Fred LaMarche

From: Vince Slyngstad [v.slyngstad@verizon.net]
Sent: Monday, December 13, 2004 10:26 AM
To: Fred LaMarche
Subject: Re:

> I'm sorry this reply has taken so long, but we didn't have this information
> in our data system. We did find old style drawings for one of the two parts
> about which you inquired. That is part number T-2037 (BH Part Number
> 500-0587 -- DEC drawing number 16-05794-05.) The other part is apparently
> lost to us. We cannot cross reference the number marked on the part as that
> number isn't actually the DEC drawing number and is not listed on any of our
> paperwork.

That is great news about the T-2037!

If it is of any help to you, the T-2052 was used in the same DEC assembly. The drawing I have (for the G228 inhibit driver assembly) is labelled B-CS-G228-0-1, and is dated 4-4-67.

> During the period in question we built many different parts for
> DEC and most of them look physically the same except for the markings. All
> were custom parts and would be very expensive to duplicate today. If you
> need only a small quantity of this part, I suggest looking for a moder
> device that is electrically similar. Re-engineering this item with modern
> materials would be cost prohibitive in small quantities.

I suspect you are right, unless it is possible to wind a few dozen similar toroids by hand or something. The objective here is to repair and enhance a few collectibles, so that kind of handwork may make sense. The ideal thing would be to find a pointer to something modern that is close enough to work. And the problem with that, has been that we don't know enough about these parts to know what to look for.

> If you need a copy
> of the drawing for the T-2037, please respond with your address and I will
> mail it to you. I don't think that fax or e-mail will yeild enough
> resolution to make it useful.

Sure:
Vincent Slyngstad

Thanks for your help!

Vince
--

1.0 ELECTRICAL REQUIREMENTS

1.1 Turns ratio: 16:7

1.2 Interwinding capacitance: 18.0pf (max) between 2 & 7 shorted and 4 & 5 shorted.

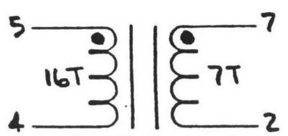
1.3 LEAKAGE INDUCTANCE: 2.0 μh MAX.

1.4 ET: 5.0 VOLT μSEC MIN.

1.5 INDUCTANCE:

PRIMARY - 220 μh ± 20%
Secondary - 43 μh ± 20%

1.6 IR: 10K MEGΩ @ 100VDC.



SCHEMATIC DIAG
FIG 1

SIZE	CODE IDENT NO.		
A	08450	500-0587	D REV
SCALE		SHEET 2 OF 6	

APPLICATION	
NEXT ASSY.	USED ON

REVISIONS

LTR	DESCRIPTION	DATE	APPROVED
A	BH, Cw was 18pf ADD LL & ET	6/18/71	BE
B	ELECT. SPECS.	7/1/71	BE
C	ADD 751-0121 ALT CORE	3/28/72	NH
D	UPDATE TO 16-05794 REV R. SHEET 2, CI FROM 17 TO 12 PF ET FROM 13 TO 5 VμSEC. SHEET 4 ADD PIN NO'S SHEET 5 ADD PARYLENE. SHEET 6 CHANGE EPOXY FROM CASTALL TO DOLPHS	11/20/73	NH
E	ADD ITEM 13 SHEET 6 AND 4.1.1 SHEET 5	3/11/74	NH
F	CUST REV L - NO BH CHANGE	3/23/77	NH
G	CUST REV M, 1.5 240 TO 220 μh AND 45 TO 43 μh, 1.2 FROM 12 TO 18 PF	7/26/78	NH

Copy
Pat
Jackie
Marie
Carolyn
Shirley
Kitty
IDC
Pat

8-2-78
JCC

PULSE TRANSFORMER DIV

Reference: Digital Equip. Corp. Dwg. #5200672-0-0 Rev. A 16-05794-5 REV M

Dated 6/19/69

RECORD OF REVISION STATUS OF EACH SHEET

1	2	3	4	5	6
A	A	-	A	-	A
B	B	-	A	-	A
C	B	-	A	-	B
D	C	-	B	A	C
E	C	-	B	A	D
F	C	-	B	A	D
G	D	-	B	A	D

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES
DECIMALS FRACTIONS ANGLES

MATERIAL

FINISH

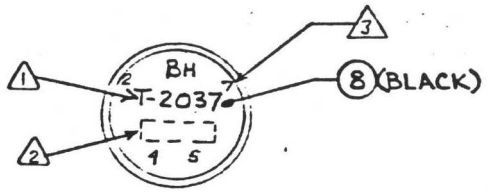
CONTRACT		
APPROVED	RAL	9/17/69
CHECKED	[illegible]	7/28/69
DRAWN	[illegible]	7/23/69

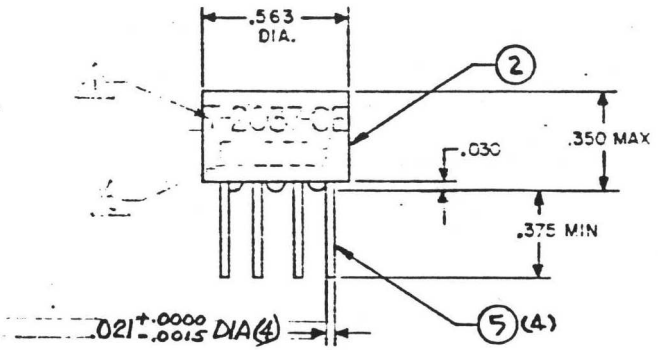
BUCKBEE MEARS CO.
SAINT PAUL, MINN.
EXTRA SERVICE IN ELECTRONICS
MPLS. • MINN.

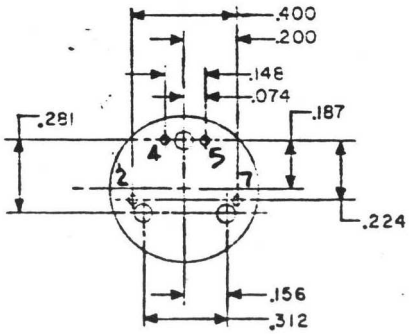
Transformer, Pulse

SIZE	CODE IDENT NO.		
A	08450	500-0587	G REV
SCALE		SHEET 1 OF 6	

D6000







ES:

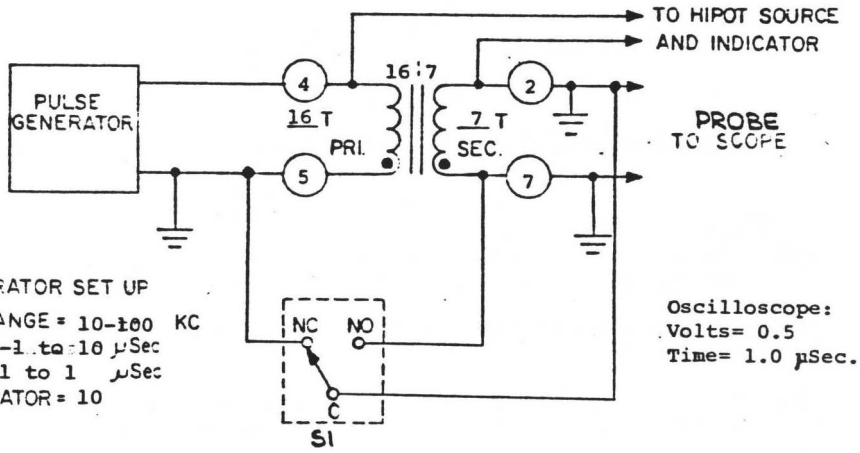
MARK PART NO, AS SHOWN , USING ITEM (9) (WHITE EPOXY INK), AND (11)

MARK DATE CODE, IN POSITION SHOWN, USING ITEM (9), AND (11)

TERMINAL DESIGNATIONS TO APPEAR ON PART.

UNLESS OTHERWISE SPEC. DIM'S ARE IN INCHES TOLERANCES DEC ±.005	SIZE A	CODE IDENT NO. 08450	500-0587	REV B
				SHT 4 OF 6

2.0 WAVEFORM REQUIREMENTS



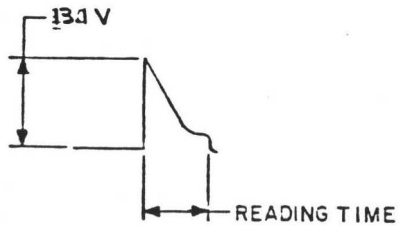
GENERATOR SET UP

FREQ. RANGE = 10-100 KC
DELAY = .1 to 10 μSec
WIDTH = .1 to 1 μSec
ATTENUATOR = 10

Oscilloscope:
Volts= 0.5
Time= 1.0 μSec.

Waveform Test Circuit
Fig 2

2.1 Adjust Pulse Generator to read 30 volts across the primary.
2.2 Press switch to read ±3.1 volts.
2.3 The unit under test is acceptable iffthe reading is 13.1V per(sec) at a reading time of 1 μSec.
2.4 iThe insulation resistanceofthe unitrunder testisacceptable if a reading of 200 Megohms (min) @ 200VDC is attained.

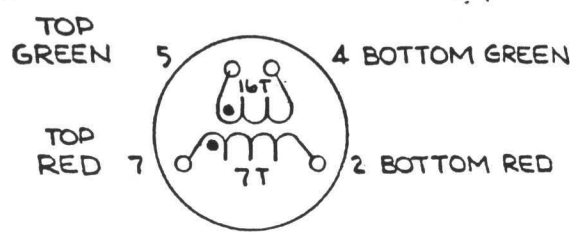


Scope Pattern
Fig 3

Equipment:
Pulse Generator model #131
Oscilloscope
Jig
Probe-Tektronix 010-128 10x 7pf 10Meg.
SWITCH(S1) = MICRO SWITCH #2PB12T2

SIZE A	CODE IDENT NO. 08450	500-0587
		SHT 3 OF 6

4.0 ASSEMBLY PROCEDURE



POLARITY AND CONNECTION DIAGRAM
FIG. 4 (TOP VIEW)

4.1 PARYLENE CORE OR, AS ALT ONLY, Coat all of (core) using (7) (spray)

4.1.1 GRADE CORES TO .75 TO 1.125 MH/T ON 130 LC METER

4.2 Insert (5) (pins) into (2) (cup) leaving ¼" exposed. Hold bottom of leads together and solder dip for handling purposes.

4.3 Unifilar wind 16 turns, (4) (#33 Green) spaced evenly for 360° of arc. (Wire start at same location but end 120° apart)

4.4 Unifilar wind 7 turns (3) (#33 Red) evenly spaced for 240° of arc (windings start at same location but end 120° apart)

4.5 Verify no. of turns each winding per ES-0008

4.6 Dip heated coil in vinyl using (6) (clear vinyl)

4.7 Strip insulation from leads.

4.8 Terminate coil to pins per Fig. 4

4.9 Solder dip leads using (10) (solder)

4.10 ~~Inspect~~ for proper termination and reliable solder joints.

4.11 Position coil in bottom of cup.

4.12 Encapsulate per ES-0003 using (8) (epoxy) USE CASTALL 105 FOR SECOND POUR

4.13 Trim leads for electrical test.

4.14 Test per sheets 2 & 3.

4.15 Trim lead to final dimension shown in 3.0 mechanical requirements.

SIZE	CODE IDENT NO.		REV
A	08450	500-0587	A
SCALE		SHEET 5 OF 6	

UNIT OF MEASURE ABBREVIATION
IN=INCH EA=EACH OZ=OUNCES (LIQ WT)

PL 500-0587 D

CODE IDENT 08450

SHEET 6 OF 6

ITEM NO.	QUANTITY REQD.	UNIT OF MEAS	PART NUMBER	NOMENCLATURE/DESCRIPTION	NOTES/REF. NO.
1	1	EA	751-0014	Core, Ferrite Toroid	Ind. Gen. CF102-T1
2	1	EA	809-0462	Case, Pulse XFMR	1
3		IN	807-0233	Wire, Magnet #33 Red (Heavy)	Polyurethane Nylon
4		IN	807-0333	Wire, Magnet #33 Green (Heavy)	Polyurethane Nylon
5	4	EA	810-0205	Pin, Domed, 24 Awg, X 1.75	Stewart Stamping, CE-1
6	AR		814-0104	Vinyl, Clear	Dolphs CC-1015
7	AR		814-0053	Spray	Dolphs ER-41
8	AR		814-0004	Epoxy, Black	DOLPHS CP-1069
9	AR		814-0105	Ink, White Epoxy	Markem 7254/K
10	AR		817-0087	Solder, SN60	
11	AR		802-0219 B	STAMP, RUBBER DIE	
	NOTE:				
	1 If item 2 is unavailable 809-0461 may be substituted.				
12	1	EA	751-0121	CORE, TOROID, ALTERNATE	KRYSTINEL L26-5444
13	1	EA	751-0197	CORE, TOROID, ALTERNATE	IG F625-4-TC9