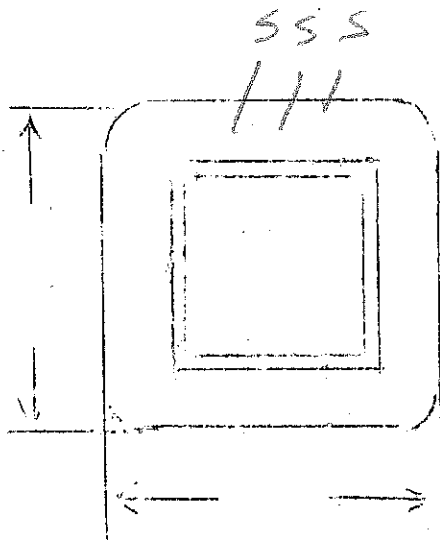
EF<sub>1</sub> - 6.3V.C.T. - 3.5 amp

EF<sub>2</sub> - 5V.C.T. - 3 amp

363

SPEC. NO. 2237

Winding	SEC	SH	PRI	F <sub>1</sub>	F <sub>2</sub>		
Turns	2600	132	418	25	20		
Taps	1300			12	10		
Wind. Lgth.	1.75	1.75	1.75	—	—		
Wire Size	#29	#29	#22	#17	#18		
T.P.L.	132-20		60-7				
Kind Term.	#20 Bar Bar	WIPE ONLY	#20 Bar Bar	WIPE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	double 16#	—	double 20#	—	—		
Wrapper	1L007VC	1L007VC	2L0076A	2L0076A	2L0076A		
TUBE	7L007			IMPREGNATION	VARNISH		
CURE	1/4 X 1/4						

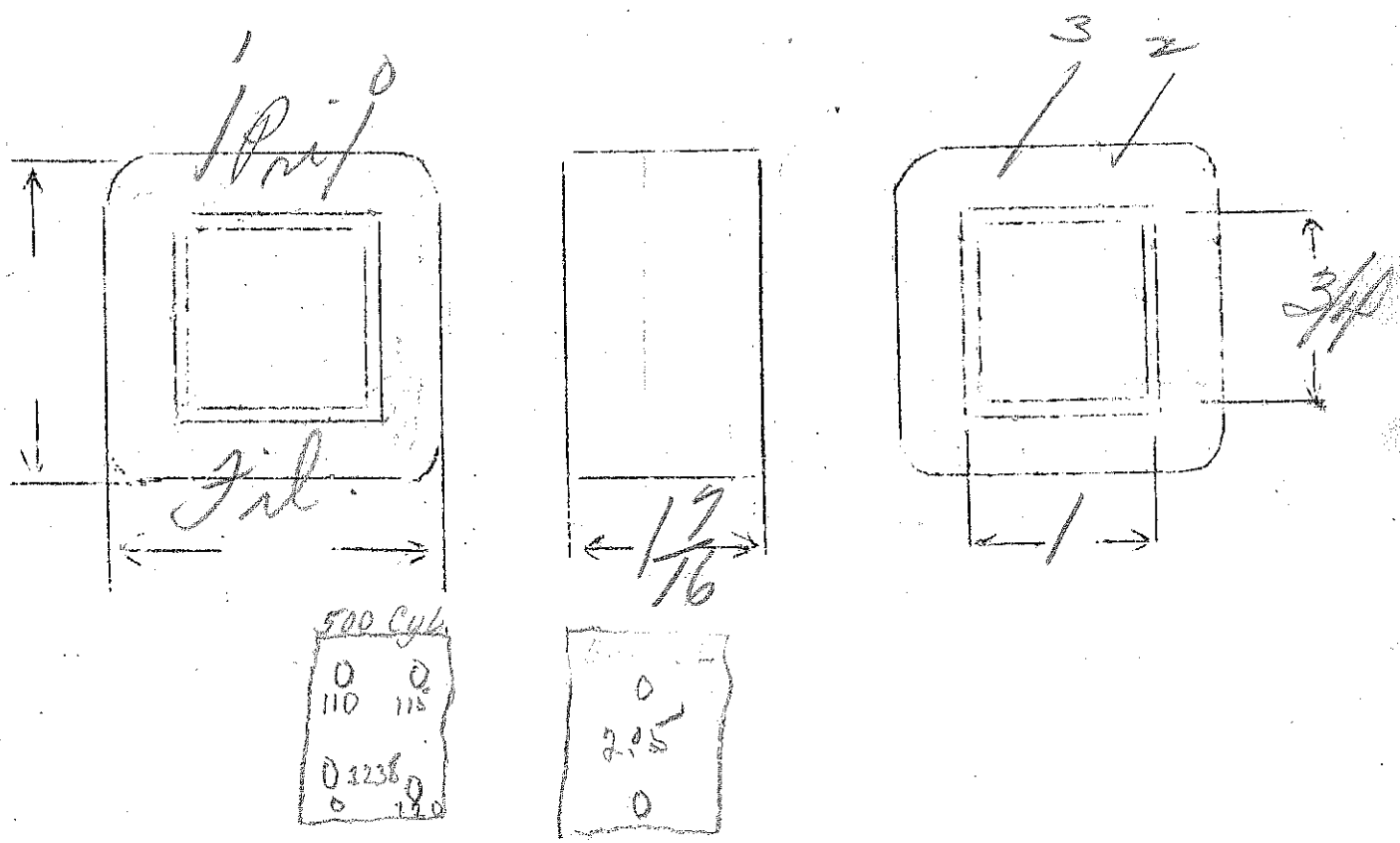


$E_p - 110 - 115 - 120V - 500N$   
 $E_s - 2.5V - 10amps - 5000V \text{ Ins.}$   
 CT

4

SPEC. NO. 2238

Winding	PRI	FIL					
Turns	480	11					
Taps	440	5					
Wind. Lgth.	1.25	—					
Wire Size	#27	#12					
T.P.L.	75						
Kind Term.	SIL BR	WIRE ONLY					
Term. Lgth.	4"	4"					
Layer Insul.	40 #						
Wrapper	21007VC 21005GA	21007VC 21005GA					
TUBE	7607		IMPREGNATION		Varnish		
CURE	1X 3/4						



Ep - 115V

Es - 1250V - 350 ma

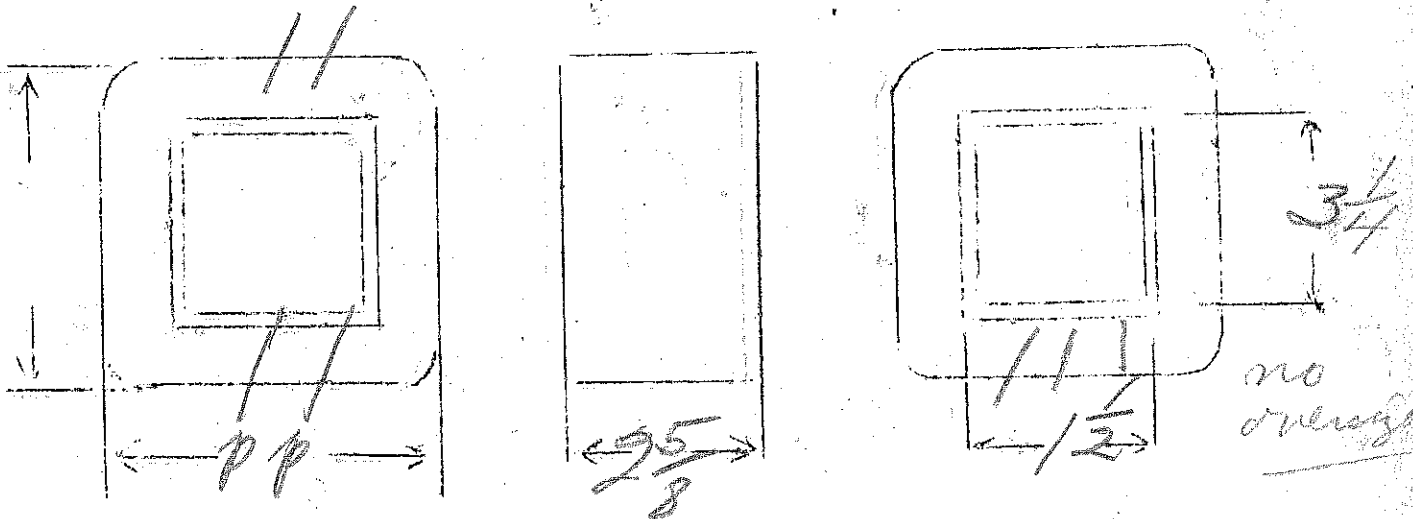
Ep - 10.5V. Tamps C.T. grounded

SPEC. NO.

2239

Winding	SEC	PRI	FIL				
Turns	1900	153	15				
Taps	-	-	7				
Wind. Lgth.	2 <sup>3</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	—				
Wire Size	26	14	double 16				
T.P.L.	127-15	5L	-				
Kind Term.	WIPE ONLY						
Term. Lgth.	3"	3"	3"				
Layer Insul.	double 40#	007 Kraff	—				
Wrapper	2L007VC 2L005GA	2L005GA	2L005GA				
TUBE	9L007+1L007VC			IMPREGNATION	VARNISH		
CURE	1 1/2 x 3 1/4						

mtg - unencased principal to panel - Slets Panel



Ep - 115V

PPH 250

Es - 1200V.C.T. - 250MA

VA = 220

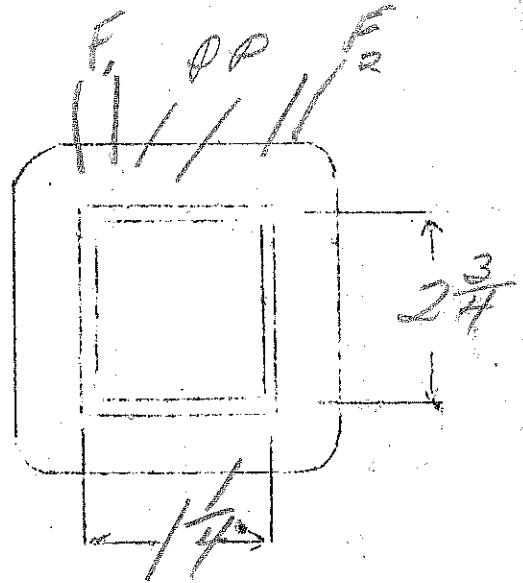
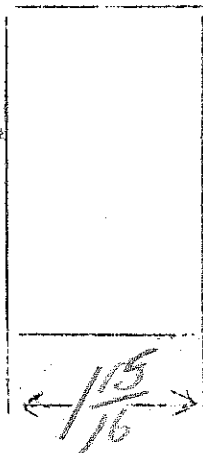
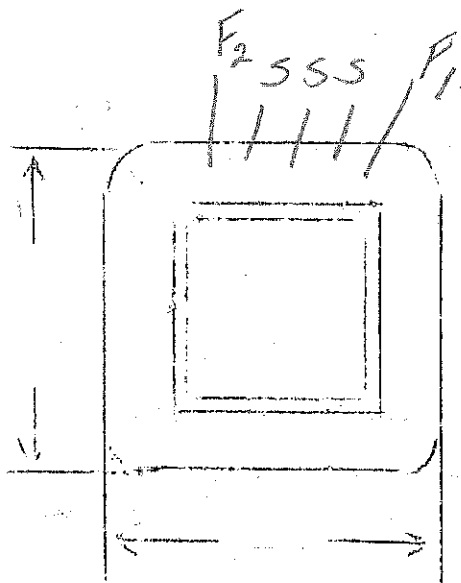
Ef - 7.5V - 5 amp CT

Ef - 5V - 6 amp

SPEC. NO.

2240

Winding	SEC	SHIELD	PR 1	F <sub>1</sub>	F <sub>2</sub>		
Turns	2120	118	191	14	9		
Taps	1060	-	-	7	5		
Wind. Lgth.	1.75	1.75	1.75	-	-		
Wire Size	#28	#28	#19	#16	#15		
T.P.L.	118-18	118	42-5	~	~		
Kind Term.	2L Braid		WIRE ONLY				
Term. Lgth.	3"	3"	3"	3"			
Layer Insul.	Double 167		.007				
Wrapper	20076A	20076A	20076A		20076A		
TUBE	2007 + 3L Glassine			IMPREGNATION		VARNISH	
CURE	1 1/4 x 2 3/4						



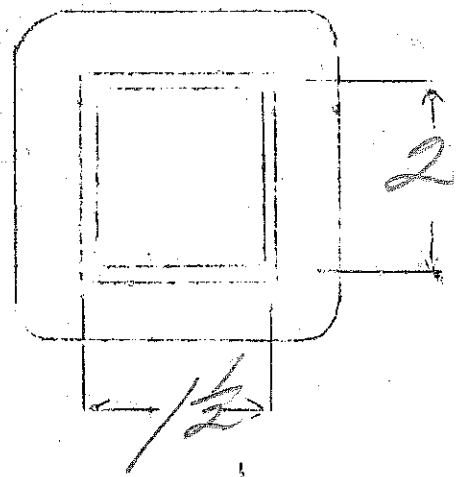
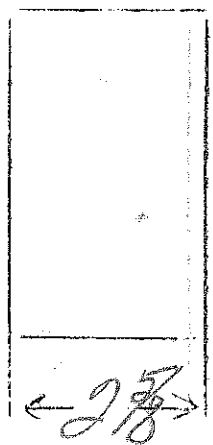
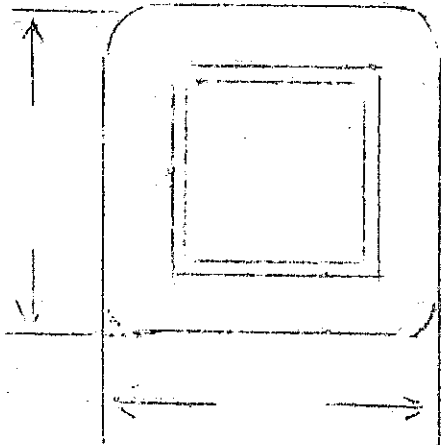


10 V - 30 ampe

2

SPEC. NO. 2241

Winding	PR1	SEC				
Turns	230	22				
Taps						
Wind. Lgth.	2 3/8	2 3/8				
Wire Size	#17	#10 square				
T.P.L.	46-5	34				
Kind Term.	WIPE ONLY					
Term. Lgth.	6"	6"	no sleeving - no panel			
Layer Insul.	007Kupf					
Wrapper	21005BA					
TUBE	7L007		IMPREGNATION		VARNISH	
CURE	1 1/2 x 2					

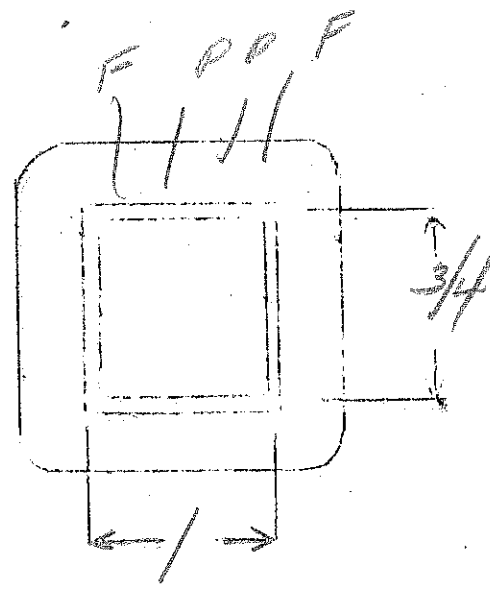
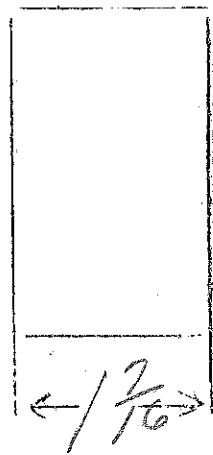
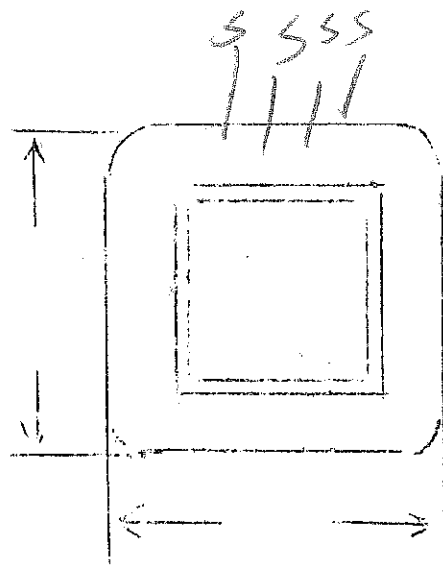


Ep - 115V  
 Ef - 5V - 2amp  
 Es - <sup>300</sup> <sub>250</sub> 40ma capacity  
<sub>300</sub>

74

SPEC. NO. 2242

Winding	SEC	SHIELD	PRI	FIL		
Turns	4900 4500	206	850	42		
Taps	2450	—	—	—		
Wind. Lgth.	1.25	1.25	1.25	—		
Wire Size	#36	#36	#28	20		
T.P.L.	206	—	85-10			
Kind Term.	Sil Brand			WIRE ONLY		
Term. Lgth.	3"	3"	3"	3"		
Layer Insul.	double 16#		40#			
Wrapper	1200TVC	1200TVC	220056A	220056A		
TUBE	172007			IMPREGNATION		VARNISH
CURE	1X 3/4					



Ep - 120-230-250 volt 50-60 cycle VA = 65

Es - 700V.C.T. - 65ma N/E - 3.63

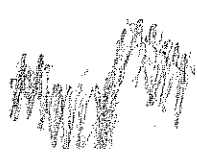
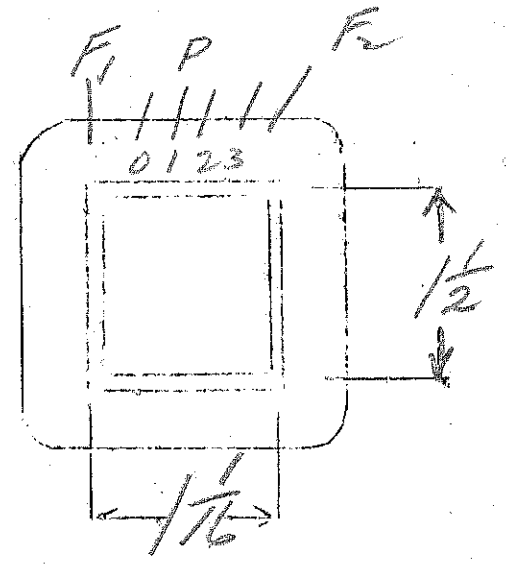
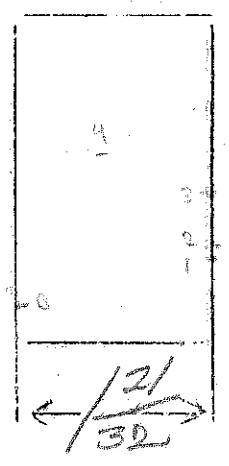
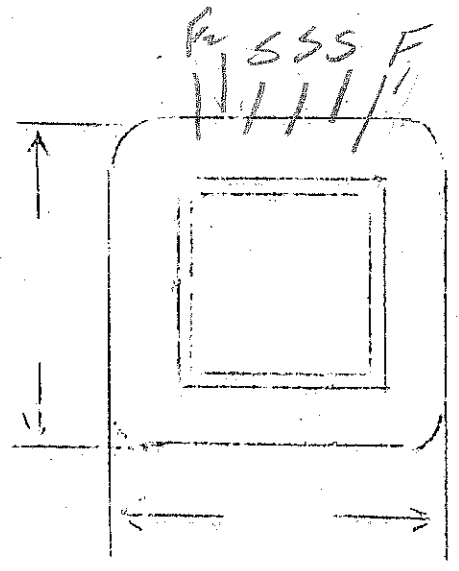
Ef - 5V - 2amps

Ef - 6.3V - 3.5amps

SPEC. NO. 2243

Continuous

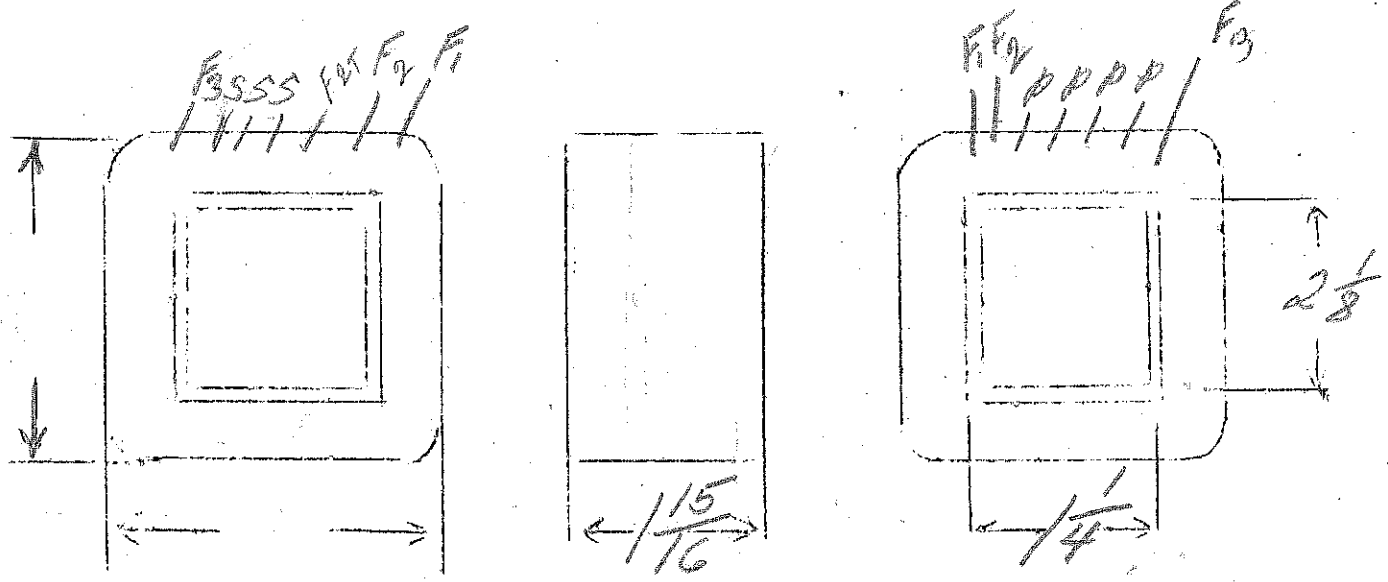
Winding	SEC	SHIELD	PRI		F <sub>1</sub>	F <sub>2</sub>	
Turns	2800	1	437	472	20	25	
Taps	1400			400		12	
Wind. Lgth.	1 <sup>15</sup> / <sub>32</sub>	1 <sup>15</sup> / <sub>32</sub>	1 <sup>15</sup> / <sub>32</sub>	—	—		
Wire Size	#34	Shim Stock	#24	#28	#20	#16	
T.P.L.	180-16		63-7	100-5			
Kind Term.	Sil braid			WIRE ONLY			
Term. Lgth.	3"	3"	3"	3"	3"		
Layer Insul.	double 16#		40#	40#			
Wrapper	1L007VC	1L007VC		2L005GA	2L005GA	2L005GA	
TUBE	1L007				IMPREGNATION	VARNISH	
CURE	1/16 x 1/2						



Ep - 120-230-250V. 50-60n  
 Es - 700V.C.T. - 150Ma  
 Ef - 5V - 3amps  
 Ef - 6.3V.C.T. - 2.3amps 22  
 Ef - 6.3V - 3.5amps

SPEC. NO. 2244

Winding	SEC	SHIELD	PRI	Continuation			
Turns	1700	1	264	286	12	15	15
Taps	850			242		7	
Wind. Lgth.	1.75	1.75	1.75				
Wire Size	#30	Shim	#21	#25	#18	#18	#16
T.P.L.	142-12	Stock	53-5	83-4			
Kind Term.	sil braid			WIRE ONLY			
Term. Lgth.	3	3	3	3	3	3	3
Layer Insul.	double 20#	✓	double 30#	✓			
Wrapper	1L007VC	1L007VC		2L007GA		2L007GA	2L007GA
TUBE	7207			IMPREGNATION		VARNISH	
CURE	1 1/4 x 2 1/8						



Ep - 120V

$\frac{N}{E}$  445

FOR 6 TUBE (1 MAGIC EYE)

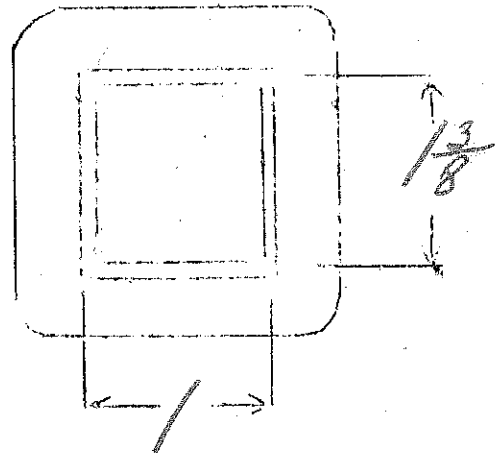
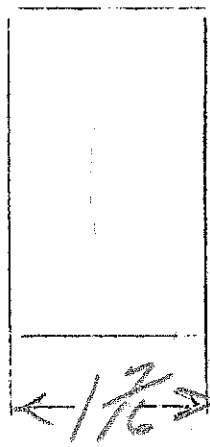
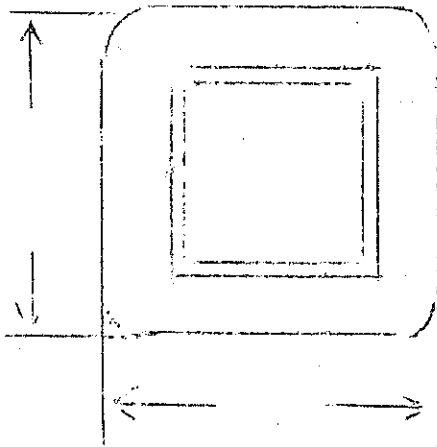
E<sub>3</sub> - 800V CT. open - 50ma

E<sub>F1</sub> - 5.6 V - 2amps

E<sub>F2</sub> - 6.8 V - 2amps

SPEC. NO. 2245

Winding	SEC	SHIELD	PRI	FIL	FIL		
Turns	3600		535	30	25		
Taps	1800		—				
Wind. Lgth.	1.25	1.25	1.25	—	—		
Wire Size	#26	#26	#26	#20	#21		
T.P.L.							
Kind Term.							
Term. Lgth.							
Layer Insul.							
Wrapper							
TUBE	72007			IMPREGNATION		VARNISH	
CURE	1X 1 <sup>3</sup> / <sub>8</sub>			Electrical Grade			



Ep - 120V

428

FOR 6 TUBE (1-MAGIC EYE)

Es - 800V.C.T. (open) - 50 ma

Ef1 - 5.6V - open 2amp

Ef2 - 6.8V - open - 2amps

SPEC. NO.

2246

Winding	SEC	SHIELD	DR1	Blue F1	Green F2
Turns	3420	66	515	29	24
Taps	1710		—	—	—
Wind. Lgth.	1.25	1.25	1.25	—	—
Wire Size	# 36	# 26	# 26	# 20	# 21
T.P.L.	200-18	—	66-8	—	—
Kind Term.	# 22	Per Brand		WIRES ONLY	
Term. Lgth.	9"	9"	9"	9"	9"
Layer Insul.	double 16#	—	40#	—	—
Wrapper	11007K	11007K	21005GA	21005GA	21005GA

TUBE

7L007

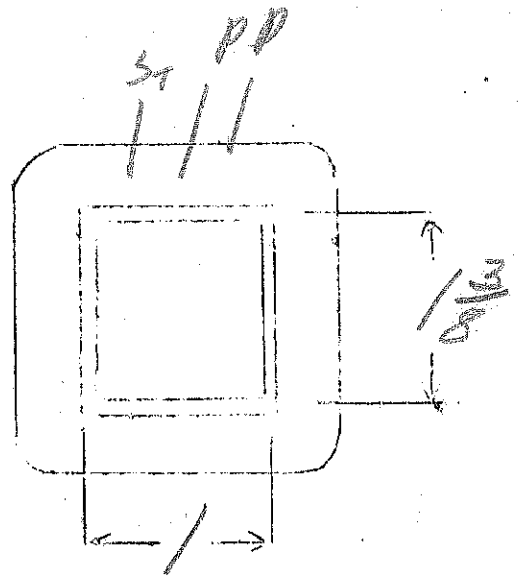
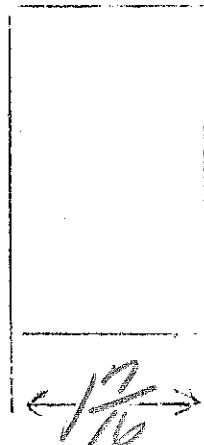
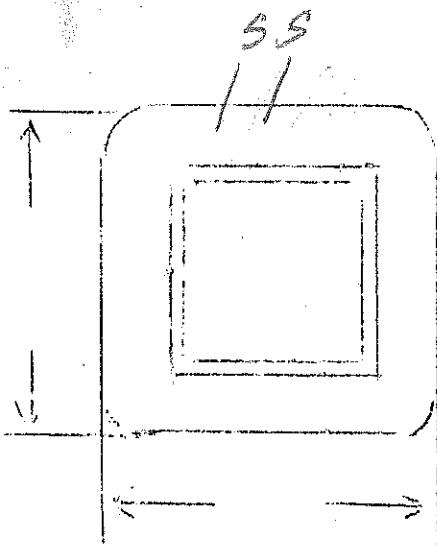
IMPREGNATION

VARNISH

CURE

1 X 1 3/8

Synona Slide



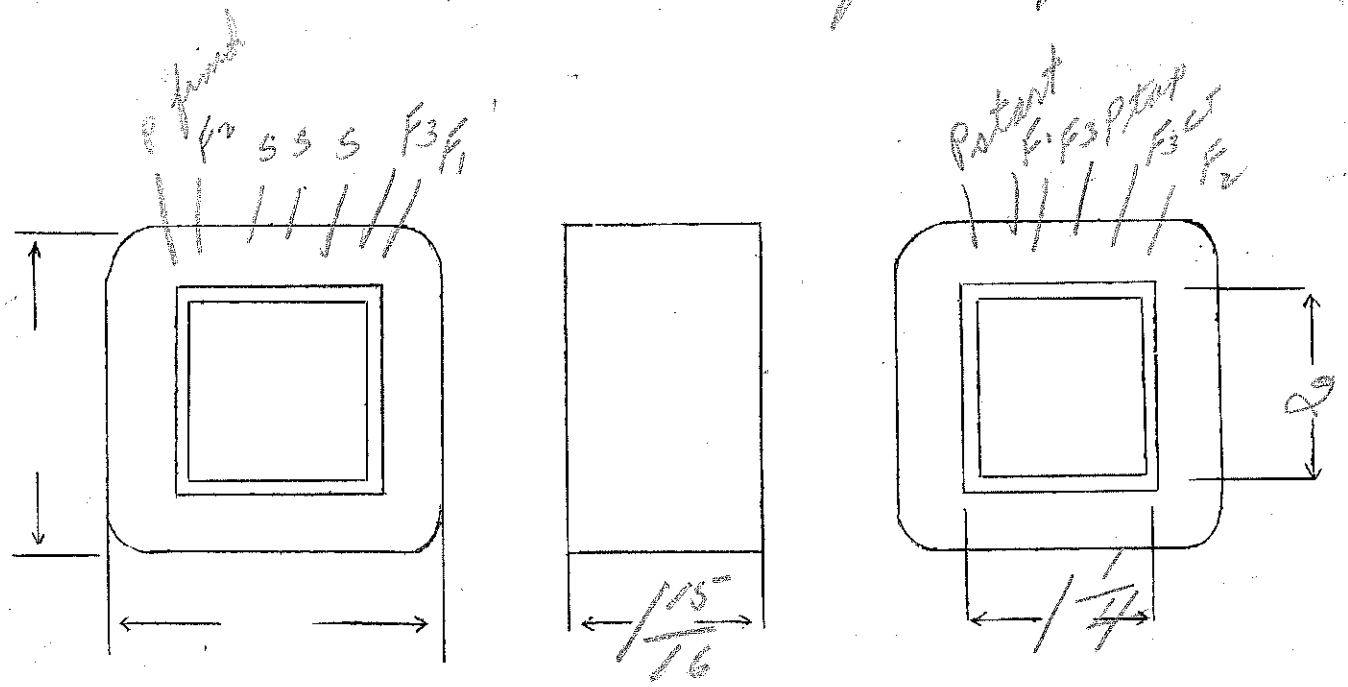
Ep - 110-120 - 20 cycle  $E_{F2} - 25V - 5amp$   
 $E_3 - 700VCT - 100ma$   $E_{F3} - 2.5VCT - 3.5amps$   
 $E_{F1} - 5V - 2amp$

430

SPEC. NO. 2247-25w

Winding	SEC	SHIELD	PRI	F <sub>1</sub>	F <sub>2</sub>	F <sub>3</sub>	
Turns	3400	60	520	24	12	12	
Taps	1700		475	-	-	6	
Wind. Lgth.	1.75	✓	✓				
Wire Size	33 #22	#22	#22	#19	#15	#17	
T.P.L.	145-18		60-9				
Kind Term.	sil Br	WIPE ONLY	WIPE ONLY	WIPE ONLY	WIPE ONLY	WIPE ONLY	
Term. Lgth.	3"	3"	3"	3"	3"	3"	
Layer Insul.	double 16#		50#				
Test Volt.	2500		1250				
Wrapper	14007VC	14007VC	240076A	240076A		240076A	
TUBE	72007	IMPREGNATION			VARNISH		
CORE	1/4 x 2	PRIMARY V.A.					
MOUNTING	C						

use special 2247 printed panel



DESIGNED BY

*[Signature]*

DATE

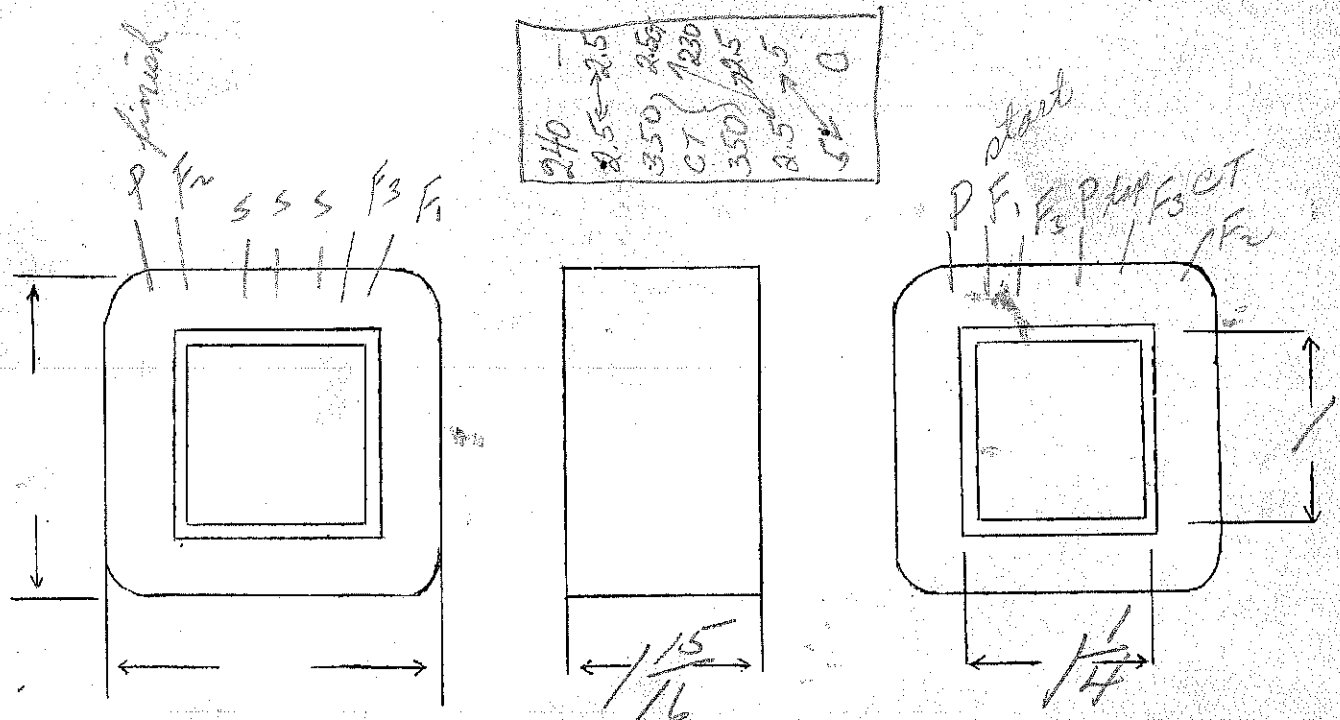
3/22/37

EP - 230-240V  
 ES - 700V CT - 100MA  
 EA - 5V - 2amp

EF2 - 2.5V - 3A  
 EF3 - 2.5V CT - 3A

SPEC. NO. 2247-240V

Winding	SEC	SHIELD	PRI	F <sub>1</sub>	F <sub>2</sub>	F <sub>3</sub>
Turns	3500	79	1065	24	12	12
Taps	1750		1020			6
Wind. Lgth.	1 2/3					
Wire Size	#33	#26	#26	#19	#15	#17
T.P.L.	195-18		79-14			
Kind Term.	sil br		WIRE ONLY			
Term. Lgth.	3"	3"	3"	3"		
Layer Insul.	double 16#		50#			
Test Volt.						
Wrapper	1007VC	1007VC	210076A	210078A	210076A	
TUBE	71007			IMPREGNATION		VARNISH
CORE	1/4 X 1				PRIMARY V.A.	
MOUNTING	C					



DESIGNED BY DW

DATE 6/3/37



Power  
230V, 240V @ 60~  
to  
700V CT @ 100 ma.

Rose

AT AD TEST CO. MICHIGAN  
5V @ 2a 2.5V @ 5a 2.5V @ 6.3a

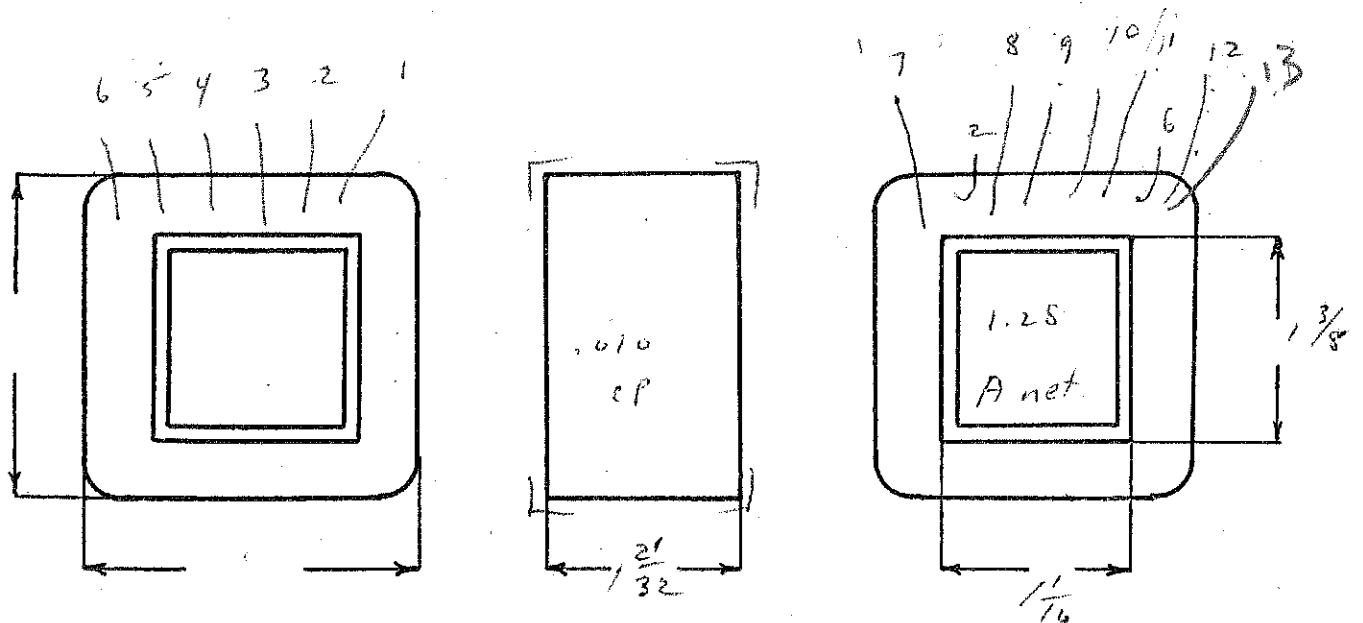
SPEC. NO. 2247-240V

Winding	1-2-3 Sec	Shield	4-5-6 Pr.	7-8 Fil#1	9-10-11 Fil#2	12-13 Fil#3	
Turns	2800	1	880	20	10	10	
Taps	1400	—	843	—	5	—	
Wind. Lgth.	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	
Wire Size	#33	.001w.	#27	#20	#18	#16	
T. P. L.	156-18L	1	84-11L	20-1L	10-1/2L	10-1/2L	wind in one layer with 1/4" between
Finish	82%	—	88%	50%	57.5%	75%	
Type Lead	S.L Br.	S.L Br.	S.L Br.	W.O.	W.O.	W.O.	
Lead Lgth.	3"	3"	3"	3"	3"	3"	
Layer Insul.	20#	—	40#	—	—	—	
Test Volt.	2500	—	1500	2500	1500	—	
Wrapper	.158 1L007V6	.002 1L007V6	.190 2L0076A	.0334 2L0076A	.0525 2L0076A	—	

TUBE 7L007 6K + 1L003V6 IMPREGNATION Varnish

CORE 1 1/16 x 1 3/8 GA. 24 GRADE D STACK 2X2

MOUNTING C - Lugs BEND LUGS OUT



DESIGNED BY S. Babcock

DATE 12-4-47

# DESIGN AND TEST DATA

Rating:

$E_{Sec} VA = 65$   
 $P_{S1} VA = 84.5$   
 $I_p = 352 ma$

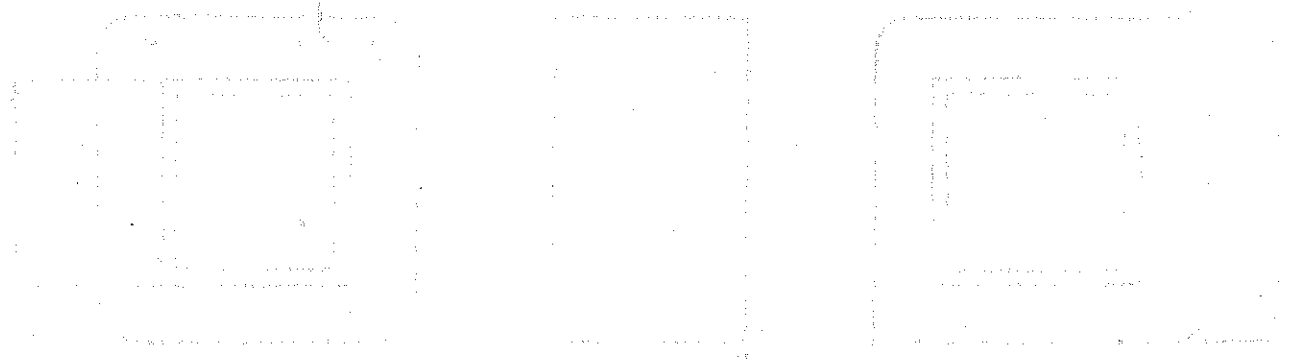
Winding	Sec	P.T.	F.L P.L	F.L P.L	F.L P.L	F.L
Mean Turn	5.845	7.245	8.175	8.5	7.5	
Resistance 25° c	<del>2.87</del>	27.8	<del>.141</del> <del>27.8</del>	.0465	<del>.043</del>	
Pounds Copper	<del>.202</del>	.33	<del>.0427</del> <del>.33</del>	.0358	.0567	
Copper Density	557	550	511	541	517	
Ratio Volts	703 Load	230	<del>4.45</del> Load	2.48 Load	2.97 Load	
Test to Ground	2500	1500	2500	1500		

Iron Induction \_\_\_\_\_ @ \_\_\_\_\_ Cycles \_\_\_\_\_

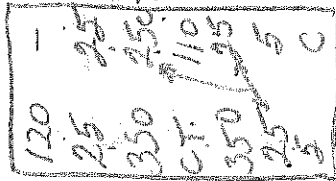
Exciting Current \_\_\_\_\_ amperes @ \_\_\_\_\_ volts 60 cycles on \_\_\_\_\_

Induced Test: Apply \_\_\_\_\_ Volts at \_\_\_\_\_ Cycles \_\_\_\_\_ on \_\_\_\_\_ with \_\_\_\_\_ grounded

Remarks: \_\_\_\_\_

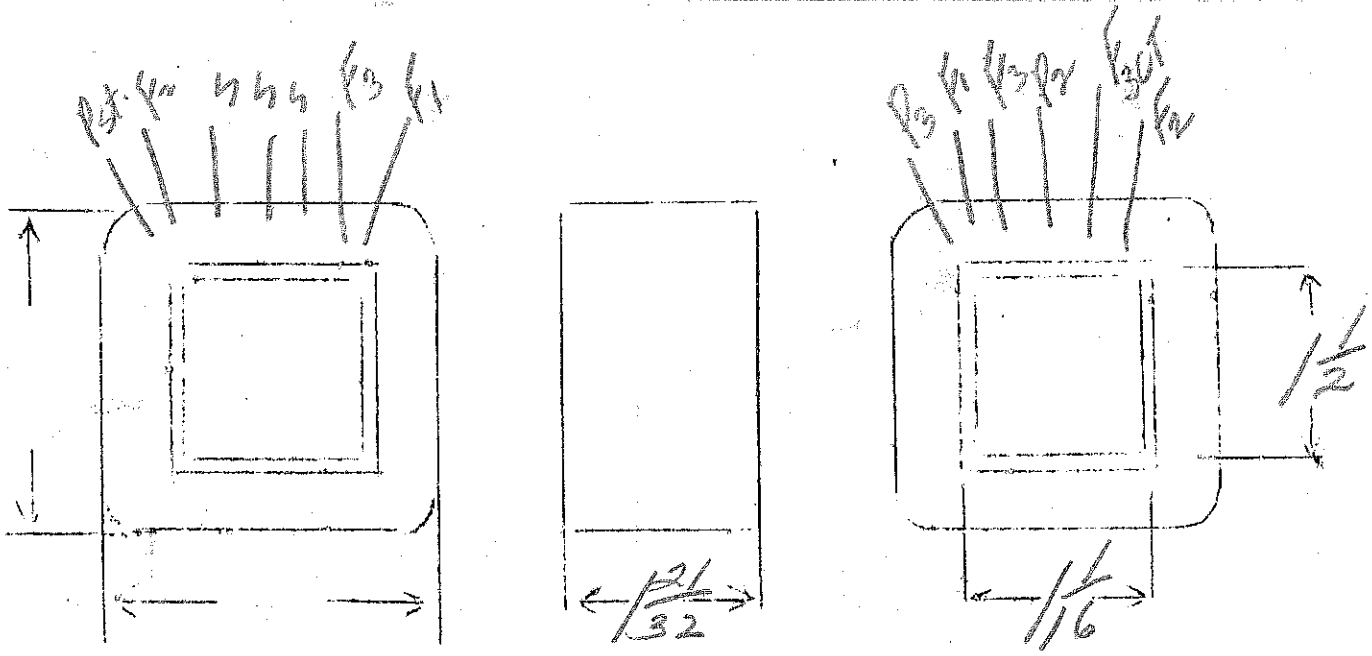


Ep - 110-120V  
 Es - 700VCT-100MA  
 Ef1 - 5V-2amp  
 Ef2 - 2.5V-5amp  
 Ef3 - 2.5VCT-3.5amp



SPEC. NO. 2248

Winding	SEC	SHIELD	PRI	F <sub>3</sub>	F <sub>2</sub>	F <sub>1</sub>	
Turns	2800	170	433	10	10	20	
Taps	1400		37	5			
Wind. Lgth.	1 <sup>21</sup> / <sub>32</sub>	1 <sup>21</sup> / <sub>32</sub>	1 <sup>21</sup> / <sub>32</sub>				
Wire Size	#33	#33	#23	#17	#double 18	#20	
T.P.L.	160-18		57-8				
Kind Term.	silver brand			WIRE ONLY			
Term. Lgth.	3"						→
Layer Insul.	double 16#		50#				
Wrapper	1L007VC	1L007VC	2L005GA		2L005GA	2L005GA	
TUBE	7L007			IMPREGNATION		VARNISH	
CURE	1/16 x 1/2						



note that pri start is 120V tap.

Ep-115V

VA = 265

Es - 1000 or 750 V. sec. side P.T. - 200 MA

Ef - 20V.C.T. - 3amps

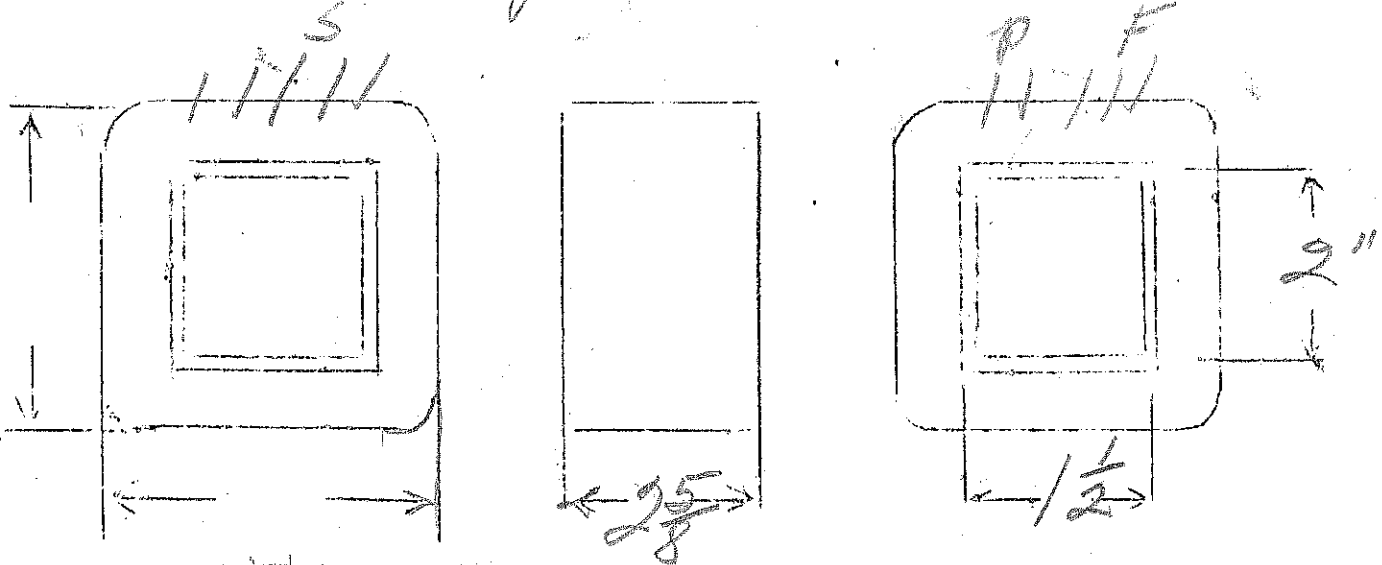
196

SPEC. NO.

2249

Winding	SEC	PRI	FIL				
Turns	4300 3625 2150	225	43				
Taps	6/5		22				
Wind. Lgth.	2 3/8	2 3/8	—				
Wire Size	#28	#17	#17				
T.P.L.	155-28	4/6-5					
Kind Term.	WIPE ONLY						
Term. Lgth.	3"	3"	3"				
Layer Insul.	double 30#	003 Kraft					
Wrapper	21007V 310056A	210056A	310056A				
TUBE	91007H/1007VC			IMPREGNATION	VARNISH		
CURE	1/2 x 2						

all leads to lugs



special recessed lug

stock

Power  
115V @ 50/60 Hz to  
950 V CT @ 300 mA  
5V @ 3A  
6.3V CT @ 4A

SPEC. NO. P-2250

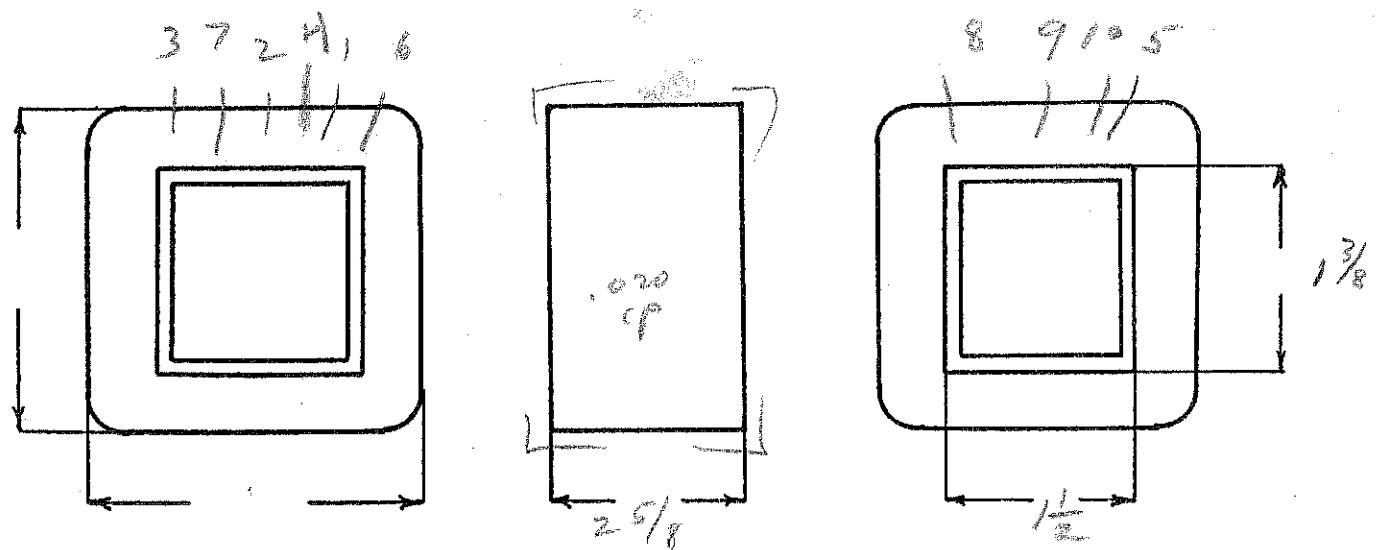
Winding	1-2-3 Sec	Shield	4-5 Pr.	6-7 FIL	8-9-10 FIL		
Turns	3450	1	385	19	24		
Taps	1725	—	—	—	12		
Wind. Lgth.	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4		
Wire Size	#28	1001 an.	#19	#18	#17		
T. P. L.	144-24L	—	55-7L	19-1/2L	24-1/2L		
Finish	87%	—	92%	71%	100%		
Type Lead	#22 Dulac	S.I.B.	#18 P.B.	w.o. sleeve	w.o. sleeve		
Lead Lgth.	cut 14"	3"	cut 14"	cut 14"			
Layer Insul.	Double 20#	—	50#	—	—		
Test Volt.	3000	—	1500	2500	1500		
Wrapper	1L0076 1L0086	12005K	2L0076A	2L0076A	2L0076A		

TUBE 7L0106K + 1L005V IMPREGNATION Varnish

CORE 1 1/2 x 1 3/8 GA. 24 GRADE 2 STACK 2x2

MOUNTING A

w-819.



RE DESIGNED BY S. Babcock  
from 1 1/4"

DATE 2-22-49

# DESIGN AND TEST DATA

Rating:

$$I_s = .707 \times 300 = 212 \text{ ma.}$$

Sec VA = 182.7  
 Pri VA = 230  
 $I_p = 2 \text{ a.}$

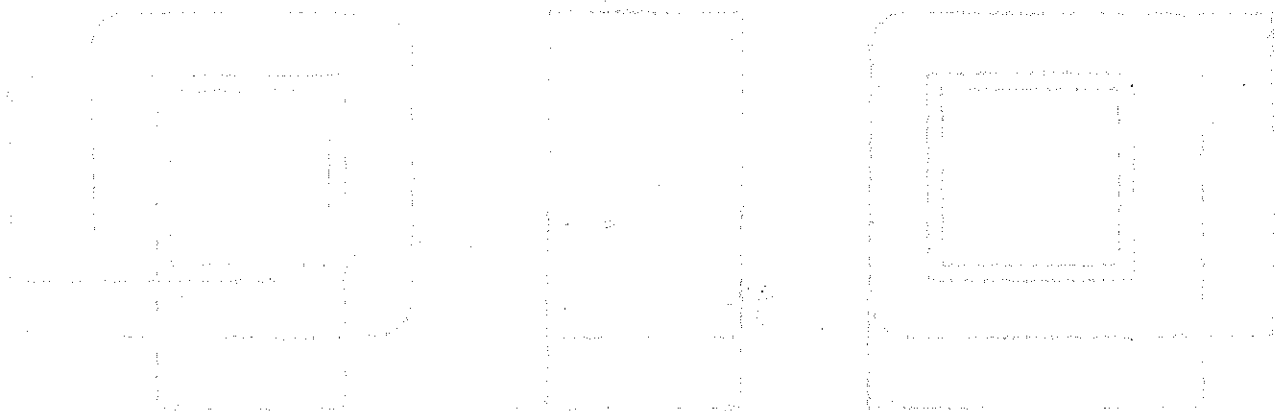
Winding	SEC		PRI	FIL	FIL.		
Mean Turn	7.68		10.22	11.50	11.52		
Resistance 25° c	146.		269 <sub>5.11</sub>	.1185 <sub>3.5</sub>	.119		
Pounds Copper	1.082		1.295	.0908	.1445		
Copper Density	754		674	542	513		
Ratio Volts	9.5T		11.5	5.07	6.32		
Test to Ground	3000		1500	2500	1500		

Iron Induction 11.5 Kg @ 50 Cycles

Exciting Current \_\_\_\_\_ amperes @ \_\_\_\_\_ volts 60 cycles on \_\_\_\_\_

Induced Test: Apply \_\_\_\_\_ Volts at \_\_\_\_\_ Cycles \_\_\_\_\_ on \_\_\_\_\_ with \_\_\_\_\_ grounded

Remarks:



E<sub>P</sub> - 115  
 E<sub>S</sub> - 960 V. - 300 Ma. C.T.  
 E<sub>F1</sub> - 5 V. - 3 Amps.  
 E<sub>F3</sub> - 6.3 V. - 4 Amps. C.T.

$\frac{2}{e} = 167$

0LB

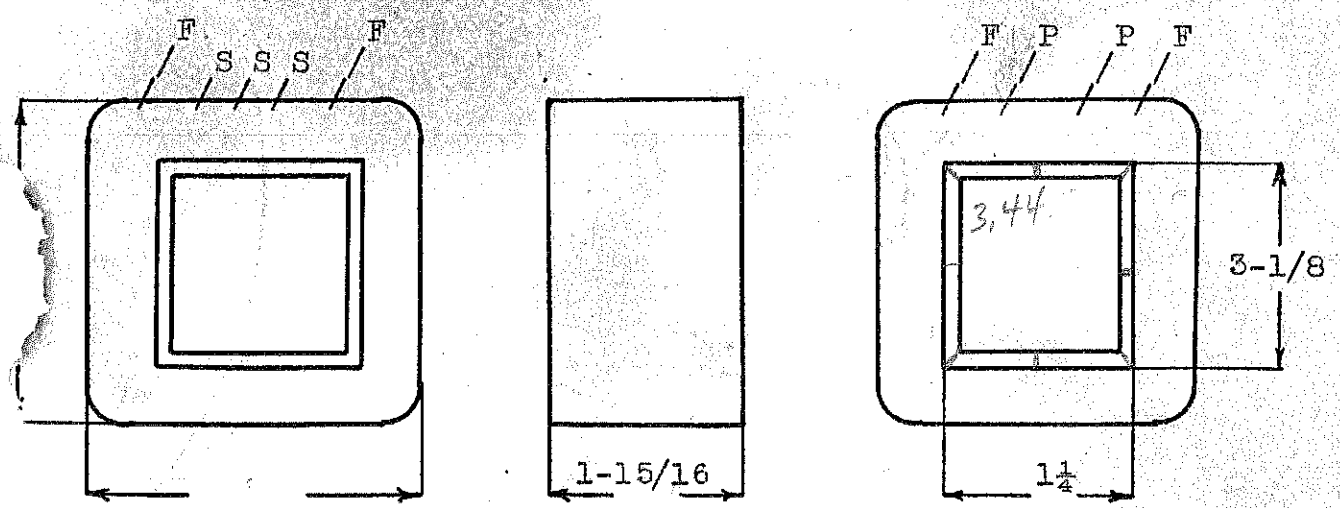
SPEC. NO. P-2250

Winding	SEC	SHIELD	Black PRI	Green F <sub>1</sub>	Blue F <sub>3</sub>		
Turns	1700	<del>107</del>	192	9	11		
Taps	850				5		
Wind. Lgth.	1.75	1.75	1.75	---	---		
Wire Size	#27	<del>#27</del> <i>Alum steel</i>	#19	#17	#16		
T. P. L.	107-16		40-5	1 layer			
Finish							
Type Lead	#20 Par.Br.	W.O.	#20 Par.Br.	W.O.	W.O.		
Lead Lgth.	9"	3"	or sleeving 9"	9"	9"		
Layer Insul.	double 30#		50#				
Test Volt.							
Wrapper	1L007VC 4LGL	<del>1L007VC</del> 2L007GA	2L007GA		2L007GA		

TUBE	7L007 + 1L007VC	IMPREGNATION	VARNISH
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CORE	1 1/4 x 3-1/8	GA.	GRADE	STACK
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MOUNTING A



DESIGNED BY

DATE

Ep - 210 230 - 250 start white  
 E6 - 450 VCT - 300 ma  
 Ef - 5V - 3amp  
 EF - 6.3V - 4amp CT

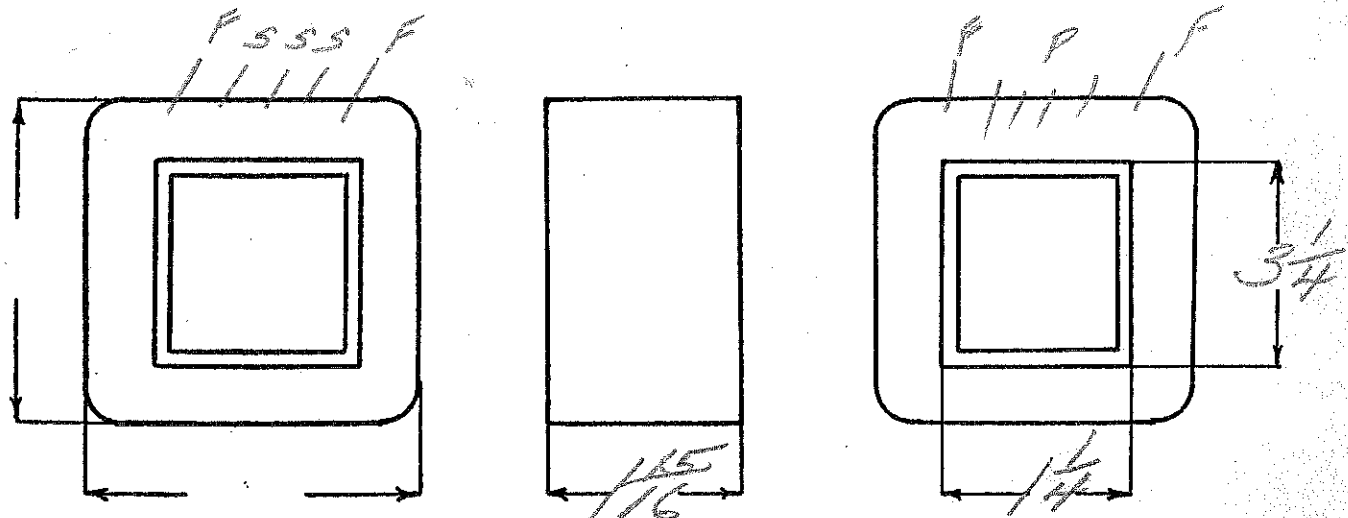
SPEC. NO. P2250-U730

Winding	SEC	SHIELD	PR1	F <sub>1</sub>	F <sub>2</sub>		
Turns	1700	107	410	9	11		
Taps	850		380		5		
Wind. Lgth.	1.75	✓	✓	✓	✓		
Wire Size	#27	#27	#22	#17	#16		
T. P. L.	107-16	-	59-8mm	-	-		
Finish							
Type Lead	#20 Dural		#20 PE	WIRE ONLY			
Lead Lgth.	9"		9"	9"	9"		
Layer Insul.	double 30#		50#				
Test Volt.							
Wrapper	21007VC	1007VC	21007GA		21007GA		

TUBE 7100 9 + 11007VC IMPREGNATION DOUBLE VARNISH

CORE 1 1/4 x 3 1/4 GA. 24 GRADE  STACK

MOUNTING A



DESIGNED BY Shearer

DATE 1/25/38

3.7  
2.9  
3.2



Ep - 105-110 -115 -120425 VA = 16#

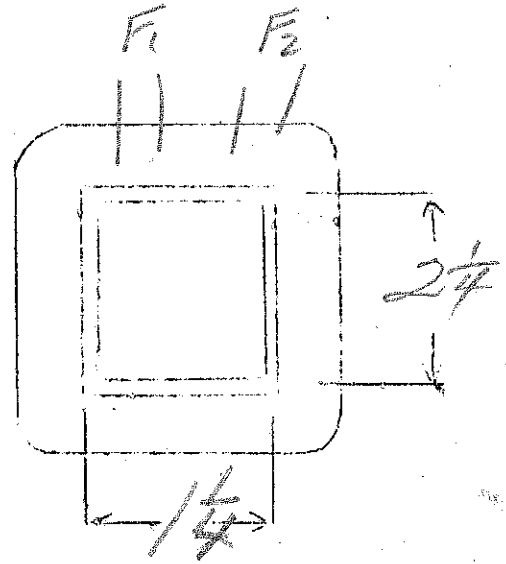
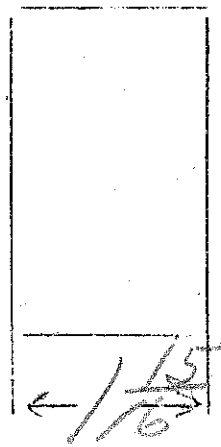
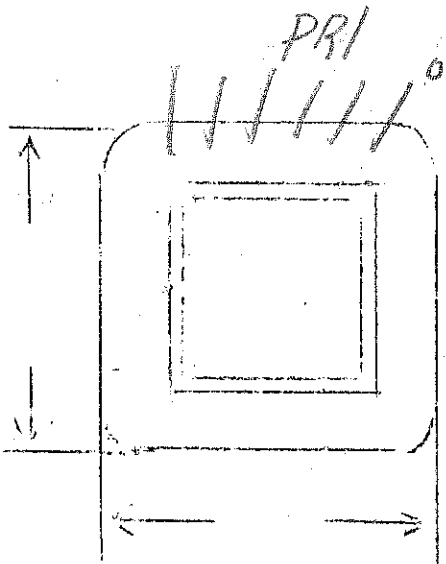
Es<sub>1</sub> - 6.3V - 20amps

Es<sub>2</sub> - 2.5V - 15amps

22

SPEC. NO. 2251

Winding	PRI	F <sub>1</sub>	F <sub>2</sub>				
Turns	275 264 252	15	6				
Taps	242 231	-	-				
Wind. Lgth.	1.75	1.75	1.75				
Wire Size	#19	double #12	#11				
T.P.L.	43-7	2L					
Kind Term.	WIRE	ONLY					
Term. Lgth.	3"	3"	3"				
Layer Insul.	.007	KRAFT					
Wrapper	2L007GA	2L007GA	2L007GA				
TUBE	7L007	IMPREGNATION		VARNISH			
CURE	1 1/4 x 2 1/4						



Same as P57 except

Ep - 115

EF<sub>2</sub> - 2.5V CT = 5amps

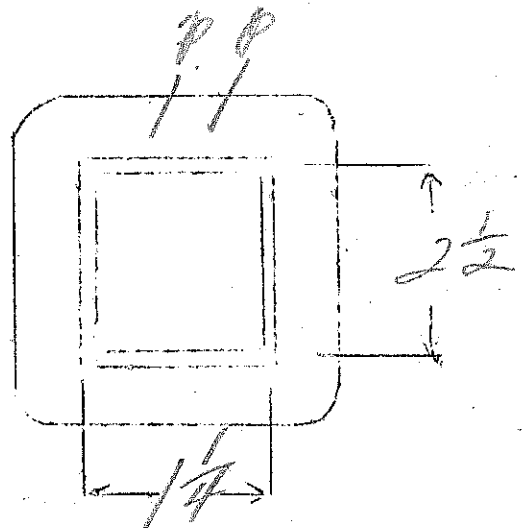
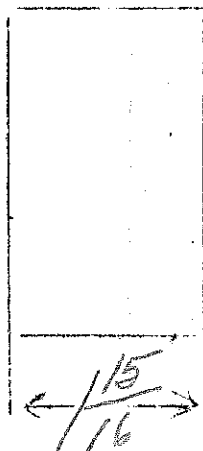
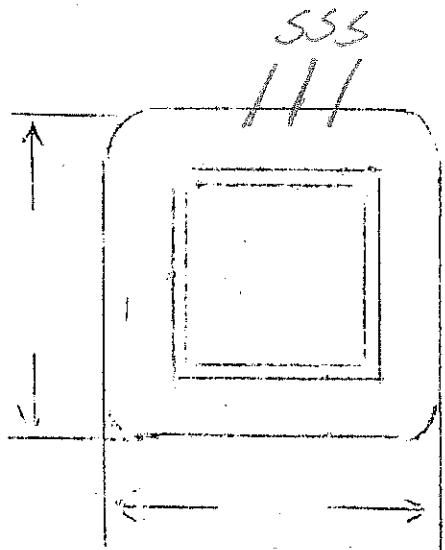
Es - 1000V CT = 250 MA

EF<sub>3</sub> - 6.3V CT = 4amps

EF<sub>1</sub> - 5V - 3amps

SPEC. NO. 2252

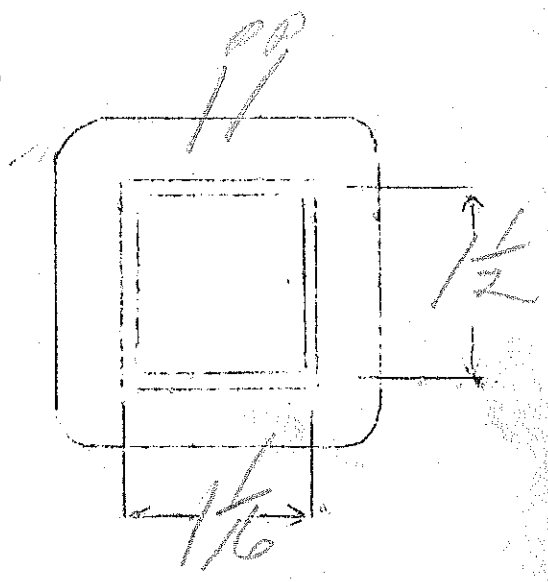
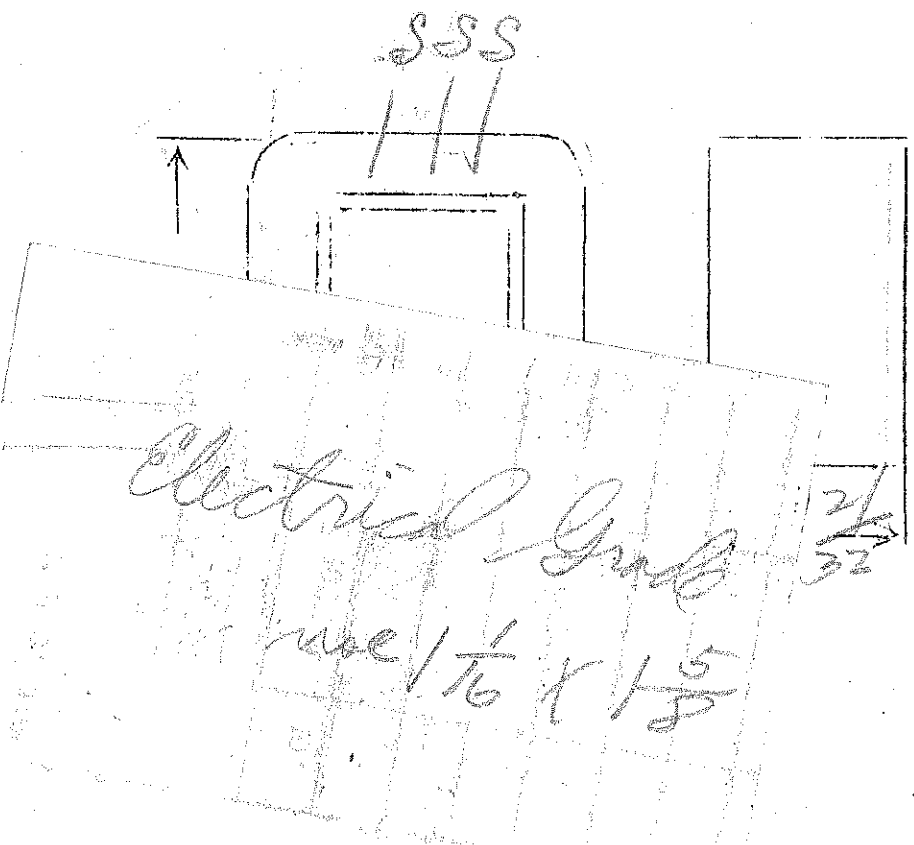
Winding	SEC	SHIELD	PRI	F <sub>1</sub>	F <sub>2</sub>	F <sub>3</sub>
Turns	2000	112	210	10	5	12
Taps	1000	—	—		3	6
Wind. Lgth.	1.75	1.75	1.75			
Wire Size	#28	#28	#19	#18	#16	#16
T.P.L.	112-18		43-5		1 Layer	
Kind Term.	#20 Per Br	W.O.	#18 Per Br	WIRE ONLY		
Term. Lgth.	9"	3"	9"	9"	9"	9"
Layer Insul.	double 30#		50#			
Wrapper	21007K	12007VC 21005GC	21007GA			21007GA
TUBE	76007 + 14007VC			IMPREGNATION		VARNISH
CURE	1 1/4 x 2 1/2					



Ep - 115V  
 Es - 700V - 85 ma C.T.  
 Ef - 5V - 3amps  
 Ef - 6.3V - 4amps C.T.  
 Ef - 25V - 5amps C.T.

36 SPEC. NO. 2253

Winding	SEC	SHIELD	PR1	FIL	FIL	FIL	
Turns	2800	185	415	20	25	10	
Taps	1400	—	—	—	12	5	
Wind. Lgth.	1 15/32	1 15/32	1 15/32	—	—	—	
Wire Size	#34	#34	#23	#18	#17	#16	
T.P.L.	185-16		57-8	—	—	—	
Kind Term.	#20	S20	#20	WIRES ONLY			
Term. Lgth.	9"	3"	9"	9"	9"	9"	
Layer Insul.	double 16#		40#				
Wrapper	12007	12007	21005GA	21005GA		21005GA	
TUBE	12007			IMPREGNATION		VARNISH	
CURE	1 1/4 x 1 1/2						

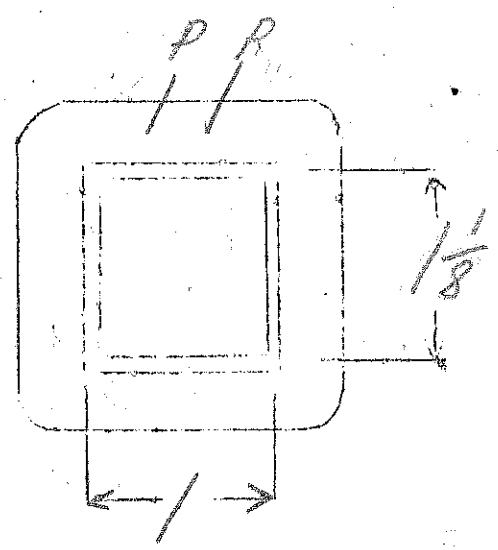
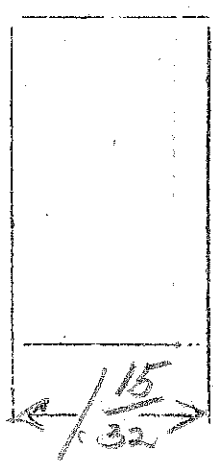
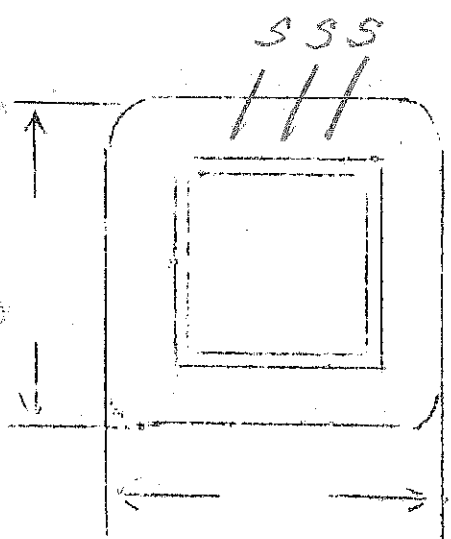


Ep-120  
 Es-735V- 47ma  
 Ef1-5V-2amps  
 Ef2-6.3V-2amps

464

SPEC. NO. 2254

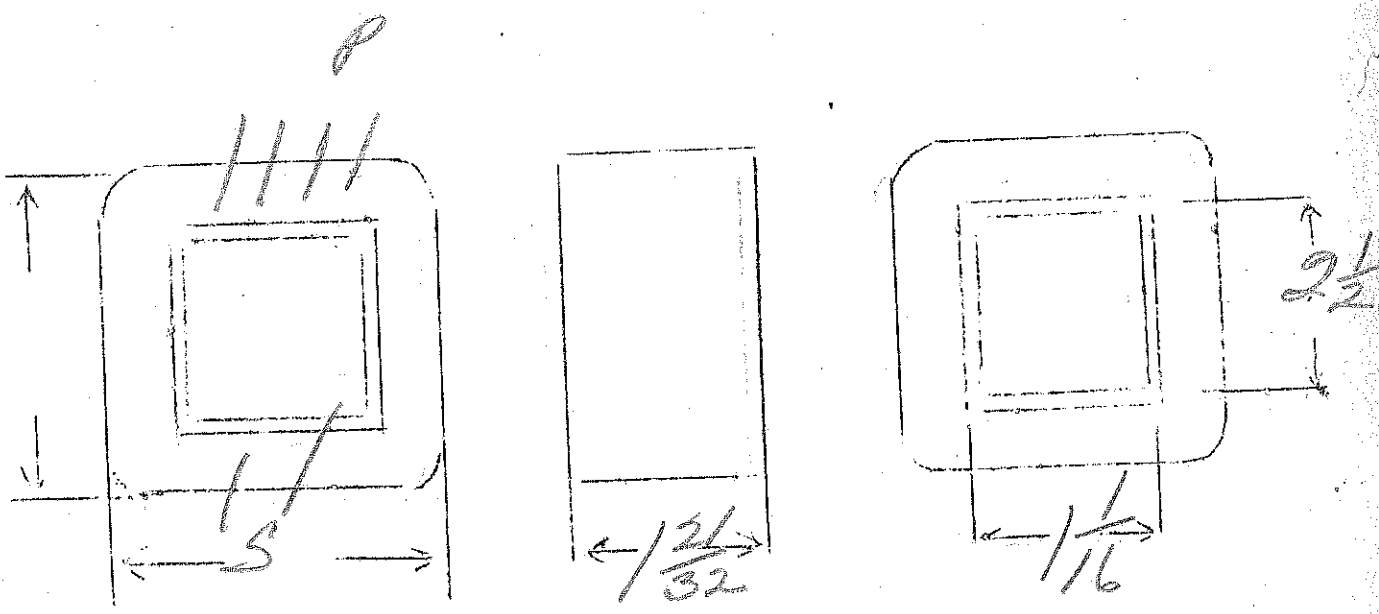
Winding	SEC	SHIELD	PRI	F <sub>1</sub>	F <sub>2</sub>		
Turns	3360	210	557	26	32		
Taps	1680			-	-		
Wind. Lgth.	1 9/32	1 9/32	1 9/32				
Wire Size	#36	#36	#26	#21	#21		
T.P.L.	210-16		65-9				
Kind Term.	#22 Br Br	sl Br	#22 P Br.	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	double 16#		double 20#				
Wrapper	2007VC 21-30	1L005VP	2L0056A	2L0056A	2L0056A		
TUBE	5L007H L0056A			IMPREGNATION		VARNISH	
CURE	1 x 1/8						



Ep-115-120-125V-25N  
 white black yellow VARNISH

SPEC. NO. 2255-25N

Winding	PRI	SEC				
Turns	495	45				
Taps	435	—				
Wind. Lgth.	1/15	1/32				
Wire Size	#23	#13				
T.P.L.	57-10	3L				
Kind Term.	#20P 201	WIRE ONLY				
Term. Lgth.	9"	9"				
Layer Insul.	40#	—				
Wrapper	20056A	20056A				
TUBE	7L007			IMPREGNATION		VARNISH
CURE	1/16 x 2 1/2					



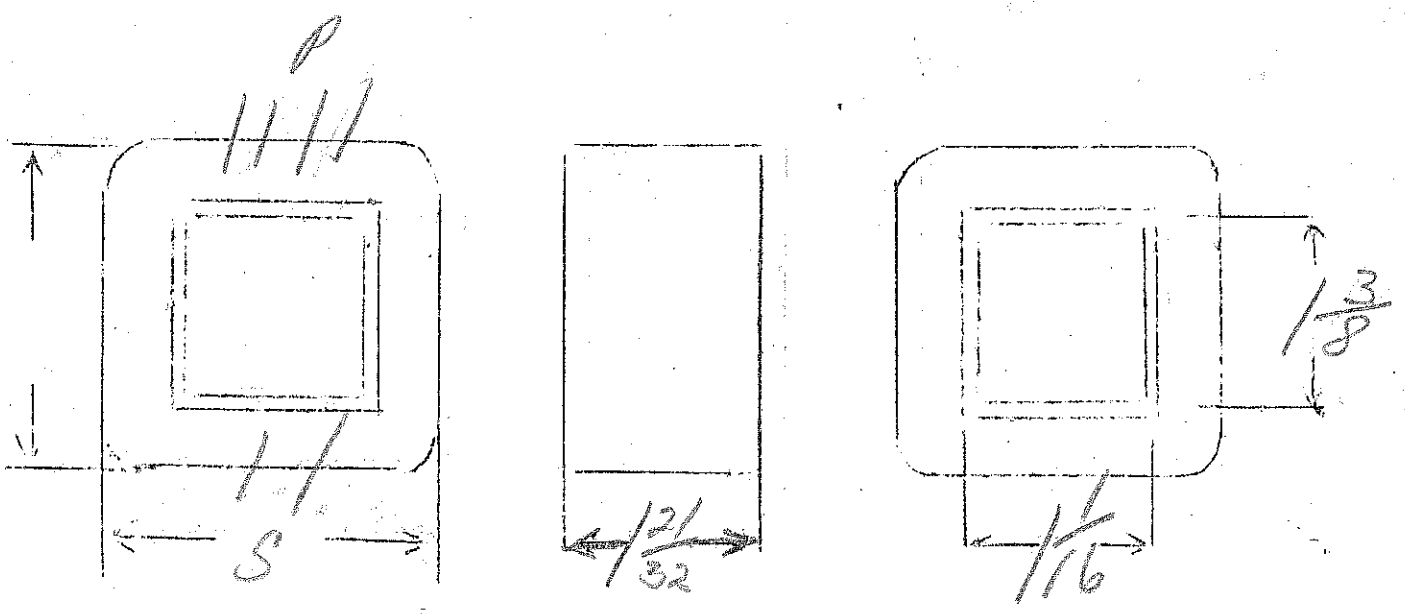
Ep-115-120-125V - 60N  
Black Yellow Brown

Es-10V-7amp

396

SPEC. NO. 2255

Winding	PRI	SEC				
Turns	495	44				
Taps	475	—				
Wind. Lgth.	1/5	1/5				
Wire Size	#23	#13				
T.P.L.	57-10	3L				
Kind Term.	#20P Braid	WIRE ONLY				
Term. Lgth.	9"	9"				
Layer Insul.	40#	—				
Wrapper	2L005GA	2L005GA				
TUBE	7L007		IMPREGNATION	VARNISH		
CURE	1/16 x 1/8					



Ep - 115V

EF<sub>2</sub> - 2.5V-10amps - 7500V Ins

EF<sub>1</sub> - 10VCT - 8amps

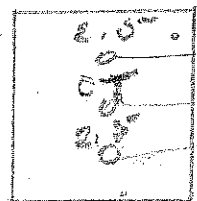
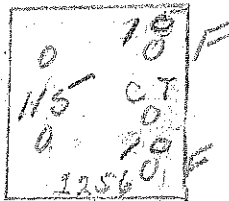
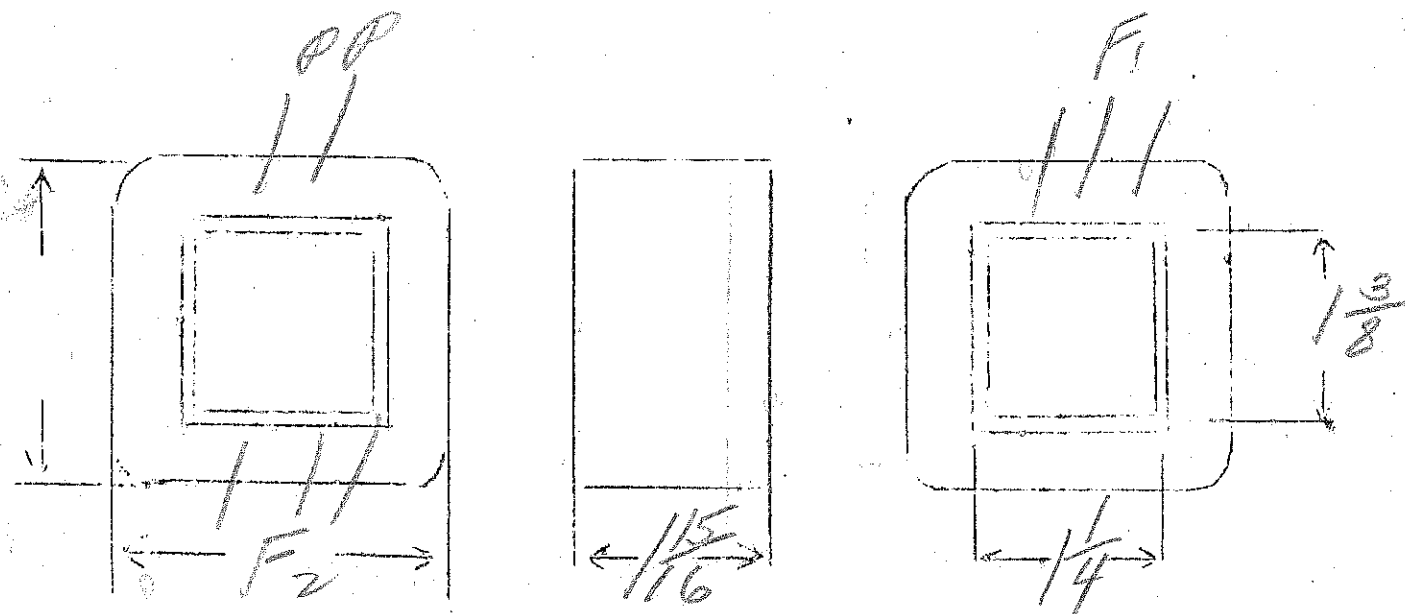
332

SPEC. NO.

2256

Winding	PR1	F <sub>1</sub>	F <sub>2</sub>				
Turns	385	36	9				
Taps	—	18	5				
Wind. Lgth.	1.75	—	—				
Wire Size	#21	12	12				
T.P.L.	50-8						
Kind Term.	WIFE ONLY						
Term. Lgth.	3"	3"	3"				
Layer Insul.	40#						
Wrapper	21007GA	31007VC 24007GA	31007VC 21007GA				
TUBE	72007	IMPREGNATION		VARNISH			
CURE	14x1 3/8						

In assembly use 18" #14 motor lead wire in end panel



18" long #14 thin panel

200 or 250  
240 or 480

10% booster - 200 VA Capacity

34

SPEC. NO.

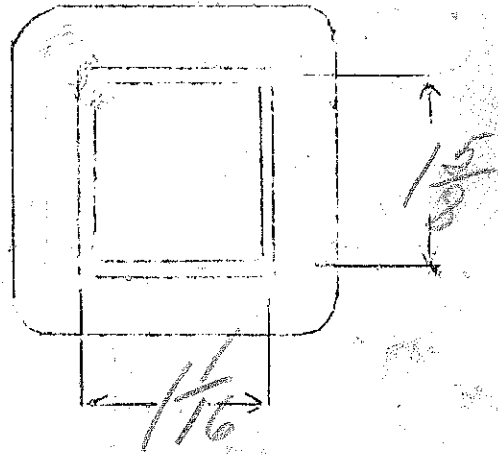
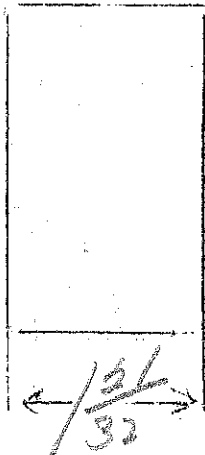
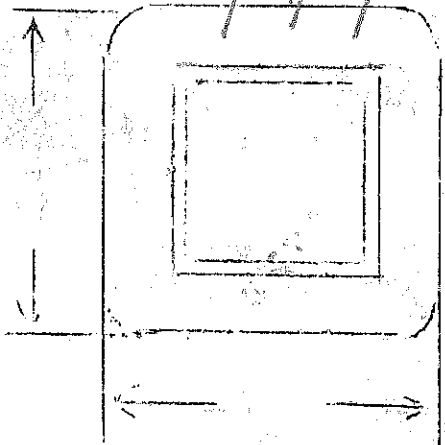
2257-WP-6

Continuous

Winding	P	S				
Turns	1630	190				
Taps	—	—				
Wind. Lgth.	1 1/16	1 7/16				
Wire Size	#31	#21	single cotton enamel			
T.P.L.	91-18	38-5				
Kind Term.	#18	Rubber	covered - colored		leads anchored in coil	
Term. Lgth.	12"	12"				
Layer Insul.	30#	40#				
Wrapper		3L005GA				
TUBE	7007		IMPREGNATION		Double varnish	
CURE	1 1/16 X 1 5/8					

Handed  
1/16  
1/8  
1/32

metal name plates  
5 mounting



spiral name plate

21-3026  
31-66/15



$E_p = 115V.$

V.A. = 70

$E_s = 730V.C.T. - 70MA.$

$E_f = 6.3V.C.T. - 2amps$

$E_f = 5V - 2amps$

$E_f = 6.3V.C.T. - 1amp$

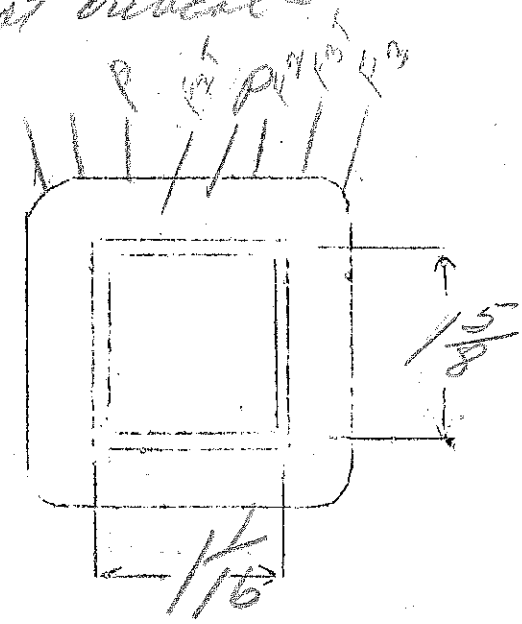
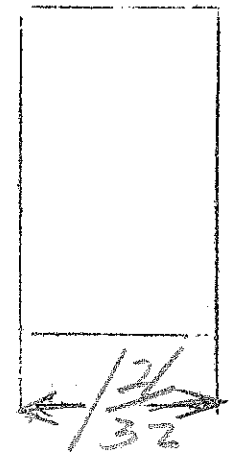
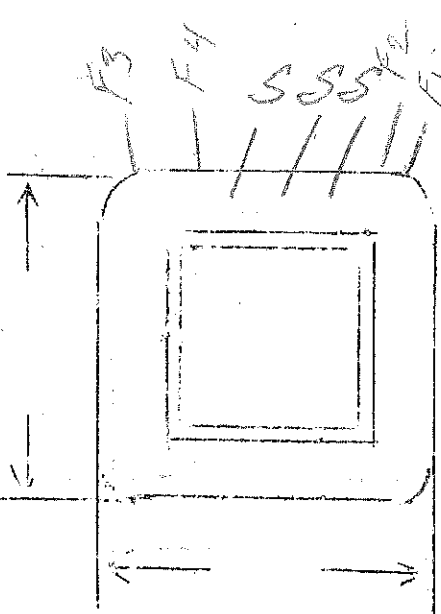
$E_f = 5.5V - 1amp$

SPEC. NO. 2258

34

Winding	SEC	SHIELD	PR1	F <sub>1</sub>	F <sub>2</sub>	F <sub>3</sub>	F <sub>4</sub>
Turns	2700	193	396	19	19	24	24
Taps	1350	—	—	—	—	12	12
Wind. Lgth.	$1\frac{1}{32}$	$1\frac{1}{32}$	$1\frac{1}{32}$	—	—	—	—
Wire Size	#34	#34	#23	#20	#24	#19	#22
T.P.L.	193-14	193	50-8	—	—	—	—
Kind Term.	Sil	Braid	—	WIPE	ONLY	—	—
Term. Lgth.	3"	3"	3"	3"	—	—	—
Layer Insul.	double 16#	—	40#	—	—	—	—
Wrapper	21007VC	21007VC	210056A	—	210056A	210056A	210056A
TUBE	71007	—	—	IMPREGNATION	—	—	VARNISH
CURE	$1\frac{1}{16} \times 1\frac{5}{8}$	—	—	—	—	—	—

lead patterns not critical

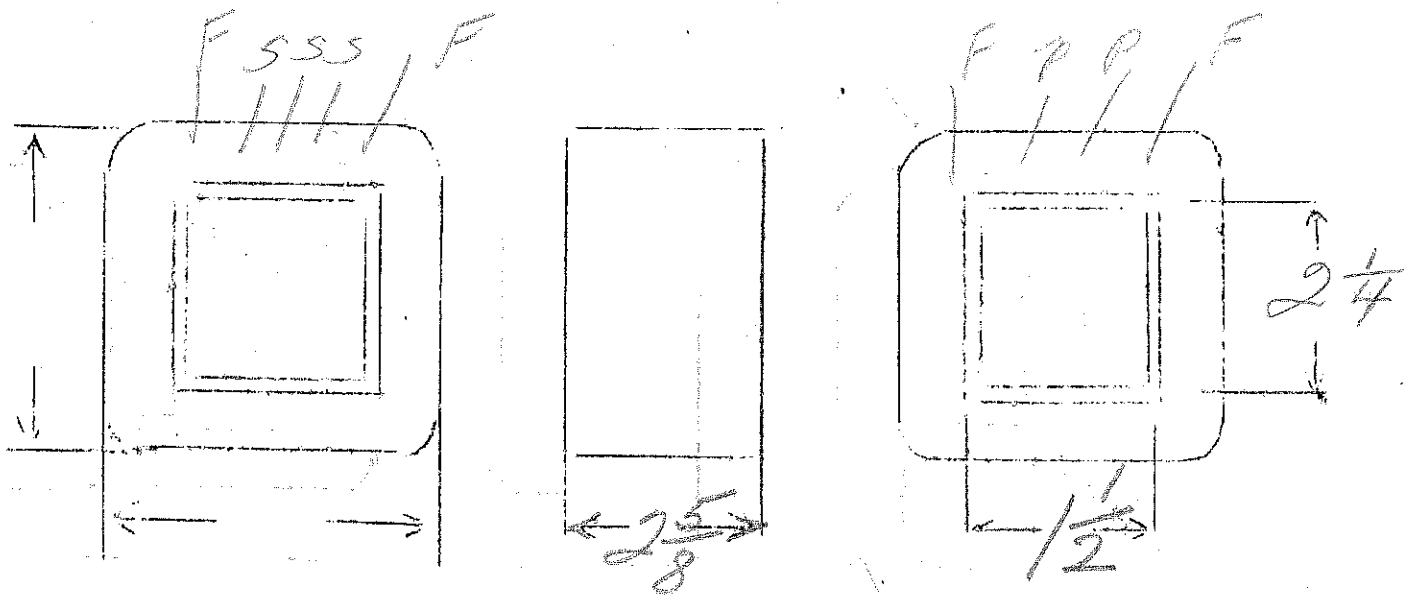


Ep - 120V  
 Es - 800VCT - 200 ma  
 Ef - 5V - 4amps  
 Ef - 6.3V - 7amps

1.97

SPEC. NO. 2259

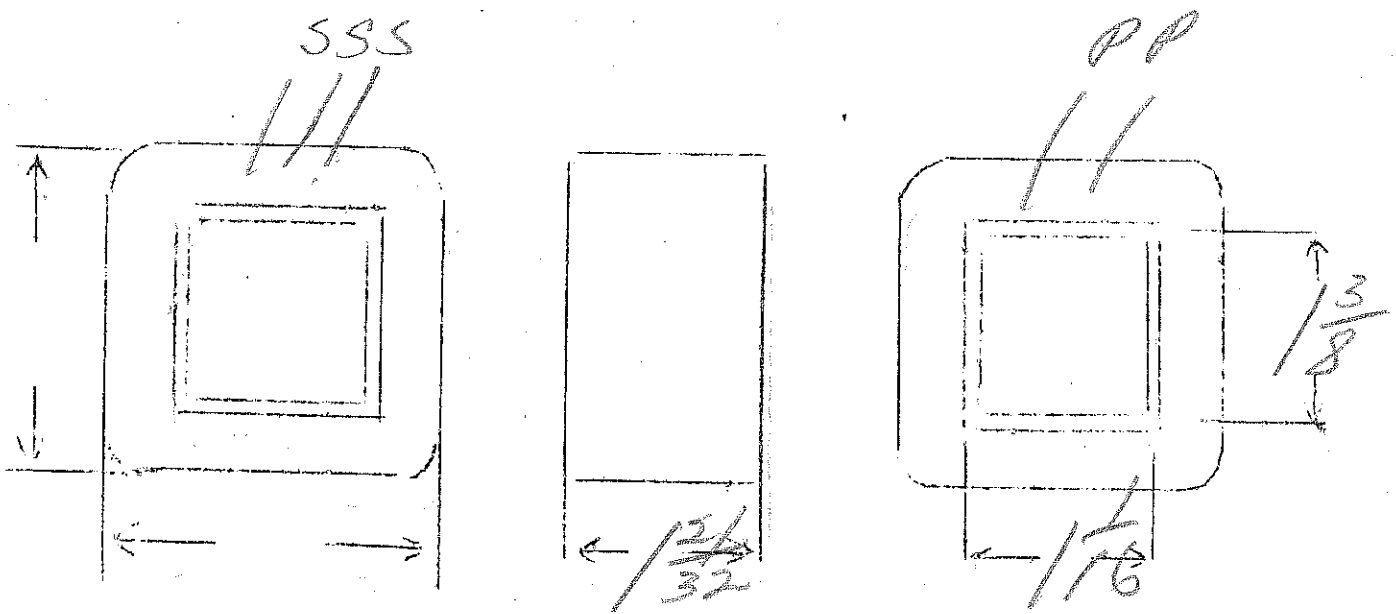
Winding	SEC <sub>1</sub>	SEC <sub>2</sub>	SHIELD	PRI	F <sub>1</sub>	F <sub>2</sub>
Turns	1680	68	1	236	11	14
Taps	840	—	—	—	—	—
Wind. Lgth.	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	—	—
Wire Size	#28	#28	phn stock	#19	#15	#13
T.P.L.	143-12	—	—	—	—	—
Kind Term.	#20 PBr.	#20 PBr.	Sil Br	WIRE ONLY		
Term. Lgth.	9"	9"	3"	9"	9"	9"
Layer Insul.	double 20#	double 20#	—	007K <sub>2</sub>	—	—
Wrapper	100TVC 3.5A	100TVC	21005GA	31005GA	31005GA	21005GA
TUBE	9L007			IMPREGNATION		VARNISH
CURE	1 $\frac{1}{2}$ x 2 $\frac{1}{4}$					



Ep-115V  
 Es-750VCT. - (open) -95MA  
 F1 - 5V - 2amp  
 F2 - 14V tap 63 - 8amp

SPEC. NO. 2261

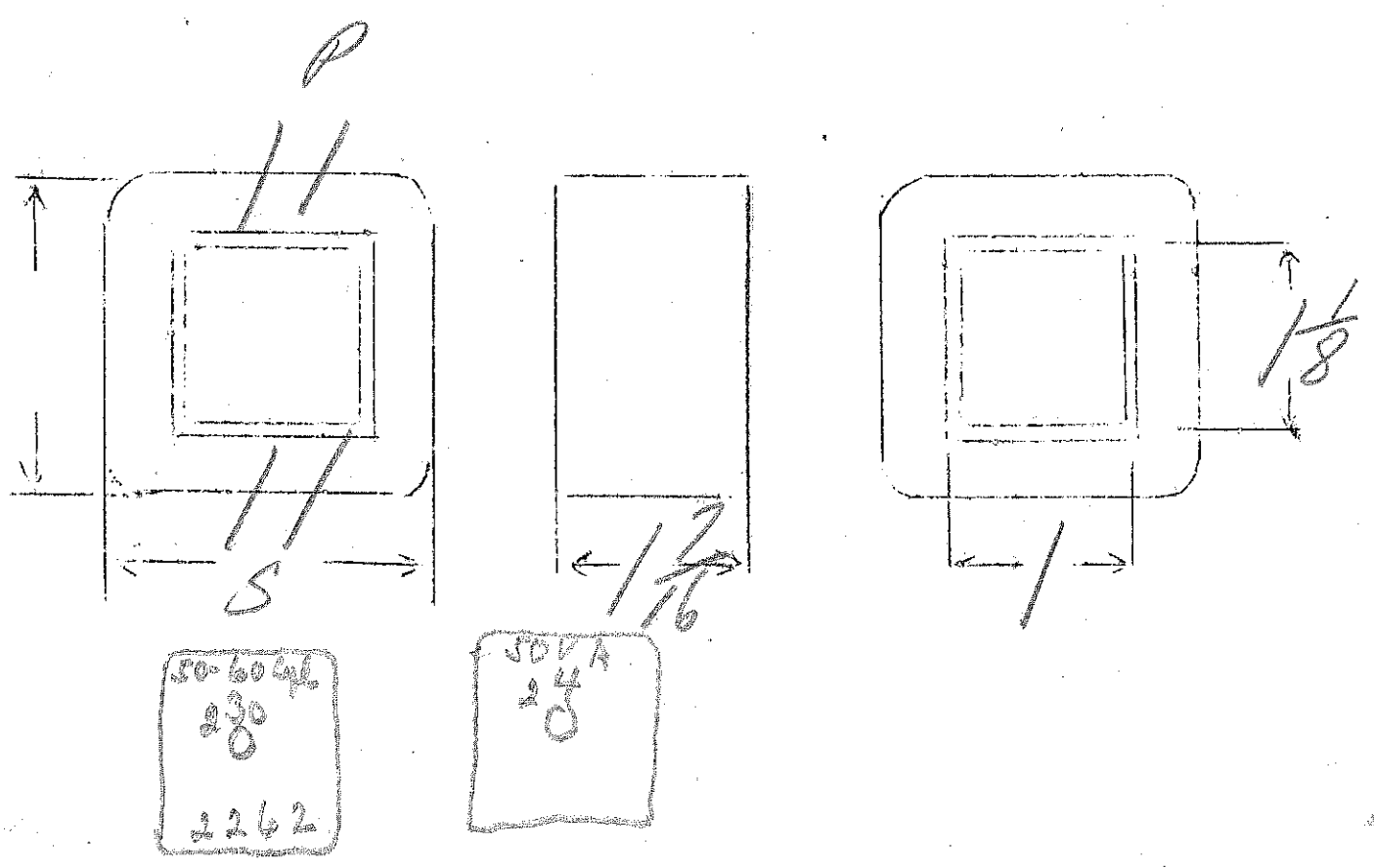
Winding	SEC	SHIELD	PRI	F1	F2		
Turns	3000	170	455	23	61	red	
Taps	1500	—	—		28	blue	
Wind. Lgth.	$1\frac{15}{32}$	$1\frac{15}{32}$	$1\frac{15}{32}$	—	—	white	
Wire Size	#33	#33	#23	#20	#23		
T.P.L.	170-18	170	57-8				
Kind Term.	#20	sil B.	#20	WIPE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	double 16#		40#				
Wrapper	1007NC	1007NC	20050A	20056A	20056A		
TUBE	7007			IMPREGNATION		VARNISH	
CURE	1 hr @ 130°						



Ep-230V  
Es-24V-50 watt

SPEC. NO. 2262

Winding	PR1	SEC					
Turns	1185	136					
Taps	—	—					
Wind. Lgth.	1.25	1.25					
Wire Size	#28	#20					
T.P.L.	85-14	34-4					
Kind Term.	#14 Rubber connect						
Term. Lgth.	10"	10"					
Layer Insul.	40#						
Wrapper	2L0056A	2L0056A					
TUBE	7007			IMPREGNATION		VARNISH	
CURE	1x1/8						



Ep - 115

Es - 400 V.C.T. - 150 MA

Ep1 - 5V - 2amp

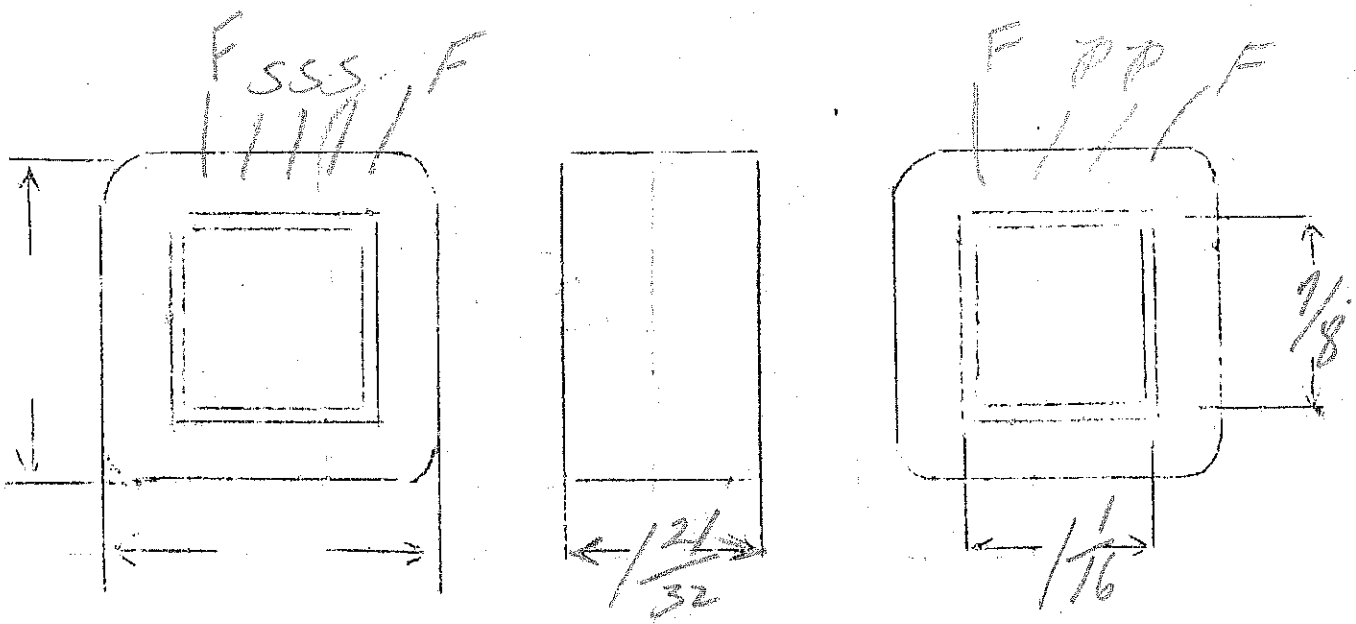
Ep2 - 5V - 1amp

595

SPEC. NO.

2263

Winding	SEC	SHIELD	PRI	F1	F2		
Turns	2650	135	685	34	34		
Taps	1325	-		-	-		
Wind. Lgth.	$1 \frac{15}{32}$	$1 \frac{15}{32}$	$1 \frac{15}{32}$	-	-		
Wire Size	#31	#31	#26	#20	#23		
T.P.L.	135-20	135	76-9				
Kind Term.	#20 Par Br	sil Br	#20 Par Br	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	double 1/6"		40#				
Wrapper	1L007Vc	1L007Vc	2L0056A	2L0056A	2L0056A		
TUBE	7L007			IMPREGNATION		VARNISH	
CURE	1 1/2 hr @ 7/8						



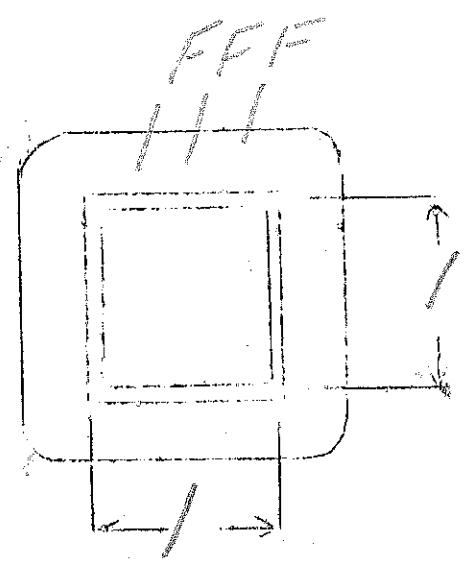
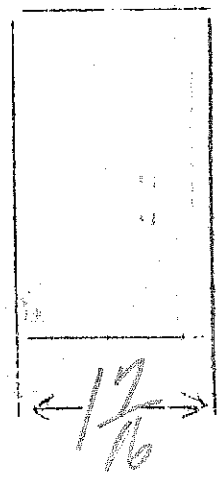
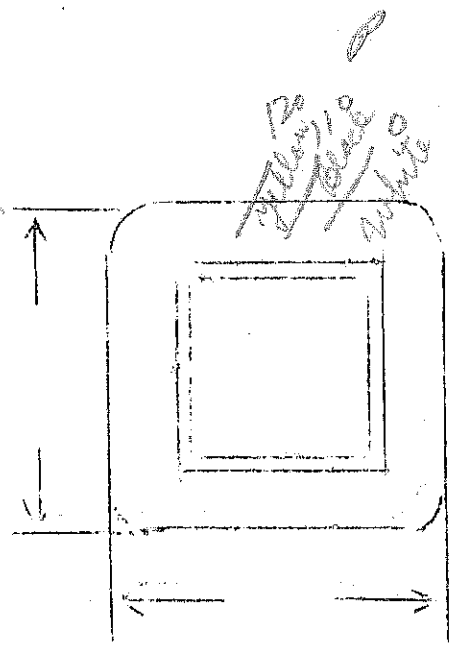
Ep-110-120 V.  
 Es- 5V-6amp - 3500V Ins

58

SPEC. NO.

2264 AMTG

Winding	PRI	FIL				
Turns	695	32				
Taps	640	16				
Wind. Lgth.	1.25	1.25				
Wire Size	#27	#14				
T.P.L.	65-11	—				
Kind Term.	#27 Per Br.	WIRE ONLY				
Term. Lgth.	9"	9"				
Layer Insul.	40#	—				
Wrapper	210056A	210056A				
TUBE	72007		IMPREGNATION		VARNISH	#
CURE	IX/NW					



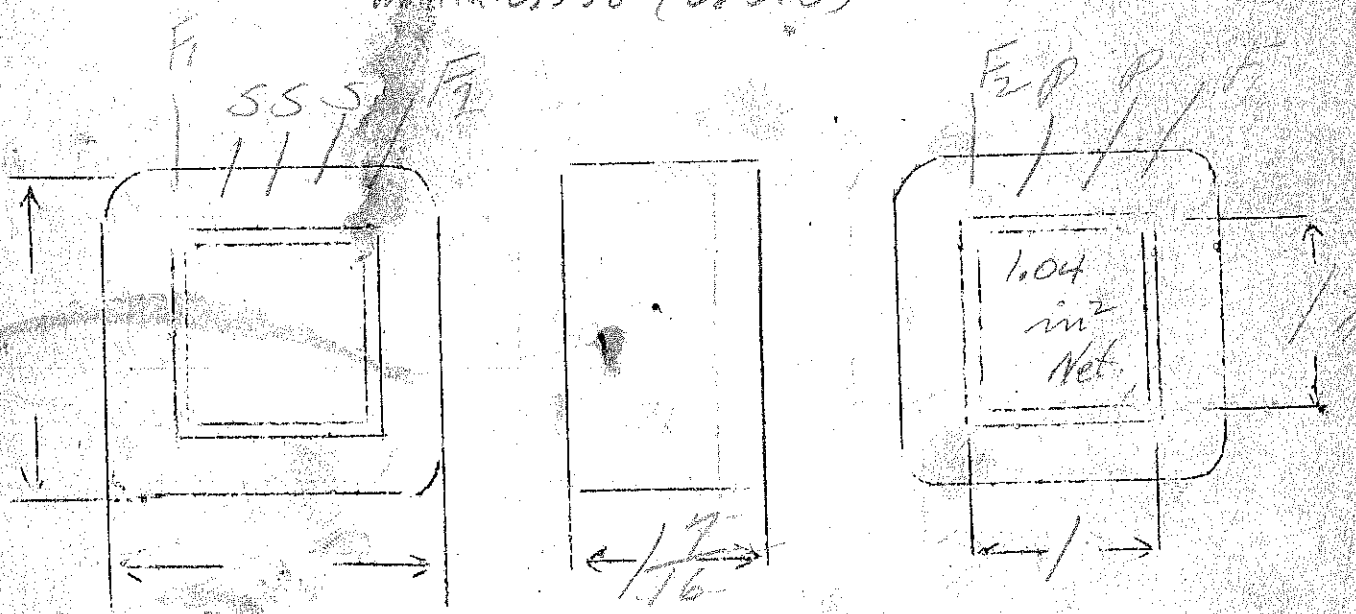
Ep - 120V POWER  
 Es - 7.25V - 50mA  
 Ef1 - 6.95V - 2amps  
 Ef2 - 5.6V - 2amp

Redline 215V dc to stable may be used  
 GILFILLAN BROS.  
 ALLIED PHOTOGRAPH  
 8-1-36  
 SPEC. NO. 2265-A

N 4.45  
 E 4.45

Winding	SFC	SHIELD	PR1	Pr2	Pr3		
Turns	3200	68	535	32	25		
Taps	1600						
Wind. Lgth.	1.25	1.25	1.25				
Wire Size	#36	#26	#26	#21	#21		
T.P.L.	205-16	68	68-8				
Kind Term.	#22 Kynite	50 Kynite	#22 Kynite	WIRE	ONLY		
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	double 16#		40#				
Wrapper	11005VC	11005VC	21005CA	21005CA	21005CA		
TUBE	5L007+12 GA			IMPREGNATION		VARNISH	
CURE	1 X 1 3/16						

Wp/112 = 0.358" (0.340")



222  
 1/15  
 7/15

Ep-230

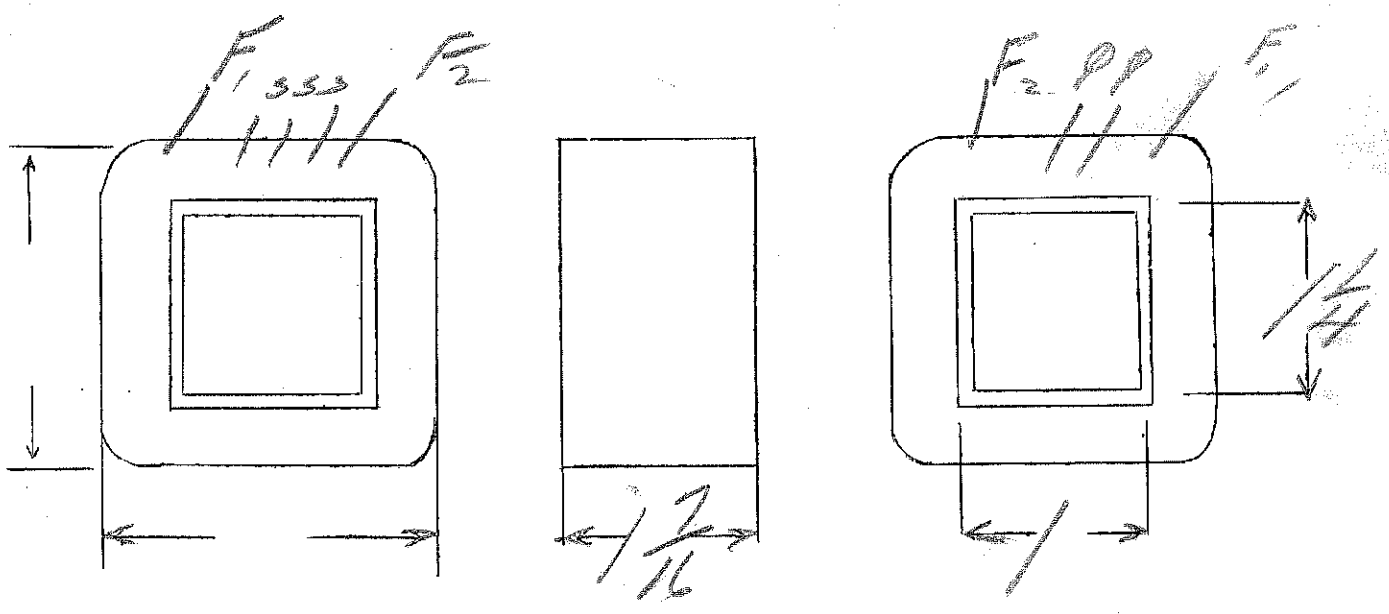
Ep. 6.95V 2amp

Es-725V-45ma

Ep-5.6V-2amp

SPEC. NO. 2265-230V

Winding	SEC	SHIELD	PR1	F <sub>1</sub>	F <sub>2</sub>		
Turns	3200	94	1034	32	25		
Taps	1600		-				
Wind. Lgth.	1.25	✓	✓	✓	✓		
Wire Size	36	#29	#29	#21	#21		
T.P.L.	202-16		94-11				
Kind Term.	#29 #20		#20 #20				
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	double 16#		40#				
Test Volt.							
Wrapper	1007VC	1007VC	2005GA	2005GA	2005GA	double	
TUBE	60007		IMPREGNATION		Varnish		
CORE	1 X 1 1/4 - Square			PRIMARY V.A.			
MOUNTING	A						



DESIGNED BY *HW*

DATE 9/30/37



265 or 530  
240 or 480

10% Booster. 500VA Capacity

2.24

SPEC. NO. 2969-WP7

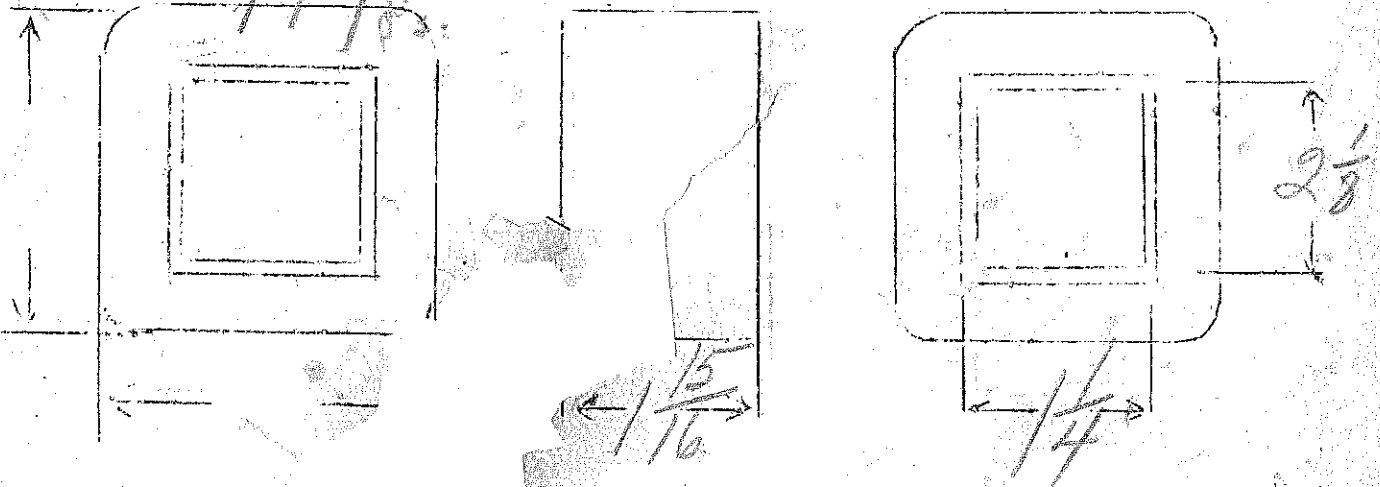
Winding	<i>Continuous</i>					
	<i>P</i>	<i>S</i>				
Turns	<i>1075</i>	<i>125</i>				
Taps	<i>—</i>	<i>—</i>				
Wind. Lgth.	<i>1.75</i>	<i>1.75</i>				
Wire Size	<i>#27</i>	<i>#17</i>	<i>single cotton enamel</i>			
T.P.L.	<i>78-14</i>	<i>405L</i>				
Kind Term.	<i>#18 Rubber covered, cotton covered fixture wire</i>					
Term. Lgth.	<i>12"</i>	<i>12"</i>				
Layer Insul	<i>40#</i>	<i>005</i>				
Wrapper	<i>50</i>	<i>0076</i>				
		<i>310076A</i>				

TUBE *92007* | IMPREGNATION *Double Varnish*

CURE *1/4 x 2 1/8*

*single*  
*single*  
*single*

*#27 145/26*  
*#17 2925/26*



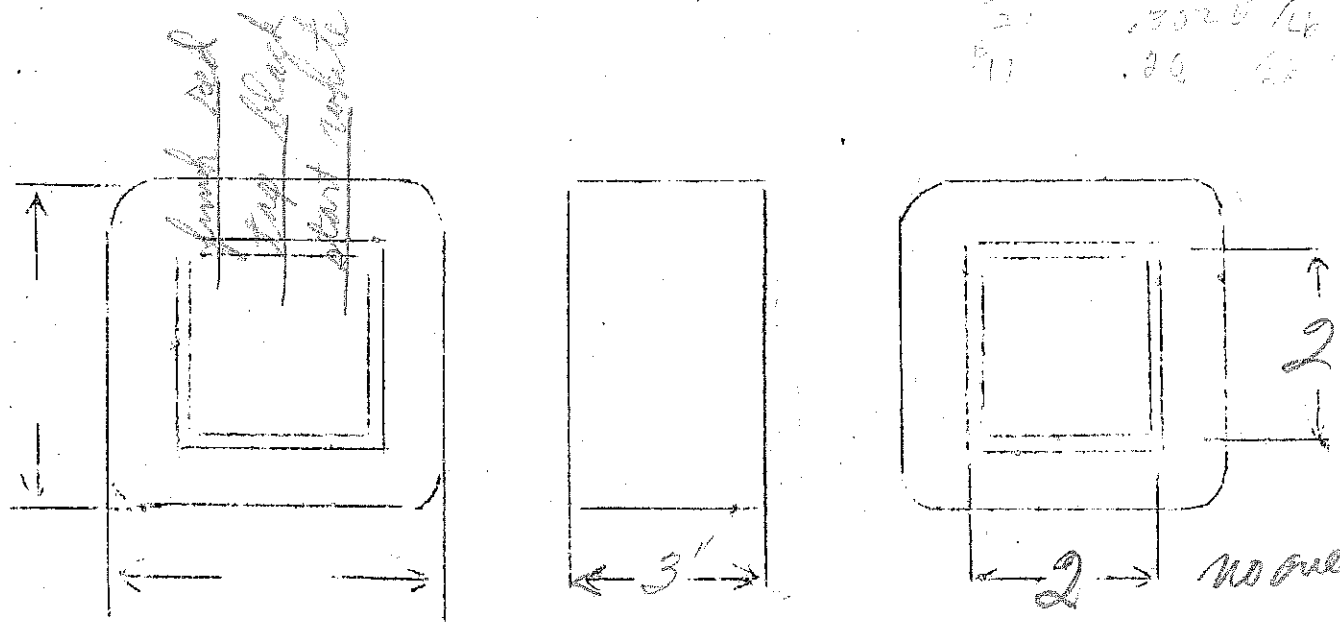
265 or 530  
240 or 480

60N auto transformer - 10% Boost  
2000 VA Capacity

N/E 1.57

SPEC. NO. 2269 - WP 8

Winding	Continuous					
Turns	755	88				
Taps	—	—				
Wind. Lgth.	2 1/2"	2 1/2"				
Wire Size	#21	#11				
T.P.L.	64-12	23-4				
Kind Term.						
Term. Lgth.	12"	12"				
Layer Insul.	double 30#	100# Kraft				
Wrapper		31005GA				
TUBE	102007		IMPREGNATION		varnish	
CURE	2 X 2		short E			



use special closed end bells - lead out thru bushing -

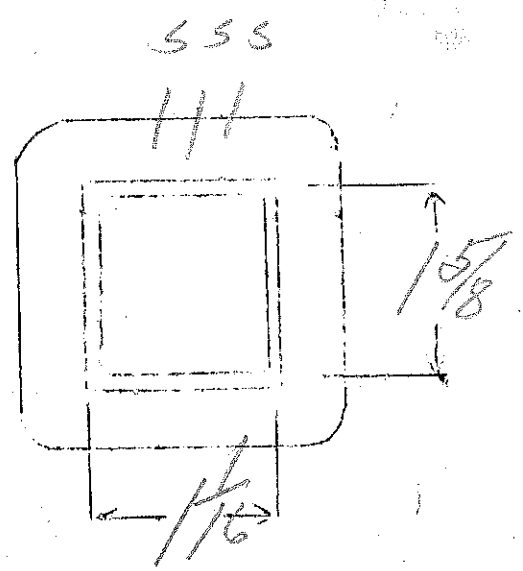
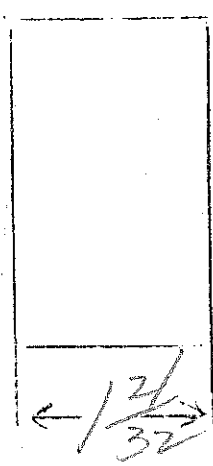
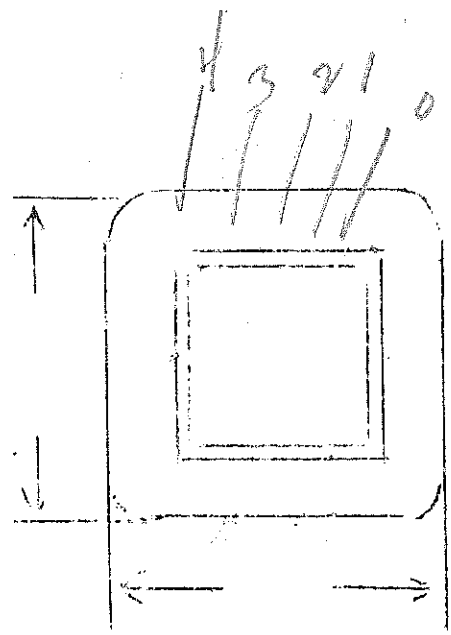
$E_p = 110-115-120-125V$   
 $E_s = 5V.CT. - 15amp$

$VA = 75 \text{ watts}$

$\frac{N}{E} = 3.3$

SPEC. NO. 2771

Winding	PRI	SEC					
Turns	413	18					
Taps	396	9					
Wind. Lgth.	380-364	115					
Wire Size	#22	double #13					
T.P.L.	50-10	2L					
Kind Term.	WIRE ONLY						
Term. Lgth.	3"	3"					
Layer Insul.	40#						
Wrapper	20056A	31056A					
TUBE	71007		IMPREGNATION		VARNISH		
CURE	1 1/2 x 1 5/8						



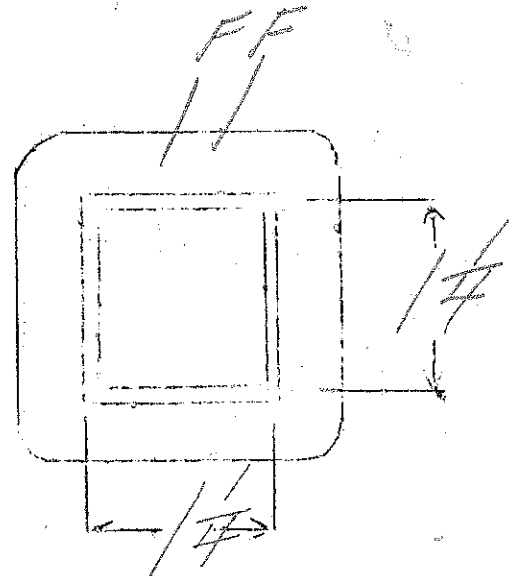
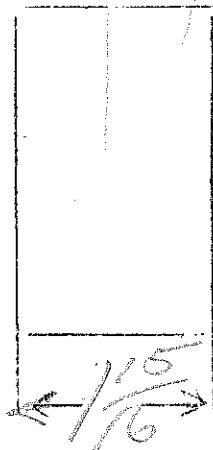
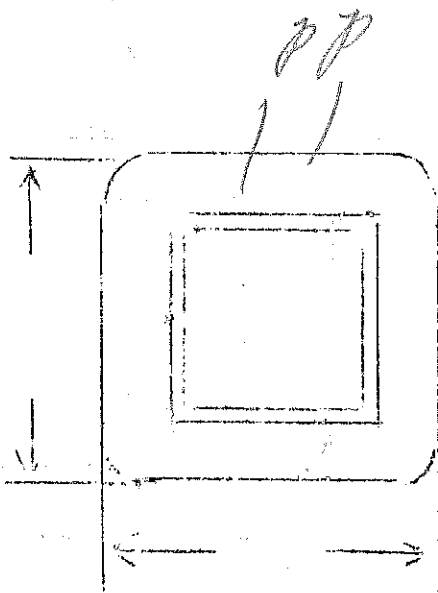
Ep- 115V  
 Es- 6V- 18amps

VA = 108  
 N/E = 3.7

SPEC. NO.

2272

Winding	PRI	FL					
Turns	425	24					
Taps	—	—					
Wind. Lgth.	1.75	1.75					
Wire Size	#21	double #12					
T.P.L.	54-8	3L					
Kind Term.	WIPE ONLY						
Term. Lgth.	3"	3"					
Layer Insul.	40#						
Wrapper	210076A	210076A					
TUBE	7L907			IMPREGNATION		VARNISH	
CURE	1/4 x 1/4						



FP-120V

1 High voltage 5 tube

ES-800V.C.T. - open - 50MA

230 volt plate

EF-5.6 - 2amps

GILFILLAN BROS.

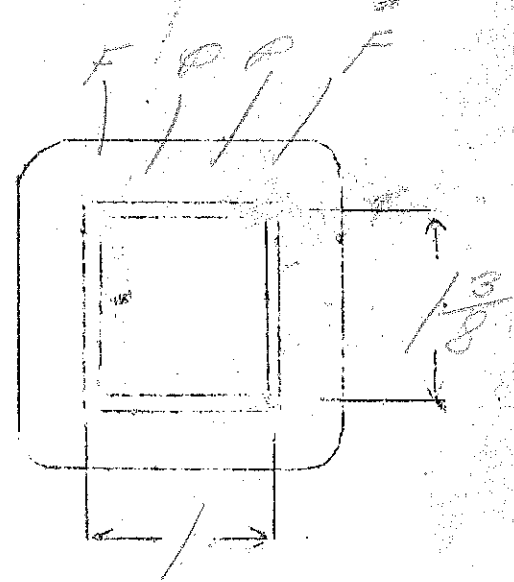
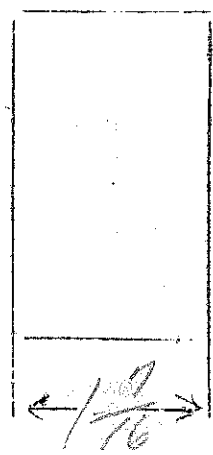
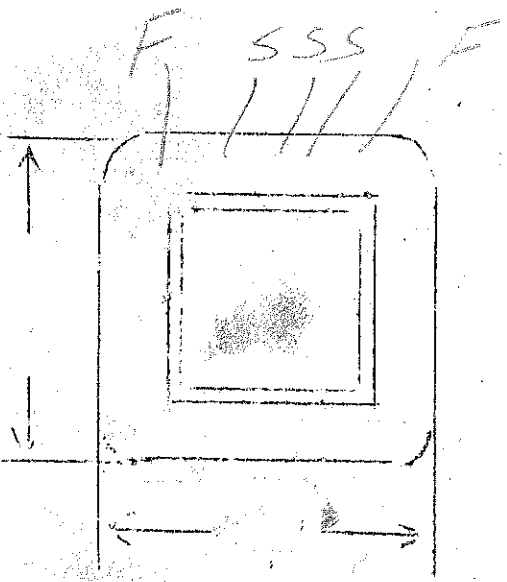
8-1-3

EF-6.8 - 2amps

N/E-4/15

SPEC. NO. 2275-A (SEE 2329 2330)

Winding	SEC	SHIELD	PRI	F1	F2		
Turns	3300	65	500	29	23		
Taps	1650		—	—	—		
Wind. Lgth.	1.25	1.25	1.25	—	—		
Wire Size	#36	#26	#26	#20	#21		
T.P.L.	207-16	65	65-8				
Kind Term.	#22 Engrite	W.O.	#22 Engrite	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	double 16#		40#				
Wrapper	1L007K	1L005BA	1L005BA	1L005BA	1L005BA		
TUBE	5L007+1LGA			IMPREGNATION		VARNISH	
CURE	1X13						



Ep-125V-50N-(EXPORT)

4 TUBE 8-1-36

Es-660V(open)-40Mo

205 VDC Test (27)

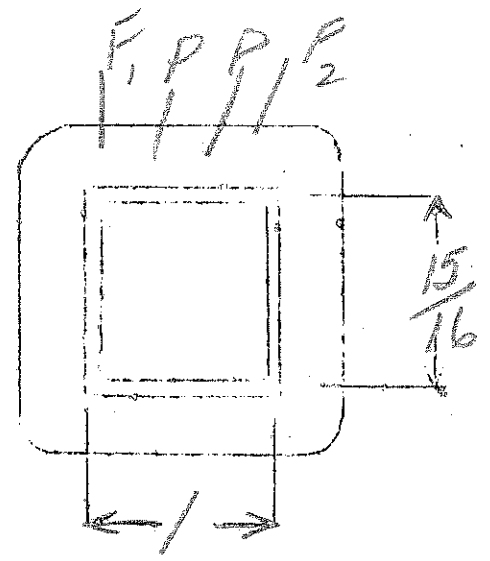
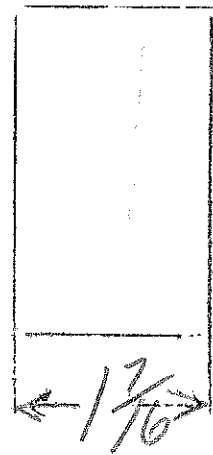
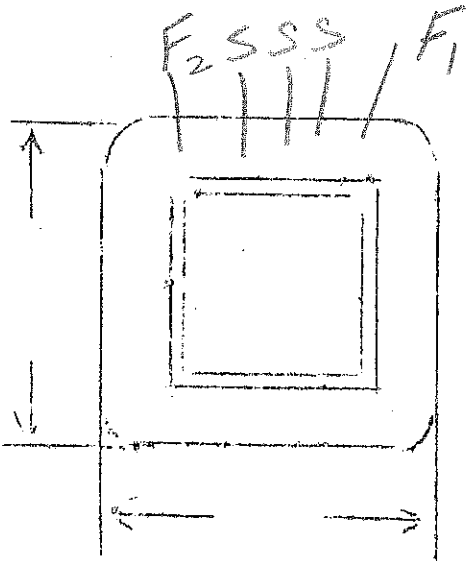
E<sub>F1</sub>-5.7V(open)-2amps

582

SPEC. NO. 2280 ✓

E<sub>F2</sub> 7.0V(open)-1.6amps

Winding	SEC	SHIELD	PRI	F <sub>1</sub>	F <sub>2</sub>		
Turns	3840	74	730	33	41		
Taps	1920	—	—	—	—		
Wind. Lgth.	1.25	1.25	1.25				
Wire Size	#27	#27	#27	#21	#22		
T.P.L.	22-18	74	74-10	—	—		
Kind Term.	#22 LENZITE	W.O.	#22 LENZITE	WIRE	ONLY		
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	doubb 16#	—	40#	—	—		
Wrapper	1L007VC	1L005VC	2L005FA	2L005FA	2L005FA		
TUBE	52007#LGA			IMPREGNATION		VARNISH	
CURE	1x 15/16						



303  
S.A  
0.45

Ep - 125V-50N (EXPORT)

5 TUBE MEDIUM

Es - 670V (open) - 45 MA.

205°C. 8-1-36

Ef - 56V (open) - 2 amps

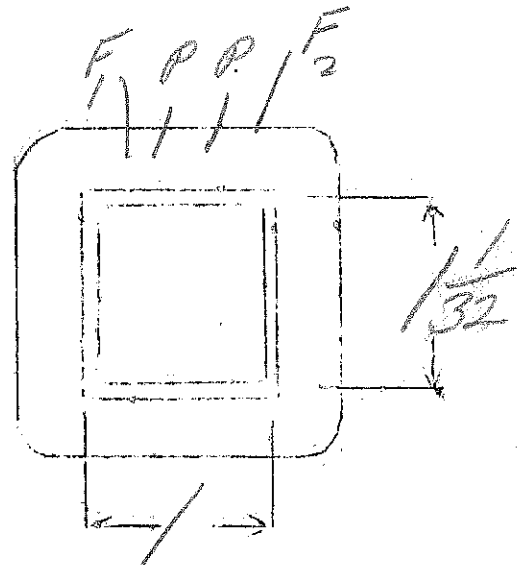
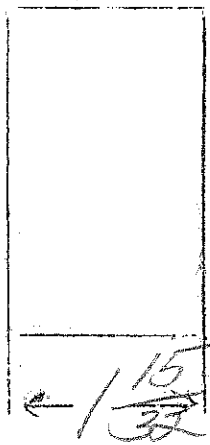
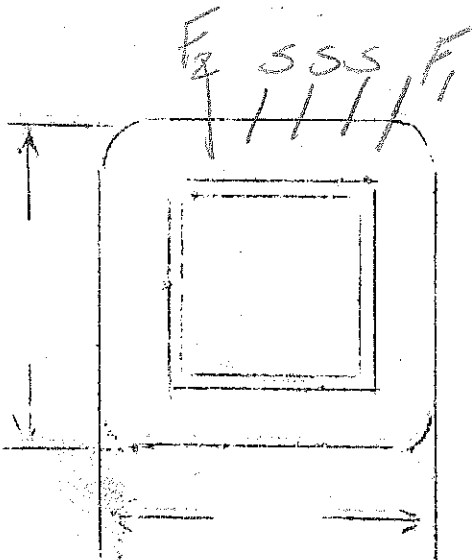
$\frac{M}{E} = 535$

Eg - 7.0V (open) 1.9 amps

SPEC. NO. 2285

K-7

Winding	SEC	SHIELD	PRI	<sup>open</sup> F <sub>1</sub>	<sup>blue</sup> F <sub>2</sub>		
Turns	3600	75	668	30	38		
Taps	1800	—	—	—	—		
Wind. Lgth.	1 9/32	1 9/32	1 9/32				
Wire Size	#36	#27	#27	#21	#21		
T.P.L.	202-18	75	75-9	—	—		
Kind Term.	#22 LENZITE	WO.	#22 LENZITE	WIRE	ONLY		
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	double 16#	—	40#	—	—		
Wrapper	2007C	2005W	2005GA	2005GA	2005GA		
TUBE	52007+1LGA			IMPREGNATION		VARNISH.	
CURE	1 X 1/32						



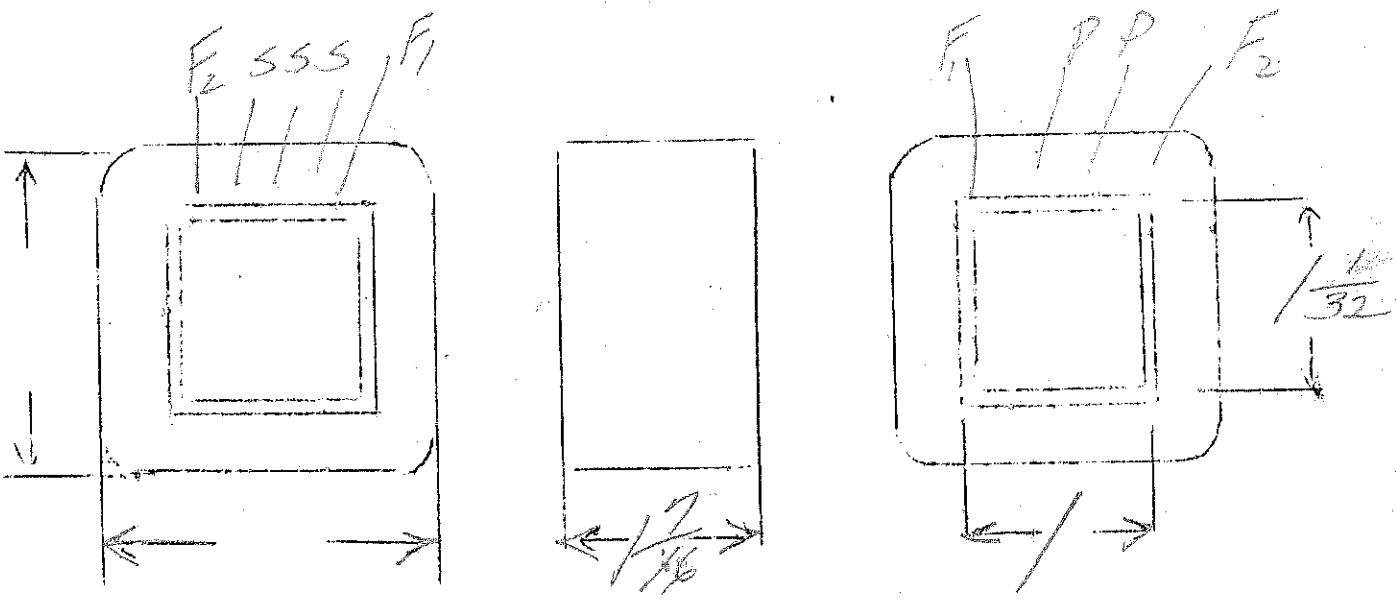
5 TUBE MEDIUM-EXPORT

$E_p$  - 230V alt - 50 W  
 $E_s$  - 670V (open) - 45 Ma  
 $E_{F1}$  - 56V (open) - 2 amps  
 $E_{F2}$  - 7.0V (open) 1.9 amps

$N/E = 535$

SPEC. NO. 2286

Winding	SEC	SHIELD	PRI	F <sub>1</sub>	F <sub>2</sub>		
Turns	3600	104	1240	30	38		
Taps	1800	—	—	—	—		
Wind. Lgth.	1.25	1.25	1.25				
Wire Size	#36	#30	#30	#21	#21		
T.P.L.	202-18	104	104-12				
Kind Term.	#22 Enzite	22 Enzite	#22 Enzite	WIRE ONLY			
Term. Lgth.	9" double	3"	9" double	9"	9"		
Layer Insul.	16#		16#				
Wrapper	11007VC	1005VC	210056L	21005GA	21005GA		
TUBE	52007+11GA			IMPREGNATION		VARNISH	
CURE	1 X 1/32						





Ep - 125V - 50N (EXPORT)

5 TUBE HEAVY

Es - 720 V<sub>(open)</sub> - 45 MA

2207C

8-1-36

E<sub>F2</sub> - 56 V<sub>(open)</sub> - 2 amp

N<sub>1</sub> 442

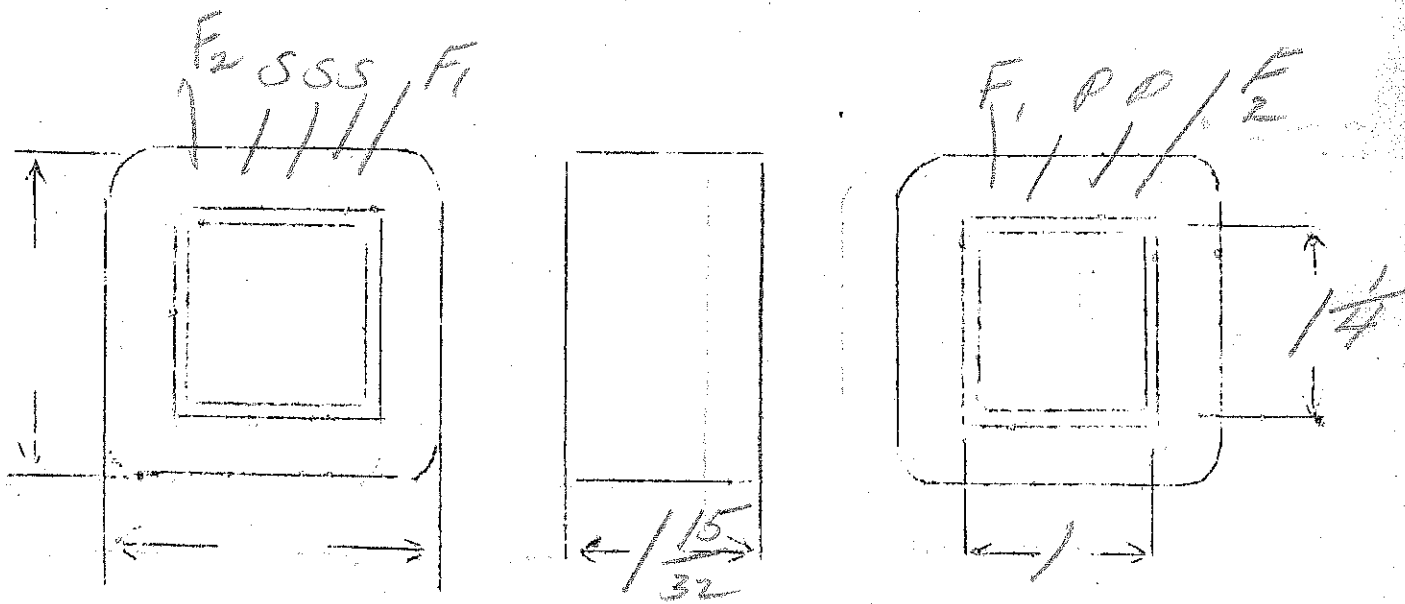
SPEC. NO.

2290

1-5

E<sub>F1</sub> - 6.9 V<sub>(open)</sub> - 2 amp

Winding	SEC	SHIELD	PR1	F <sub>1</sub>	F <sub>2</sub>		
Turns	3200		552	31	25		
Taps	1600	—	—	—	—		
Wind. Lgth.	1 9/32		1 9/32				
Wire Size	#36	#26	#26	#21	#21		
T.P.L.	203-16		69-8	—	—		
Kind Term.	#22 LENZITE	NO	#22 LENZITE	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	double 16#	—	40#				
Wrapper	11007VC	11005VC	21005GA	21005GA	21005GA		
TUBE	52007+1LGA			IMPREGNATION		VARNISH	
CURE	1X/7						



E<sub>p</sub> - 230V - 50  $\mu$

5 TUBE - HEAVY DUTY - EXPORT

E<sub>s</sub> - 120V (open) - 45MA

E<sub>F1</sub> - 5.6V (open) - 2 amp

N/E - 4.42

E<sub>F2</sub> - 6.9V (open) - 2 amp

SPEC. NO. 2291

Winding	SEC	SHIELD	PRI	F1	F2		
Turns	3200	94	1020	31	25		
Taps	1600	-	-	-	-		
Wind. Lgth.	1.25	1.25	1.25				
Wire Size	#36	#29	#29	#21	#21		
T.P.L.	203-16	94	94-11				
Kind Term.	#22 single	Sl Br	#22 single	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	double 16#		40#				
Wrapper	1007VC	1005VC	2005GA	9005GA	2005GA		
TUBE	5200741LGA			IMPREGNATION		VARNISH	
CURE	1X 1/4						

