



ELECTRONIC TUBE REFERENCE

4FS7

Voltage Radio Detector Converter electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

PENTODE-TRIODE

Triode plus sharp-cutoff frame-grid RF pentode for frequency-changing service to approximately 220 MHz.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	9
NOMINAL HEATER	4.6 V / —	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

SECTION RATINGS

SECTION 1 Triode	
MAXIMUM PLATE VOLTAGE	125 V
MAXIMUM PLATE DISSIPATION	1.5 W
MAXIMUM CATHODE CURRENT	15 mA
<i>Published Mullard/Ferranti ratings and characteristics promoted where applicable; additional electrical values retained as parameters.</i>	

SECTION2 Pentode	
PLATE RESISTANCE	350000 Ω
TRANSCONDUCTANCE	0.012 S
AMPLIFICATION FACTOR	70
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM SCREEN VOLTAGE	150 V
MAXIMUM PLATE DISSIPATION	2 W
MAXIMUM SCREEN DISSIPATION	0.5 W
MAXIMUM CATHODE CURRENT	18 mA
<i>Published Mullard/Ferranti ratings and characteristics promoted where applicable; additional electrical values retained as parameters.</i>	

Combined triode and sharp-cutoff frame-grid RF pentode for frequency-changing service to 220 MHz.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1963 Mullard

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1963 MULLARD

Section 1 · Triode

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Frequency changer to 220 MHz	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pentode-to-triode plate capacitance	0.14 pF	—
Pentode plate-to-triode grid capacitance	0.014 pF	—
Pentode grid1-to-triode plate capacitance maximum	0.01 pF	—
Pentode grid1-to-triode grid capacitance maximum	0.01 pF	—
Grid-to-cathode-and-heater capacitance	2.4 pF	—
Plate-to-cathode-and-heater capacitance	1.1 pF	—
Plate-to-grid capacitance	2 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater-cathode voltage maximum	100 V	—
Plate voltage maximum	125 V	—
Plate dissipation maximum	1.5 W	—
Cathode current maximum	15 mA	—
Grid circuit resistance maximum	500 kohm	—

Section 2 · Pentode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate-to-grid1 capacitance	0.012 pF	—
Output capacitance	3.5 pF	—
Grid1-to-grid2 capacitance	1.7 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage maximum	250 V	—
Plate dissipation maximum	2 W	—
Screen voltage maximum	150 V	—
Screen dissipation maximum	0.5 W	—
Cathode current maximum	18 mA	—
Grid circuit resistance maximum - cathode bias	500 kohm	—
Grid circuit resistance maximum - fixed bias	250 kohm	—
Frequency-changer plate voltage	190 V	—
Frequency-changer screen supply voltage	150 V	—
Frequency-changer screen resistor	18 kohm	—
Frequency-changer grid1 resistor	100 kohm	—
Frequency-changer plate current	8.5 mA	—
Frequency-changer screen current	2.7 mA	—
Oscillator voltage RMS	2.3 V	—
Conversion conductance	450 uS	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage characteristic	170 V	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Screen voltage characteristic	150 V	—
Plate current characteristic	10 mA	—
Screen current characteristic	3.3 mA	—
Transconductance	12000 uS	—
Plate resistance minimum	350 kohm	—
Inner amplification grid1-to-grid2	70	—
Grid1 voltage characteristic	-1.2 V	—