Power Triode

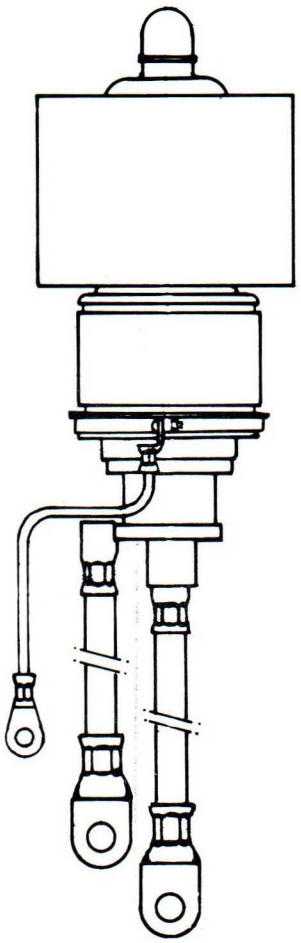
3JC/171G
(8162)

Provisional Data

Description

The 3JC/171G is a ceramic/metal, high mu, forced-air-cooled power triode intended for use in zero bias, Class B amplifier in audio or radio frequency applications.

OUTLINE



Abridged Maximum (Absolute) Ratings

V_a	(kV)	5,0
I_a	(A)	2,5
P_a	(kW)	3,0
P_g	(W)	225

Characteristics

Amplification factor, μ average		160
V_f	(V)	7,5 ± 0,375
I_f	(A)	51

Direct Interelectrode Capacitances

C_{g-f}	(pF)	38
C_{g-a}	(pF)	24
C_{a-f}, max.	(pF)	1,0

CLASS B R.F. LINEAR AMPLIFIER (GROUNDED GRID)

		Maximum Ratings	Typical Operating Conditions		
V_a	(kV)	5,0	4,0	4,8	4,8
I_a	(A)	2,5			
zero signal	(A)		0,32	0,44	0,44
1 tone	(A)		2,0	1,7	2,0
2 tone	(A)		1,3	1,1	1,3
P_a	(kW)	3,0	2,3	2,3	2,8
P_g	(W)	225			
V_k drive(pk)	(V)		210	182	208
P_{drive}	(W)		420	293	410
Z_{drive}	(Ω)		48	50	46
I_g 1 tone	(mA)		500	340	450
2 tone	(mA)		250	190	240
P_{out} 1 tone	(kW)		5,7	5,2	6,6
R_L	(Ω)		1 210	1 720	1 425

Provisional Data

CLASS B R.F. LINEAR AMPLIFIER (CARRIER CONDITIONS)

		Maximum Ratings	Typical Operating Conditions
V_a	(kV)	5,0	4,0
I_a	(A)	2,5	
zero signal	(A)		0,32
1 tone	(A)		0,74
P_a	(kW)	3,0	1,8
P_g	(W)	225	
V_g bias	(V)		0
V_g drive(pk)	(V)		85
P_{drive}	(W)		11,5
I_g 1 tone	(mA)		140
P_{out} 1 tone	(kW)		1,1
R_L	(Ω)		1 750

CLASS B A.F. POWER AMPLIFIER OR MODULATOR (SINUSOIDAL WAVE)

		Maximum Ratings	Typical Operating Conditions
			2 tubes
V_a	(kV)	5,0	4,0
I_a	(A)	2,5	
zero signal	(A)		2 x 0,32
max. signal	(A)		2 x 1,8
P_a	(kW)	3,0	2,0 per tube
P_g	(W)	225	
V_g bias	(V)		0
V_g drive (pk)	(V)		190
P_{drive} (Note 1)	(W)		115
I_g, max. signal (approx.)	(mA)		600
P_{out}	(kW)		10,5 total
R_L (plate to plate)	(Ω)		2 720

Note 1. Nominal drive power is one-half peak power.

Cooling Data

Maximum Temperatures

Radiation core	(°C)	250
Ceramic/metal seals	(°C)	250

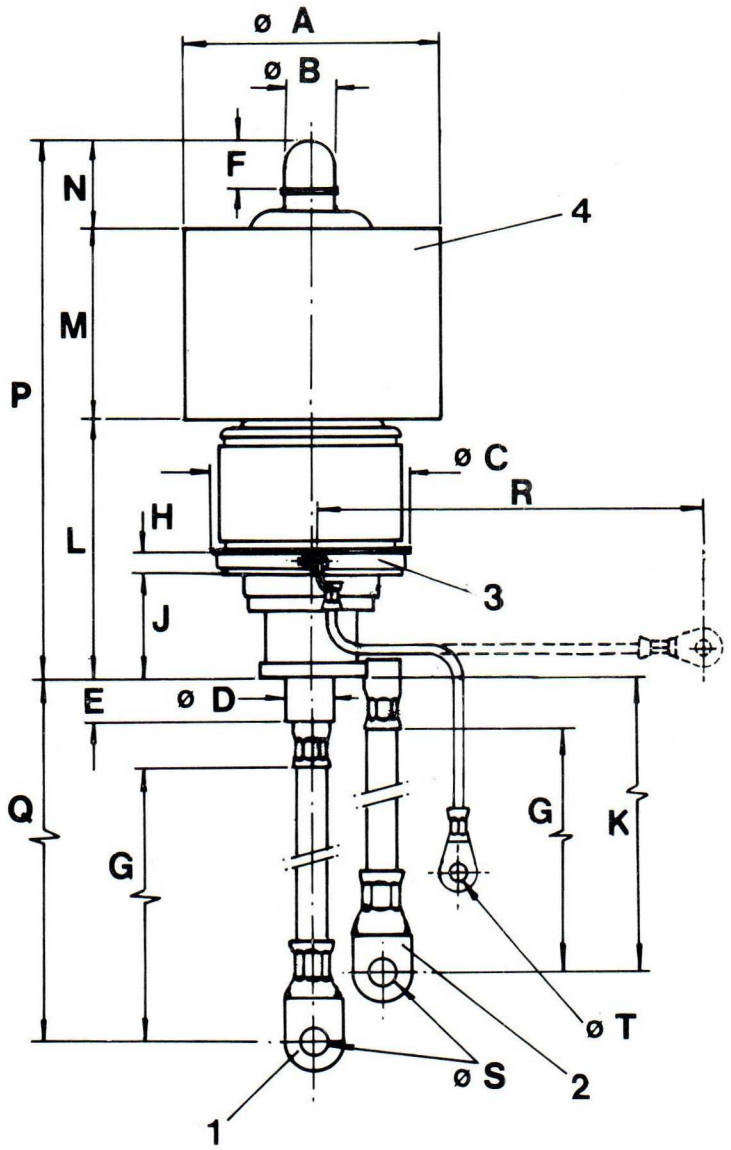
To keep within this limit it is necessary to direct at least 3cfm into the filament stem structure between the inner and outer filament terminals. This feature may require special attention if the anode is cooled by air blown from the end remote from the base stem.

Anode-to-Base Air Flow (Note 2)				
	Sea Level		10 000 Feet	
Anode Dissipation (W)	Air Flow (cfm)	Pressure Drop S.W.G. (in.)	Air Flow (cfm)	Pressure Drop S.W.G. (in.)
1 500	33	0,6	48	0,9
2 500	66	1,25	96	1,82
3 000	72	1,40	105	2,04

Note 2. When air is supplied in the anode-to-base direction, a minimum of 3cfm must be directed into the filament-stem structure between the inner and outer filament terminals to maintain the base seals below 250°C. No separate air is required with base-to-anode airflow.

Provisional Data

Mechanical Data



Dimensions

	mm		in.	
	min.	max.	min.	max.
A	104,0	105,6	4,094	4,156
B	19,8	21,4	0,781	0,844
C	-	92,1	-	3,625
D	21,8	22,6	0,859	0,890
E	20,6	23,8	0,812	0,937
F	17,5	22,9	0,687	0,900
G	177,8	190,5	7,000	7,500
H	9,5	11,1	0,375	0,437
J	34,9	41,3	1,375	1,625
K	201,6	214,3	7,937	8,437
L	98,4	108,0	3,875	4,250
M	74,6	77,8	2,937	3,063
N	30,1	42,8	1,187	1,687
P	203,2	228,6	8,000	9,000
Q	227,0	239,7	8,937	9,437
R	161,9	168,3	6,375	6,625

Basic dimensions are inches

S Bolt Size M10
T Bolt Size M5

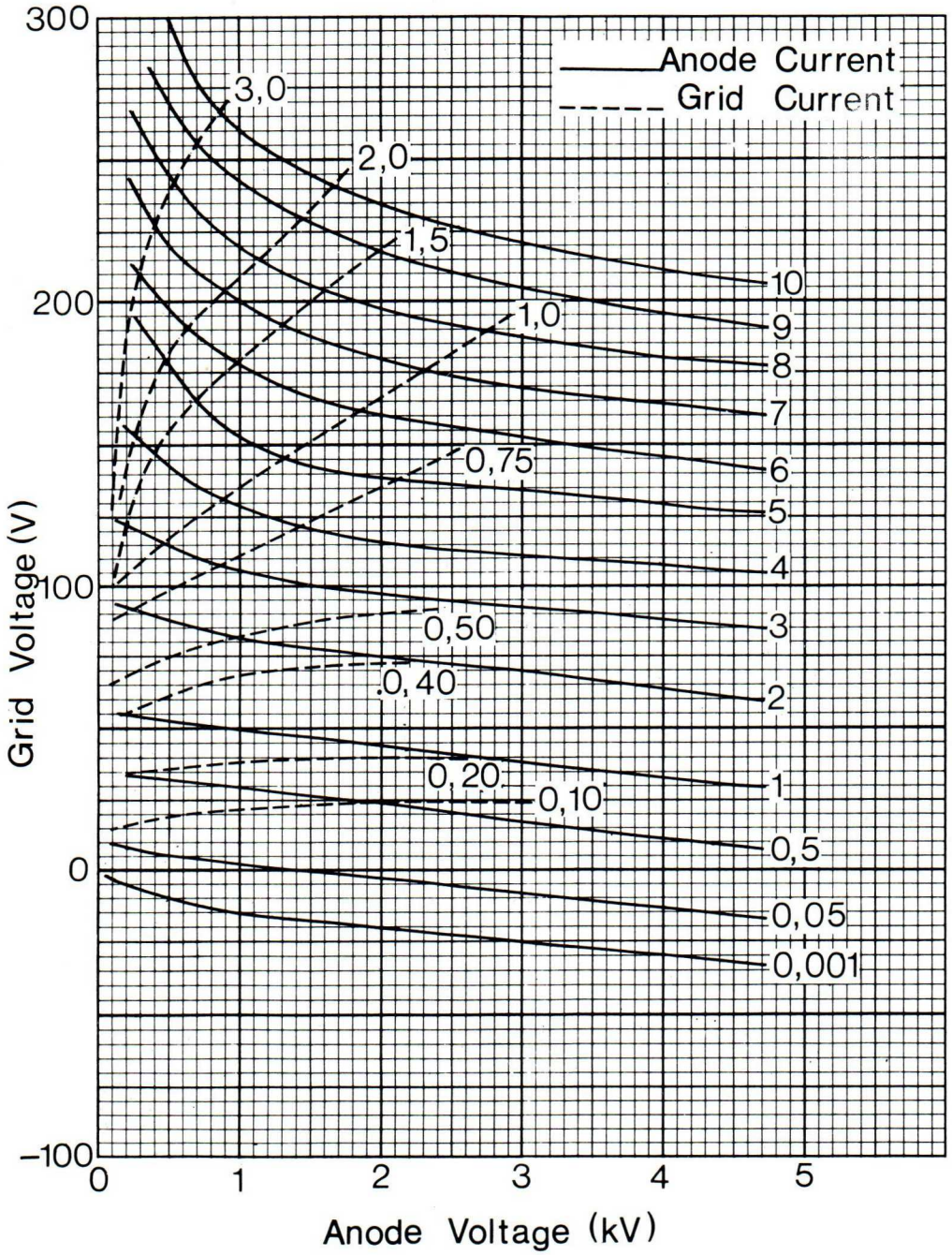
Connections

1 Filament
2 Filament
3 Grid
4 Anode

Mounting position
Vertical, anode up or down
Tube weight, nett 2,84kg (6,25 lb)

Provisional Data

Typical Constant Current Characteristics



These components are available from :

ITT Components Group Europe

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