

NOISE DIODE

Rare gas filled noise diode for use in waveguide systems in the 10 cm wave band

QUICK REFERENCE DATA			
Noise level above 290 °K	F	=	17.58 dB
Ignition voltage	V_{ign}	>	6000 V
Anode current	I_a	= max.	300 mA

HEATING: direct, parallel supply

Filament voltage	V_f	=	2 V $\pm$ 10%
Filament current	I_f	=	3.5 A
Heating time	T_w	= min.	15 sec

TYPICAL CHARACTERISTICS

Anode voltage	V_a	=	140 V
Anode current	I_a	=	200 mA
Noise temperature	t_F	=	16600 °K $\pm$ 5%
Noise level above 290 °K ¹⁾	F	=	17.58 $\pm$ 0.2 dB
Ignition voltage ²⁾	V_{ign}	>	6000 V

LIMITING VALUES (Absolute limits)

Anode current	I_a	= max.	300 mA
		= min.	100 mA
Ambient temperature	t_{amb}	=	-55 to +75 °C

REMARKS

It is recommended that the noise diode and the microwave part of the mount are not touching (min. diameter of pipe 17 mm).

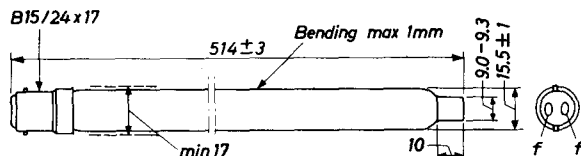
The V.S.W.R. in the test mount with the noise diode in operation should not be more than 1.1

¹⁾ Change in noise level over 200 hours of operation is negligible.

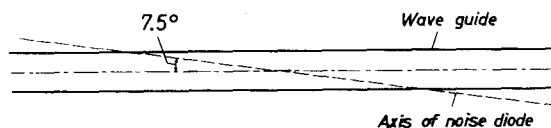
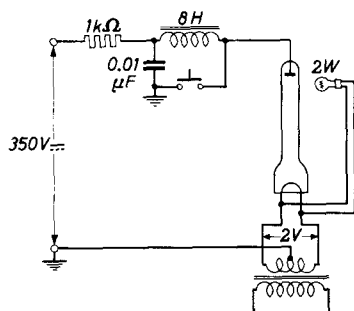
²⁾ For recommended ignition circuit see page 2.

MECHANICAL DATA

Dimensions in mm
Small top cap

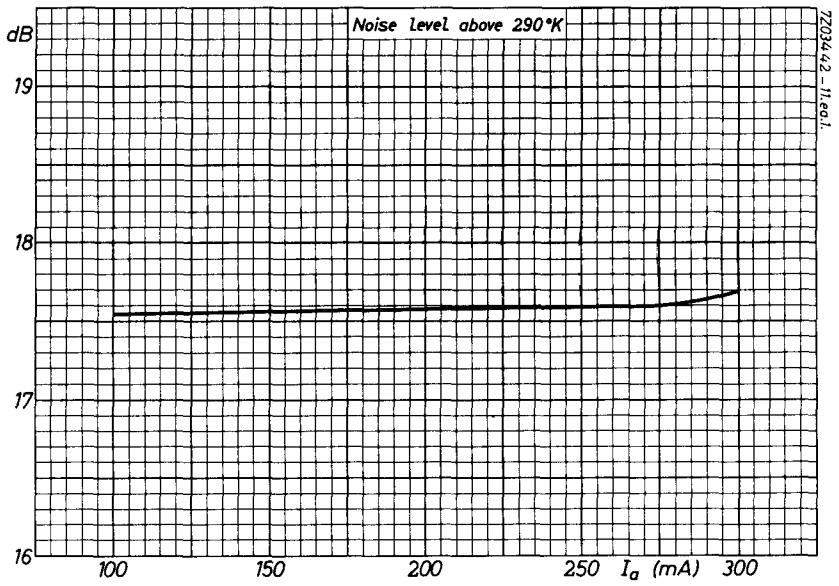


MOUNTING POSITION: Cathode at receiver side

RECOMMENDED IGNITION CIRCUIT

The minimum value of V_{ign} is only valid if some ambient illumination is present. Hence in darkness the presence of a small light-source (about 2 W) is necessary.

The inductance of $8H$ should be of proper construction in order to be able to produce the minimum value of V_{ign} .



PHILIPS

Data handbook



**Electronic
components
and materials**

K51A

page	sheet	date
1	1	1968.12
2	2	1968.12
3	3	1968.12
4	FP	2001.05.18