

CONFIRMED
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Electronic parts of assessed quality —

Silicon microwave switching diode,
rod mounted

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 8 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Amendments issued since publication

Amd. No.	Date	Comments

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1. Specification CV7599 Issue 1 dated 30 November 1964 with its existing amendments which are reproduced below is hereby adopted as BS 9300 C599.

2. Devices inspected, released and supplied to this specification shall be marked CV7599 and where applicable, with the letters KB.

3. The references to "Military specification", "Commercial equivalents", "Reliability assurance provisions" or requirements and "Preparation for delivery" shall be disregarded.

4. In the Groups A, B and C inspection tables the references in the "K1007/NATO Ref" column shall be superseded by the appropriate reference given in BS 9300 Appendix C (Tables 1 to 5 inclusive).

5. Additional requirements not covered by BS 9300 Appendix C are:

Page 1. Delete "Joint Service Catalogue Number" and substitute "NATO stock number".

Delete "5960" and substitute "5961".

Page 3. Group B, Subgroup 4. The requirement for torque shall continue to be applied as specified.

Page 3. Group B, Subgroup 7. The requirement for high temperature life shall not be deleted but shall be performed as specified.

Group B, Subgroup 8. The operating life test shall be performed at inspection level S-3, 10 % AQL for 160 hours under the conditions specified.

Add Group C, Subgroup C5, Operating life, as in Group B, Subgroup 8 for 2 000 hours.

6. Published amendments (consolidated).

Page 1. Primary electrical characteristics.

Admittance phase angle. Amend to read min. 0.28, max. 0.38.

Page 2. Group A, Subgroup 2.

Admittance phase angle. Amend limits to read:
0.28 min. 0.38 max.

Page 6. Note 1, second paragraph. Amend to read:

The test limits of v.s.w.r. minima measured at 9 375 MHz are 0.29 and 0.37 cm, the specification limits becoming 0.28 and 0.38 cm.

Diodes which exhibit v.s.w.r. minima within the above limits have a capacitance of $0.34 \text{ pF} \pm 0.07 \text{ pF}$ and an inductance in series of 0.15 nH.

Military specification**CV 7599****Semiconductor device diode**

Description:— This specification covers the detail requirements for microwave Silicon Switching Diodes Rod Mounted. The diodes are unencapsulated and not tested for moisture resistance and are in accordance with K1007, except as otherwise stated.

Mechanical Dimensions and outlines:— See Figure 1 Page 7

Connections:— Green mark on Pigtail indicates Negative Polarity of Shank when forward bias is applied.

Absolute Maximum Ratings:—

Rating	I_F	V_R	V_F	P(AV)	T_{stg}	T_{amb}
Unit	mA	V	V	W	°C	°C
Min	—	—	—	—	− 55	− 40
Max	75	− 50	1.0	1.0	+ 150	+ 120
Notes			A	D		

- Notes:
- A. At 25 mA.
 - B. The actual frequency band over which the diode operates will depend on the design of the mount used. With a single diode in a suitable mount, a switching ratio of greater than 15 : 1 in dBs may be obtained.
 - C. A typical switching time of 1 μ sec. is obtained when switching over 10 dB range with diode set up in suitable holder.
 - D. 1 Watt dissipated in diode.
 - E. The resistance of the diode decreases continuously as the forward current increases.
 - F. Prototype VX4190

Primary Electrical Characteristics

Characteristic	V.S.W.R.		Admittance Phase Angle	
Unit	Ratio		Centimeters	
	V = 0	I = 25 mA	Min.	0.30
	0.028	0.057	Max.	0.40

See Note 1 Page 6.

Reliability Assurance Requirements:— Under discussion.

Requirements: Marking. The device shall be marked as K.1007 Section B.

Quality Assurance Provisions:

Destructive Tests. The tests listed in Table 2 Group B Inspection, Sub-Group 3 is 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 for Delivery. The device shall be packed according to K.1005 Issue 3 each device packed in individual Hermetically Sealed polythene bags.

Joint Services Catalogue Number:

CV. = 5960-99-037-3972

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