

ELECTRONIC VALVE SPECIFICATIONS
SPECIFICATION CV7367-8
ISSUE NO.1 DATED 23.10.1963
AMENDMENT NO. 1

Page 7, Table 2. Group B Inspection (contd) amend to read:-

Examination or Test	Test Conditions		AQL %	Insp. Level	Sym-bol	Limits		Units
	K1007/ NATO Ref.	Specific Conditions				Min.	Max	
SUB GROUP 8 Operating Life (1)	6.3	T _{amb} at any single temperature between 25°C and 100°C with the corresponding P _{tot} given by the derating curve on page 9. V _R = 75V Duration 72 hrs. min.						
<u>Post Operating Life(1) Test End Point</u> Forward Voltage Drop		As in Group A Sub group 2	0.65		V _F	-	1.1	V
Reverse Current (2)		V _R = 20	0.65		I _R	-	0.05	µA
Reverse Current (1)		V _R = 75	0.65		I _R	-	10	µA
Capacitance		CV7367 V _R = 0V V _R = 1.5V	0.65		C	-	4.1	PF
		CV7368 V _R = 0V V _R = 1.5V	0.65		C	-	3.0	PF
						-	2.1	PF
						-	1.6	PF

Amend "Post Test End Points for Sub Groups 2, 3, 7 and 8" by deleting "and 8".

Page 8. Table 3. Group C Inspection. Add Sub-group 3 as follows:-

Examination or Test	Test Conditions		AQL %	Insp. Level	Sym-bol	Limits		Units
	K1007/ NATO Ref.	Specific Conditions				Min.	Max.	
SUB GROUP 3 Operating Life (2)	6.3	As for Operating Life (1)	4.0	IA				
See Note 2	6.6	Duration 1000 hours min.						
	4.5.2.1.1.1							
<u>Post Operating Life(2) Test End Point</u> Forward Voltage Drop		As in Group A Sub group 2			V _F	-	1.1	V
Reverse Current(2)		V _R = 20			I _R	-	0.05	µA
Reverse Current(1)		V _R = 75			I _R	-	10	µA
Capacitance		CV7367 V _R = 0V V _R = 1.5V			C	-	4.1	PF
		CV7368 V _R = 0V V _R = 1.5V			C	-	3.0	PF
						-	2.1	PF
						-	1.6	PF

Add to Notes

2. K1007, Section B, Clause 4.5.3.3 will not apply, however the Inspectorate will inform the Qualification Approval Authority if and when the requirements of Operation Life (2) have not been met.

MILITARY SPECIFICATION

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SEMICONDUCTOR DEVICE, DIODES

Description:- This specification covers the detail requirements for Silicon, fast switching, double ended diodes and is in accordance with specification K1007 Issue 3, except as otherwise stated.

Mechanical Dimensions and Outlines:- Section D. Appendix 1
 Drawing No. 9

Polarity:- Cathode end marked as clause 1.3.4.1 (b).

Absolute Maximum Ratings:- (Both devices)

RATING	V _R	I _O	I _{FS}	P	T _{op}	T _{stg}	I _o	Shock	Vibration
UNIT	V	mA	mA	mW	°C	°C	mA	g	g
MIN.	-	-	-	-	-55	-55	-	-	-
MAX.	75	75	500	250	+175	200	10	1500	20
NOTE		A	B				C	D	

- Notes: A. See derating curve Fig. 1. Page 9.
 B. Max. surge current, 1 second duration at 25°C
 C. At 150°C.
 D. Duration 0.5msec
 E. Commercial equivalents IS914 and IS916.

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Primary Electrical Characteristics

Characteristic	I_R	I_R	I_R	C	t_{rr}	V_F
Unit	μA	μA	μA	pF	ns	V
IN914 Max	5	0.025	50	4	8	1
IN916 Max	5	0.025	50	2	8	1
$T_{ambient}^{\circ C}$	25	25	150	25	25	25
V_R V	75	20	20	0	-	-
I_F mA	-	-	-	-	10	10

Reliability Assurance Requirements:- Under discussion.

Requirements:

Marking. The device shall be marked as K1007. Section B.1.3.4. omitting all except 1.3.4.1(a) and (b). The date code shall appear on multiple packs of 100 or more and the manufacturers code on individual packs.

Quality Assurance Provisions:

Destructive Tests. The tests listed in Table 2, Group B Inspection, Sub Groups 2, 3 and 4 are considered destructive.

Group C Inspection. This inspection shall be conducted on the initial lot, and thereafter every ninety 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).

Joint Services Catalogue Numbers

CV7367 = 5960-99-037- 3169
CV7368 = 5960-99-037- 3170

This specification has been prepared by, and the Qualification Approval Authority is:-
Ministry of Aviation, Royal Radar Establishment, Malvern, Worcs., England.

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	II					
Reverse Current (1)	8A.2.2	$V_R = 75V$			I_R	-	5	μA	
Reverse Current (2)	8A.2.2	$V_R = 20V$	1.0	II	I_R	-	.025	μA	
Forward Voltage Drop	8A.3.2	$I_F = 10\text{ mA}$			V_F	-	1	V	
Forward Recovery Time	8A.6.1.1	$i_f = 50\text{ mA}$. Pulse duration 0.1 μs wide at base. P.R.F. = 100 kc/s.			V_f	-	2.5	V D.C	
Reverse Recovery Time	8A.6.1.2	$I_F = 10\text{ mA}$. $I_R = 10\text{ mA}$. Recovery to 1 mA.			t_{rr}	-	5	ns	
Capacitance	8A.5.1	CV7367 $V_R = 0v$			C	-	4.0	pF	
		$V_R = 1.5v$				-	2.8	pF	
		CV7368 $V_R = 0v$.					-	2.0	pF
		$V_R = 1.5v$					-	1.5	pF
<u>SUB GROUP 2</u> Reverse Current (2)	8A.2.2	$T_{amb} = 150^\circ C$ $V_R = 20v$.	2.5	I	I_R	-	50	μA	

TABLE 1. GROUP A INSPECTION (Contd.)

Examination or Test	K1007/NATO Ref.	TEST CONDITIONS		AQL %	Insp. Level	Sym- bol	LIMITS		Units
		SPECIFIC CONDITIONS					Min.	Max.	
Reverse Current (3)	8A.2.2	$T_{amb} = 150^{\circ}C$ $V_R = 75V$ $I_R = 100 \mu A \text{ d.c.}$				I_R	-	100	μA
Breakdown Voltage	8A.2.4					$V_R(BR)$	100	-	V
<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
					Min.	Max.	
	K1007/NATO Ref.						
<u>SUB GROUP 1</u> Physical Dimensions	5.1 According to Section D Appendix I Drawing D9.	6.5	IA				
<u>SUB GROUP 2</u> Solderability	5.13	4.0	IA				
Temperature Cycling	5.5 - 55°C to + 150°C						
Thermal Shock	5.6.2 0°C to 100°C						
Moisture Resistance	5.3.1.2						
<u>SUB GROUP 3</u> Vibration Fatigue	5.15	4.0	I Note 1				
<u>SUB GROUP 4</u> Lead Fatigue	5.10.2	6.5	IA				
<u>SUB GROUP 5</u> Omitted							
<u>SUB GROUP 6</u> Omitted							
<u>SUB GROUP 7</u> High Temperature Life (non operating)	6.2.1 6.6.1.2.2 T _{stg} = 150°C Duration 1000 hours	4.0	I Note 1				

TABLE 2. GROUP B INSPECTION (Contd.)

Examination or Test	K1007/NATO Ref.	TEST CONDITIONS		AQL %	Insp. Level	Sym-bol	LIMITS		Units
		SPECIFIC CONDITIONS					Min.	Max.	
<u>SUB GROUP 8</u>									
Operating Life.	6.3.2. 6.6.1.2.2.	Operation at an ambient temperature between 25°C and 100°C. Forward current not less than the value corresponding to the chosen T_{amb} according to the derating curve Fig. 1. $V_R = 75V$	4.0	IA					
<u>Post Test end points for SUB GROUPS 2, 3, 7 and 8</u>									
Forward Voltage Drop		As in Group A. Sub Group 2				V_F	1.1		V
Reverse Current (2)		$V_R = 20V$				I_R	.05		μA
Reverse Current (1)		$V_R = 75V$				I_R	10		μA
Capacitance		CV7367 $V_R = 0V$ $V_R = 1.5V$				C	4.1		pF
		CV7368 $V_R = 0V$ $V_R = 1.5V$					3.0		pF
							2.1		pF
							1.6		pF

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

Examination or Test	TEST CONDITIONS		AQI %	Insp. Level	Sym- bol	LIMITS		Units
	K1007/NATO Ref.	SPECIFIC CONDITIONS				Min.	Max.	
<u>SUB GROUP 1</u> Omitted								
<u>SUB GROUP 2</u> Shock	5.17.1	Non-operating. 5 blows in each of three mutually perpendicular directions	6.5	IA				
<u>Post Test End Points</u> As for Group B, Sub-Groups 2. 3. 7 & 8.								
Note 1.	The maximum sample size will be 125							
	<u>NOTES</u>							