

MILITARY SPECIFICATION

CV 7379-88

SEMICONDUCTOR DEVICE, RECTIFIER DIODE

**Description:-** This specification covers the detail requirements for a Silicon, Stud Mounted, Power Rectifier Diode and is in accordance with Specification K1007, Issue 3 except as otherwise stated.

**Mechanical Dimensions and Outlines:-** Drawing 10.3.3.2

**Connections:-** Stud-Anode CV7379-7383  
 Stud-Cathode CV7384-CV7388

**Absolute Maximum Ratings:-**

DEVICE	Ratings	$V_{RW}$	$V_{RS}$	$I_O$	$I_{FS}$	$T_{case}$	$T_{stg}$	Vib.	Shock
	Unit	V	V	A	A	°C	°C	g	g
CV7379 CV7384	Min.	-	-	-		-	-55	-	-
	Max.	200	200	10		150	+150	20	500
CV7380 CV7385	Min.	-	-	-	see figure 3.	-	-55	-	-
	Max.	400	400	10		150	+150	20	500
CV7381 CV7386	Min.	-	-	-		-	-55	-	-
	Max.	600	600	10		150	+150	20	500
CV7382 CV7387	Min.	-	-	-		-	-55	-	-
	Max.	800	800	10		150	+150	20	500
CV7383 CV7388	Min.	-	-	-	-	-55	-	-	
	Max.	1000	1000	10	150	+150	20	500	
Note				1		2			

**Note 1.** At 125°C stud temperature. For method of measurement see TVC information, sheet 10. The maximum total loss is given in Figure 1.

**Note 2.** See Derating Curve Fig 2.

**Note 3.** Commercial Equivalent SL-203-K, SL-403-K, SL-603-K, SL-803-K, SL-1003-K. Stud-Anode  
 SL-203-A to SL-1003-A. Stud-Cathode.

# CV 7379-88

## Primary Electrical Characteristics:

Characteristics		$V_F$	$I_R$	$I_R$
Unit		V	$\mu A$	$\mu A$
CV7379	Min.	-	-	-
-CV7388	Max.	1.2	50	500
CONDITIONS	$T_{case}$ °C	25	25	100
	$V_R$ V		Note 1	Note 1
	$I_F$ A	10		

Note 1. At appropriate  $V_{RW}$  for each type

Reliability Assurance Requirements: Under discussion.

## Applicable Documents

T.V.C. Information Sheets Nos. 9 and 10

## Requirements:-

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

## Quality Assurance Provisions:-

Destructive Tests The tests listed in Table 2, Group B Inspection, Sub Group 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:-

CV7379	=	5960-99-037-3349
CV7380	=	5960-99-037-3350
CV7381	=	5960-99-037-3351
CV7382	=	5960-99-037-3352
CV7383	=	5960-99-037-3353
CV7384	=	5960-99-037-3354
CV7385	=	5960-99-037-3355
CV7386	=	5960-99-037-3356
CV7387	=	5960-99-037-3357
CV7388	=	5960-99-037-3358

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

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TABLE 1. GROUP A INSPECTION

Examination or Test	K1007/NATO Ref.	TEST CONDITIONS		AQL %	Insp. Level	Sym-bol	LIMITS		Units
		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> Forward Voltage Drop	8A.3.2	$I_F = 10A$ Note 2		0.65	II	$V_F$	-	1.2	V
Reverse Current (1)	8A.2.2	$V_{RW} =$							
		CV7379, CV7384, 200V				$I_R$	-	50	$\mu A$
		CV7380, CV7385, 400V				$I_R$	-	50	$\mu A$
		CV7381, CV7386, 600V				$I_R$	-	50	$\mu A$
		CV7382, CV7387, 800V				$I_R$	-	50	$\mu A$
CV7383, CV7388, 1000V				$I_R$	-	50	$\mu A$		
<u>SUB-GROUP 3</u> Reverse Current (2)	8A.2.2	$T_{case} = 100^\circ C$		2.5	I				
		CV7379, CV7384, 200V				$I_R$	-	500	$\mu A$
		CV7380, CV7385, 400V				$I_R$	-	500	$\mu A$
		CV7381, CV7386, 600V				$I_R$	-	500	$\mu A$
		CV7382, CV7387, 800V				$I_R$	-	500	$\mu A$
		CV7383, CV7388, 1000V				$I_R$	-	500	$\mu A$

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

Examination or Test	K1007/NATO Ref.	TEST CONDITIONS Specific Conditions	AQL %	Insp. Level	Sym-bol	LIMITS		Units
						Min.	Max.	
<u>SUB GROUP 1</u> Physical Dimensions	5.1	According to drawing 10.3.3.2	6.5	IC				
<u>SUB GROUP 2</u> Temperature Cycling	5.5	-55°C to +100°C	4.0	IA				
Moisture Resistance	5.3.1							
<u>SUB GROUP 3</u> Vibration Fatigue	5.15.1	Non-operating	4.0	I Note 1				
<u>SUB GROUP 4</u> Torque Test	5.12.1	15 lbs. ins.	6.5	IA				
<u>SUB GROUPS 5 &amp; 6</u> Omitted								
<u>SUB GROUP 7</u> High Temperature Life (non-operating)	6.2.1	T <sub>stg</sub> = 100°C Duration = 1000 hrs.	4.0	I Note 1				
<u>SUB GROUP 8</u> Operating Life	6.3.2	T <sub>case</sub> = 125°C min. I <sub>o</sub> = 10A min V <sub>RW</sub> = Crest working voltage CV7379, CV7384 200V CV7380, CV7385 400V CV7381, CV7386 600V CV7382, CV7387 800V CV7383, CV7388 1000V	4.0	IA				

TABLE 2. GROUP B INSPECTION (Contd.)

Examination or Test	TEST CONDITIONS		AQL %	Insp. Level	Sym- bol	LIMITS		Units
	K1007/NATO Ref.	SPECIFIC CONDITIONS				Min.	Max.	
<u>Post Test End Points for Sub-Groups 2, 3, 7 and 8</u> Forward Voltage Drop Reverse Current (1)	8A.3.2	As in Group A, Sub-Group 2			V <sub>F</sub>	-	1.3	V
	8A.2.2	As in Group A, Sub-Group 2			I <sub>R</sub>	-	60	μA

**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> Shock	5.17	Non-operating, 5 blows in each of three mutually perpendicular directions.	6.5	IA				
<u>Post Test End Points</u>								
Forward Voltage Drop	8A.3.2	As in Group A. Sub Group 2			V <sub>F</sub>	-	1.3	V
Reverse Current (1)	8A.2.2	As in Group A. Sub Group 2			I <sub>R</sub>	-	60	μA

NOTES

1. Maximum sample size 125.
2. Stud temperature maintained at a value not exceeding 30°C





