

Electronic parts of assessed quality —

Mixer diode for use at X-band
frequencies

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 11 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 CV7762 Issue 1 dated 1 February 1967 with its existing amendments which are reproduced below is hereby adopted as BS 9300 C762

2. Devices inspected, released and supplied to this specification shall be marked CV7762 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 In the Groups A, B and C inspection tables the references in the “K1007/NATO Ref” column shall be superseded by the appropriate reference given in BS 9300 Appendix C (Tables 1 to 5 inclusive).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 4. Group B, Subgroup 2.

The tests shall be performed at inspection level S-2 and AQL 10 %.

Page 4. Group B, Subgroup 7. The requirement for high temperature life shall not be deleted but shall be performed as specified.

Page 6. Group C.

Subgroup 1. The test shall be performed at inspection level S-2 and AQL 25 %.

Subgroup 2. The requirement for shock shall remain for Qualification Approval purposes only.

6. Published amendments (consolidated).

None

Military specification**CV 7762****Semiconductor device, mixer diode**

Description: This specification covers the detail requirements for an X-band mixer diode and is in accordance with K1007 Issue 3 except where otherwise stated.

Mechanical Dimensions and Outlines: See Outline Drawing Figure 1

Polarity: Red mark indicates cathode.

Absolute Maximum Ratings:

Device	Rating	Spike r.f.	Energy d.c.	Pulse Input r.f.	T _{stg}	Shock	Fatigue
	Unit	Ergs	Ergs	W	°C	g	g
VX 6501	Min. Max.	0.05	0.1	0.5	- 55 150	300	10
Notes		A	B	C			

Notes: A. For minimum of 90 % survival, i.e. due to transmitter spikes. The user is warned that the diode can also be damaged by excessive voltages of an oscillatory nature.
 B. For minimum of 90 % survival with a minimum of 5 000 spikes.
 C. Pulse peak power, 0.5 μ sec. pulse width at 2 000 pps.
 D. Prototype: VX 6501

Primary Electrical Characteristics

Characteristic			F ₀	Z _{i.f.}	r.f. Admittance
Unit			dB	ohms	VSWR
Min				250	
Max			6.5	450	1.43
Conditions	T _{case}	°C	25	25	25
	R _L	Ohms	10	10	10
	I ₀	mA	1.0	1.0	1.0
	F i.f.	dB	1.5		
	f _{LO}	Mc/s	9 375	9 375	9 375
	V _F	V			
	V _R	V			
	f _{i.f.}	Mc/s	45	45	
NOTE			E		

Notes:

E. Noise figure is independent of load up to 100 ohms.

General Information:

The graphs shown in Figure 2, Figure 3 and Figure 4 were obtained for specific crystal mounts:

- Overall noise as a function of rectified current (Figure 2)
- Overall noise as a function of frequency (Figure 3)
- Admittance as a function of frequency (Figure 4)