

ELECTRONIC TUBE REFERENCE

SY41

Specialized - Klystron electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
KLYSTRON

High-power four-cavity broadband klystron amplifier for continuous-wave X-band operation, producing multi-kilowatt output with water cooling.

GENERAL CHARACTERISTICS

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

SECTION RATINGS

SECTION1 Klystron	
MAXIMUM PLATE VOLTAGE	13000 V
MAXIMUM CATHODE CURRENT	700 mA
Klystron beam/resonator anode voltage is promoted to MaxPlateVoltage where applicable; original published labels and conditions are retained in parameter rows.	

Ferranti SY41 is a high-power four-cavity broadband amplifier klystron for CW X-band operation. It is rated to 13 kV, 700 mA and 3 kW output, with water cooling and typical multi-kilowatt operation.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1963 Ferranti

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

1963 FERRANTI

Section 1 · Klystron

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater power	27.6–37.2 W	—
Heater resistance at 32 W	3.1–3.4 ohm	—
Cold heater resistance	0.2 ohm	—
Maximum switch-on surge current	9 A	—
Minimum heating delay time	3 min	—
Maximum beam voltage	13 kV	—
Maximum beam current	700 mA	—
Maximum power output	3 kW	—
Typical beam voltage	13 kV	—
Typical beam current	530–600 mA	—
Magnetic field	1500–1700 gauss	—
Typical output power	2000 W	OCR table indicates approximately 2 kW nominal
Maximum cavity block current	200 mA	Operational safeguard
Maximum output VSWR	2	Recommended limit

FREQUENCY		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Operating frequency	8000–9000 Mc/s	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Valve bandwidth	16 Mc/s	—
Efficiency	33–38 %	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
RF gain	32–47 dB	—

COOLING		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Minimum block water flow	1.5 L/min	At 20 C
Minimum collector water flow	6 L/min	At 20 C