NOISE DIODE

Rare gas filled noise diode for use in waveguide systems in the 3 cm wave band

QUICK REFERENCE DATA				
Noise level above 290 °K	F	=	18.75	dB
Ignition voltage	V_{ign}	>	6000	V
Anode current	I_a	= max.	150	mA

HEATING: direct, parallel supply

Filament voltage	V_f	=	2	V ± 10%
Filament current	I_f	=	2	A
Heating time	T_w	= min.	15	sec

TYPICAL CHARACTERISTICS

Anode voltage	V_a	=	165	V
Anode current	I_a	=	125	mA
Noise temperature	t_F	=	21700	°K ± 5%
Noise level above 290 °K [1]	F	=	18.75	± 0.2 dB
Ignition voltage [2]	V_{ign}	>	6000	V

LIMITING VALUES (Absolute limits)

Anode current	I_a	= max.	150	mA
		= min.	50	mA
Ambient temperature	t_{amb}	= −55 to +75		°C

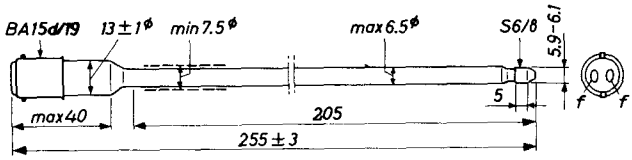
REMARKS

It is recommended that the noise diode and the microwave part of the mount are not touching (min. diameter of pipe 7.5 mm).
The V.S.W.R. in the test mount with the noise diode in operation should not be more than 1.1

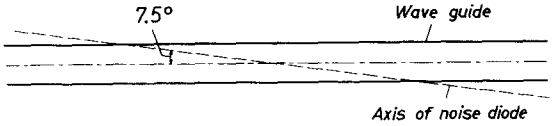
1) Change in noise level over 200 hours of operation is negligible.
2) For recommended ignition circuit see page 2.

MECHANICAL DATA

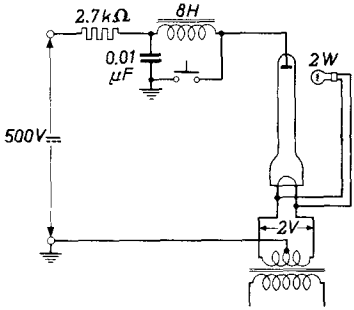
Dimensions in mm



MOUNTING POSITION: Cathode at receiver side



RECOMMENDED IGNITION CIRCUIT



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

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

Noise level above 290°K
dB
20
19
18
17
100
110
120
130
140
I_a (mA)
150
7Z04499 – 1.e.j.1.

PHILIPS

Data handbook

Electronic components and materials

K50A

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1	1	1968.12
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3	3	1968.12
4	FP	2001.05.18