

ELECTRONIC VALVE SPECIFICATIONS

SPECIFICATION CV7465-75

ISSUE No.1 DATED 31st MARCH 1964

AMENDMENT No. 1

PAGE 6. SUB-GROUP 2. SHOCK

UNDER K1007/NATO REF:-

DELETE 5-17-2

INSERT 5-17-1

SPECIFIC CONDITIONS AFTER:-

OPERATING 2 BLOWS .....

..... IN EACH DIRECTION

ADD:- AT 100g 0.5 ms.

NOVEMBER 1964  
NM.229199

MINISTRY OF AVIATION, R.A.E.

31st March, 1964.

MILITARY SPECIFICATION

# CV 7465-75

SEMICONDUCTOR DEVICE, DIODE

Description:- This Specification covers the detail requirements for Silicon High Voltage Rectifier Cartridges and is in accordance with Specification K1007, except where otherwise stated.

Mechanical Dimensions and Outlines:- See Fig.1 Page 9

Connections:- Cathode End marked as Section B.1.3.4.4.(a).

Absolute Maximum Ratings:-

RATING	V <sub>R</sub>	I <sub>F</sub>	I <sub>F(S)</sub>	T <sub>amb</sub> (Max.)	T <sub>stg</sub>		Shock	Vibration
					Max.	Min.		
Unit	V	mA	A	°C	°C	°C	g	g
CV7465	600	250	3.5	+150	+150	-55	100	10
CV7466	1,000	250	3.5	+150	+150	-55	100	10
CV7467	1,500	200	3.5	+150	+150	-55	100	10
CV7468	2,000	200	3.5	+150	+150	-55	100	10
CV7469	2,400	150	3.5	+150	+150	-55	100	10
CV7470	3,000	150	3.5	+150	+150	-55	100	10
CV7471	4,000	100	3.5	+150	+150	-55	100	10
CV7472	6,000	100	3.5	+150	+150	-55	100	10
CV7473	10,000	75	3.5	+150	+150	-55	100	10
CV7474	12,500	75	3.5	+150	+150	-55	100	10
CV7475	15,000	75	3.5	+150	+150	-55	100	10
NOTES	C	B	A				D	

- Note A. Surge current for 10 mS.  
 B. At 25°C. see also derating curve, Fig. 1 Page 7  
 C. See also voltage derating curve for altitude, Fig. 2 Page 9  
 D. Approx. .5 mS. Operating.  
 E. These devices will operate up to 2.5 Kc/s.  
 F. Commercial Equivalents: IN2373, IN2374 or IN1730, IN2375 or IN1731, IN2376 or IN1732, IN2377, IN2378 or IN1733, IN2379, IN2380, IN2381, GF1T25, HF1T25.

# CV 7465-75

## Primary Electrical Characteristics

Characteristic	$I_R$		$V_F$
	25°C	100°C	25°C
Units	$\mu A$	$\mu A$	V
CV7465	10	100	3.0
CV7466	10	100	3.0
CV7467	10	100	4.5
CV7468	10	100	7.5
CV7469	10	100	9.0
CV7470	10	100	9.0
CV7471	10	100	15.0
CV7472	10	100	22.5
CV7473	10	100	37.5
CV7474	10	100	37.5
CV7475	10	100	37.5
	Col.1	Col.2	Col.3
NOTES	1	1	2

NOTE 1. At test voltage  $V_R$  (see Page 1)

2. At test current  $I_F$  (see Page 1)

Reliability Assurance Requirements:- Under Discussion

## Requirements:-

Marking. The device shall be marked as K1007 Section B. 1.3.4.

## Quality Assurance Provisions:-

Destructive Tests. The tests listed in Table 2, Group B Inspection, Sub-Groups 2, 3 are considered destructive.

Group C Inspection. Inspection shall be conducted on the initial lot, and thereafter every 90 days or every fifth lot, whichever occurs first.

## Preparation for delivery:-

Packaging: The device shall be packed according to K1007, Issue 3, Section A 1.2 (C) A.I.S. 6.

## Joint Services Catalogue Numbers

CV7465 - 5960-99-037-3674  
CV7466 - 5960-99-037-3675  
CV7467 - 5960-99-037-3676  
CV7468 - 5960-99-037-3677  
CV7469 - 5960-99-037-3678  
CV7470 - 5960-99-037-3679  
CV7471 - 5960-99-038-3680  
CV7472 - 5960-99-039-3681  
CV7473 - 5960-99-039-3682  
CV7474 - 5960-99-039-3683  
CV7475 - 5960-99-039-3684

This specification has been prepared by and the Qualification Approval Authority is:-  
Ministry of Aviation, Royal Aircraft Establishment, Farnborough, Hants, England.

31st March, 1964.

TABLE 1. GROUP A INSPECTION

Examination or Test	TEST CONDITIONS		AQL %	Insp. Level	Sym- bol	LIMITS		Units
	K1007/NATO Ref.	SPECIFIC CONDITIONS				Min.	Max.	
<u>SUB-GROUP 1</u> Visual and Mechanical Inspection	5.1	Excluding Physical Dimensions	0.65	I				
<u>SUB-GROUP 2</u> Reverse Current (1)	8A.2.2	$V_R = \text{Col 2 Page 1}$	0.65	II	$I_R$	-	10	$\mu A$
Forward Voltage Drop	8A.3.2	$I_F = \text{Col 3 Page 1}$			$V_F$	-	Col. 3 Page 2.	V
<u>SUB-GROUP 3</u> Reverse Current (2)	8A.2.2	$V_R = \text{Col. 2. } T_{amb} = 100^\circ C.$ Page 1.	2.5	I	$I_R$	-	100	$\mu A$
<u>SUB-GROUP 4</u> Omitted								

TABLE 2. GROUP B INSPECTION  
(See Page 3 Quality Assurance Provisions Destructive Tests)

Examination or Test	TEST CONDITIONS		AQL %	Insp. Level	Sym-bol	LIMITS		Units
	K1007/NATO Ref.	SPECIFIC CONDITIONS				Min.	Max.	
<u>SUB-GROUP 1</u> Physical Dimensions	5.1	To Drawing on Page 9 Fig.3	6.5	1C				
<u>SUB-GROUP 2</u> Temperature Cycling Moisture Resistance Solderability	5.5 5.3 5.13	-55° to +100°C.	4.0	1A				
<u>SUB-GROUP 3</u> Vibration Fatigue	5.15.1	Non-operating 10g	4.0	I				
<u>SUB-GROUP 4</u> Lead Fatigue	5.10.2	2 cycles	6.5	1A				
<u>SUB-GROUPS 5 &amp; 6</u> Omitted								
<u>SUB-GROUP 7</u> High Temp. Life (Non-operating)	6.2.1 6.6.1.1.2 6.6.1.2.1	T <sub>stg</sub> = 100°C Duration = 1000 hrs.	4.0	1				
<u>SUB-GROUP 8</u> Operating Life	6.3.3 6.6.1.1.2 6.6.1.2.1	Forward current not less than the value corresponding to chosen T <sub>amb</sub> : V <sub>R</sub> = Col.2 Page 1	4.0	1A				
Post Test End Points for Sub-Groups 2,3,7 & 8					V <sub>F</sub> I <sub>R</sub>			Page 2 Col. 3 15
Forward Voltage Drop	8A.3.2	As in Group A Sub-Group 2						V
Reverse Current (1)	8A.2.2	As in Group A Sub-Group 2						mA

TABLE 3. GROUP C INSPECTION  
(See Page 3 Quality Assurance Provisions Group C Inspection)

Examination or Test	TEST CONDITIONS		AQL %	Insp. Level	Sym- bol	LIMITS		Units
	K1007/NATO Ref.	SPECIFIC CONDITIONS				Min.	Max.	
<u>SUB-GROUP 1</u>								
Omitted								
<u>SUB-GROUP 2</u>	5.17							
Shock	5.17.2	Operating. 2 blows along major axis in each direction. <u>NOTE 1, 2 &amp; 3</u>	6.5	1A				
<u>Post Test End Point for Sub-Group 2</u>								
Forward Voltage	8A.3.2	As in Group A Sub-Group 2			V <sub>F</sub>	-	Page 2 Col. 3	V
Reverse Current	8A.2.2	As in Group A Sub-Group 2			I <sub>R</sub>	-	15	μA

NOTES

1. The machine used for shock testing shall be to Drawing 254 JAN. with S.V.T.L. Drawings 0301 & 0302.
2. See Page 10 Fig.4 outline drawing for Clamping Jig.
3. See Page 10 Fig.5 for circuit to be used for the Operating Shock Test.

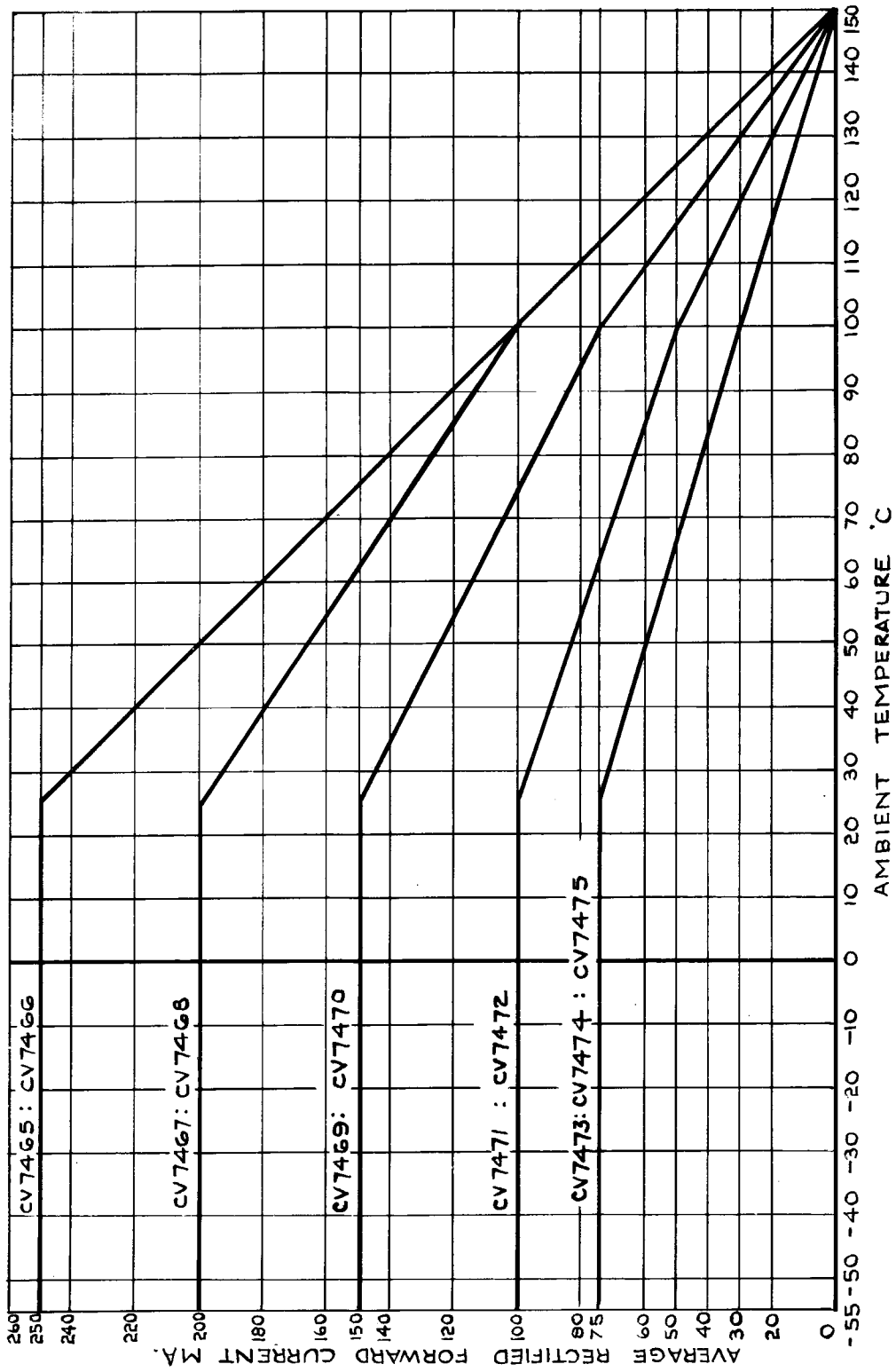
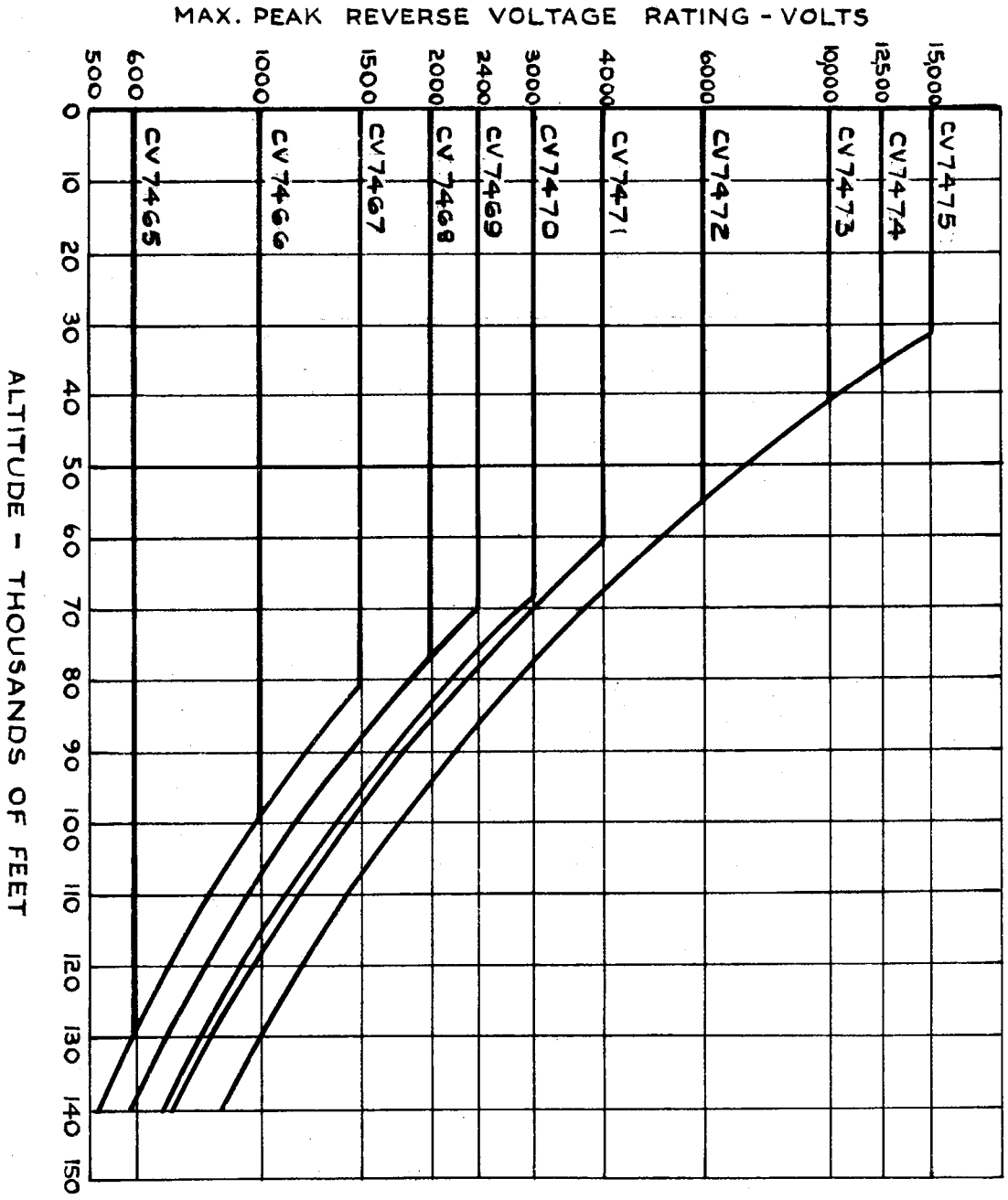


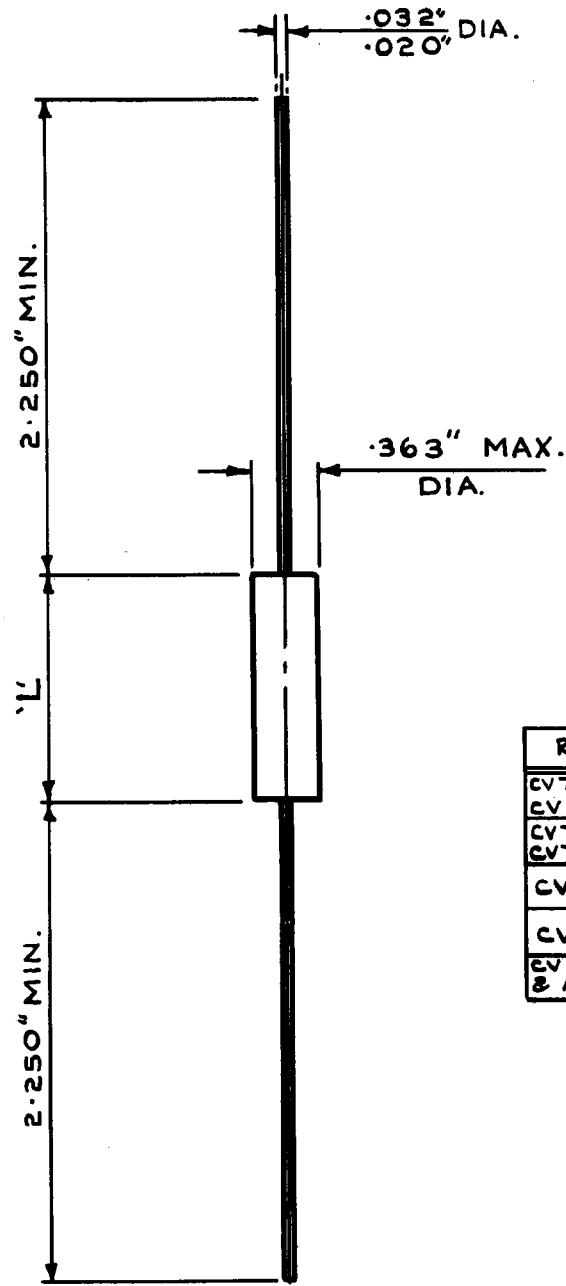
FIG.1. DERATING CURVE



CV 7465-75.

FIG. 2. VOLTAGE DERATING VS. ALTITUDE (AT 25°C AMBIENT.)





REF N <sup>o</sup> .	'L' MAX.
CV7465 TO CV7467	.500"
CV7468 & CV7469	.920"
CV7470	1.010"
CV7471	1.250"
CV7472 & ABOVE	2.500"

FIG.3. OUTLINE:- MINIATURE CARTRIDGE RECTIFIER

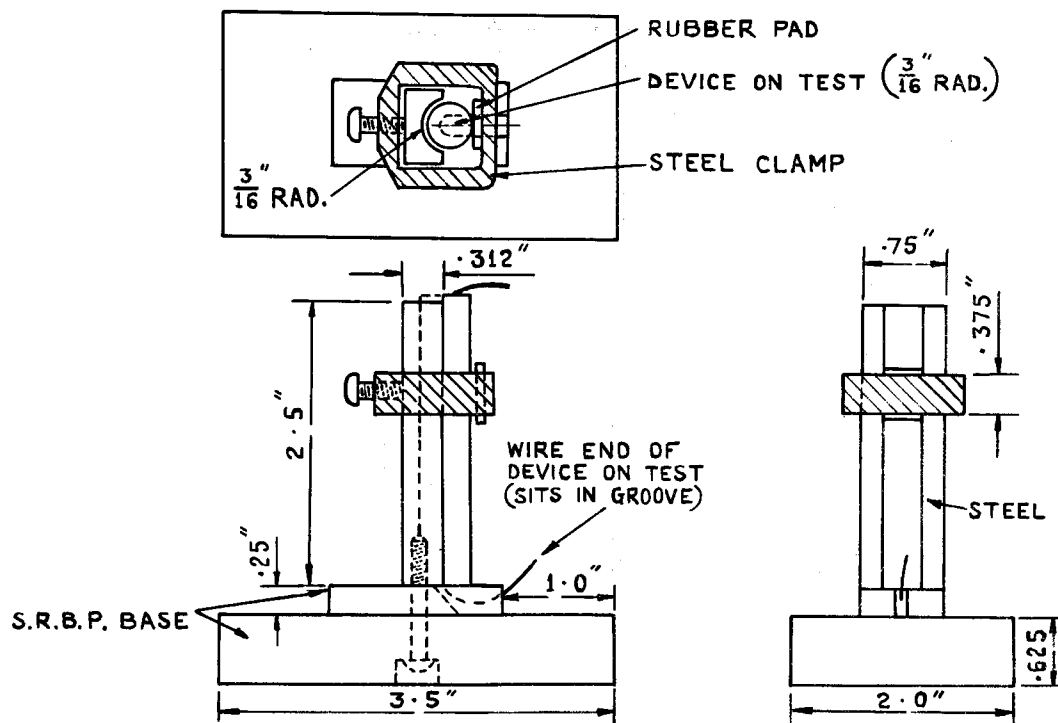
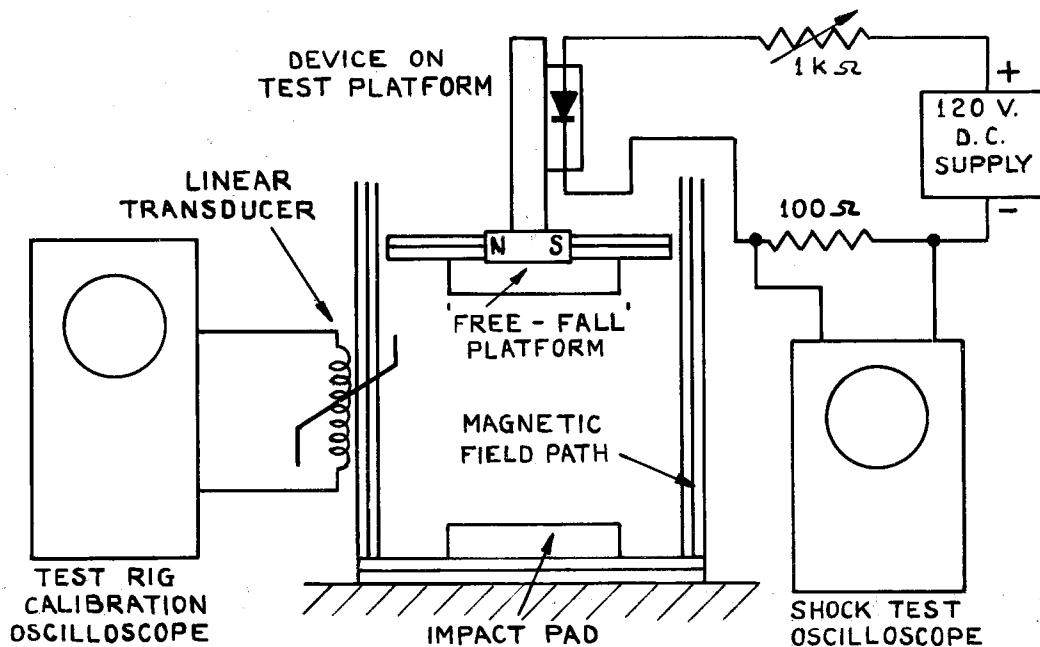


FIG.4. SKETCH OF H.V. CARTRIDGE SHOCK - TEST JIG.



NOTE:- SHOCK TEST OSCILLOSCOPE TO HAVE MINIMUM BAND WIDTH OF 500 kc/s. RANGE 0-300 VOLTS FULL DEFLECTION.

FIG.5. SHOCK TEST CIRCUIT DIAGRAM.  
(USED WITH DROP TESTER 254 - JAN.)