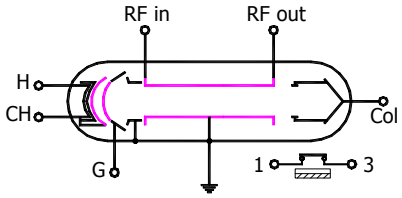
Traveling Wave Tube L-114U2

Features

Frequency range	1.5 to 2.0	GHz
RF peak output power	8	kW
RF average output power	min. 160	W
Gain	min. 27.5	dB
Duty cycle	2	%

Description

The L-114 is a ring and loop, grid-pulsed and air cooled traveling wave tube for use as a driver or output tube in advanced radar system and test equipment. Each tube delivers at least 7 kW of RF peak power and minimum 140 W of average output power without adjustment. The tube has a metal-ceramic vacuum envelope, periodic permanent magnet focusing structure, and single-stage depressed collector with normal closed (NC) thermostat.

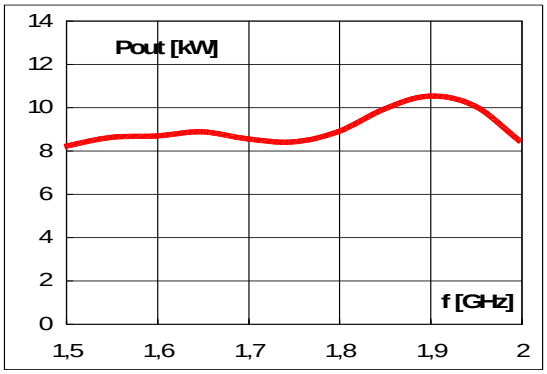


H – heater, CH – cathode-heater,
G – grid, Col – collector.

RF Performance Requirements

TECHNICAL DATA	MIN	MAX	UNITS
Frequency range	1.5	2.0	GHz
RF peak output power	8.5	-	kW
RF average output power	170	-	W
Gain	28	-	dB
RF drive power	-	12.5	W
Load VSWR	max 2.5:1		

Chart



Output power versus frequency.

Electrical Requirements

TECHNICAL DATA	MIN	MAX	UNITS
Cathode voltage	-12.0	-14.5	kV
Collector voltage	80 ± 5 % cathode voltage		
Grid bias voltage	-250	-350	V
Grid pulse voltage	+350	+650	V
Cathode pulse current	-	4.0	A
SWS pulse current	-	2.0	A
Duty cycle	-	2.0	%
Pulse width	-	80	µs
Heater voltage	8.0	10.5	V
Heater current	4.0	4.8	A
Heater warm-up time	3	-	min

Notes

- The cathode voltage is measured with respect to the ground.
- The heater, grid and collector voltages are measured with respect to the cathode.

Mechanical Description

Dimensions	- see Outline Drawing
Weight	-7.1 kg (max. 7.4 kg)
Cooling	- fan min. 160 m^3/h
Mounting Position	- any
RF input connector	- type N
RF output connector	- type SC
Thermal switch connector	- Binder - type 719

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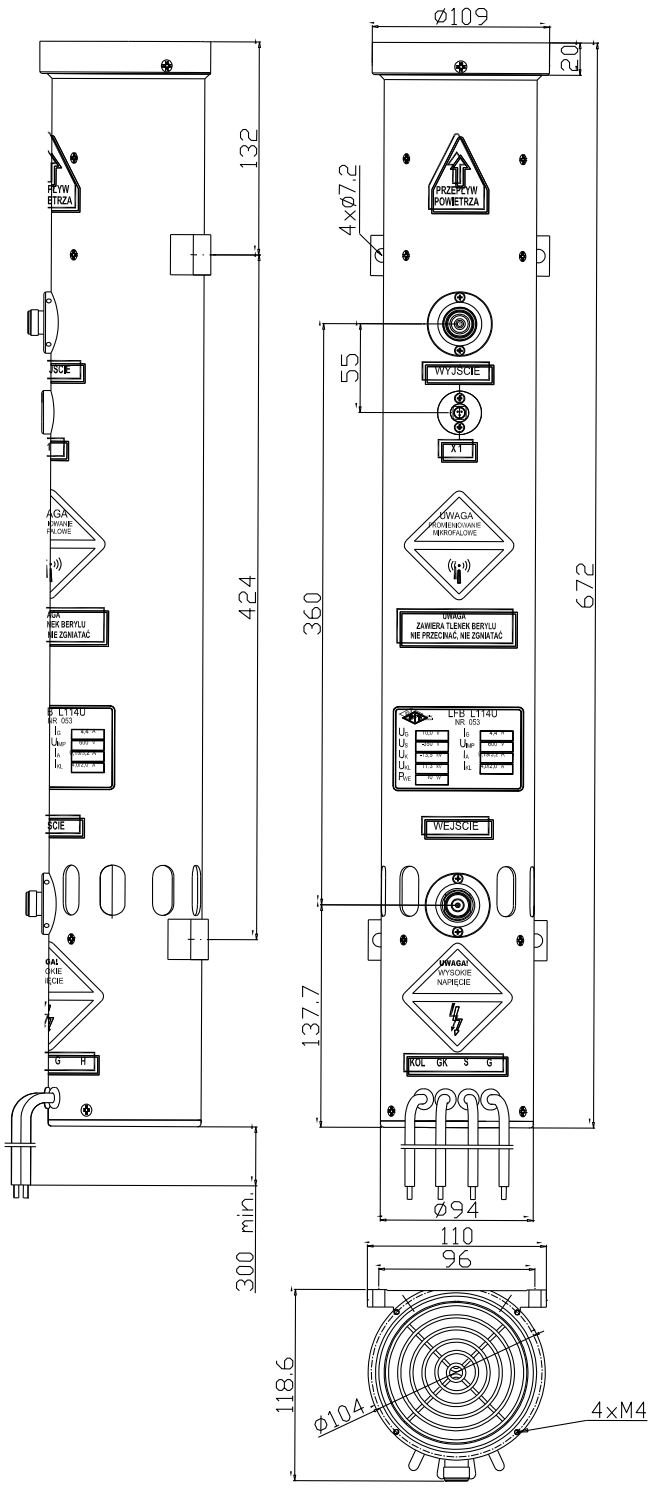

The mechanical dimensions can be modified. Current detailed outline drawings are available on request. All mechanical dimensions are in [mm].

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