SPECIAL QUALITY DOUBLE TRIODE

6463

Special quality double triode with separate cathodes designed for use in industrial equipment where stability of characteristics and long life are required. This valve will maintain its emission capabilities after long periods of operation under cut-off conditions.

This data should be read in conjunction with GENERAL NOTES – SPECIAL QUALITY VALVES which precede this section of the handbook, and the index numbers are used to indicate where reference should be made to a specific note.

HEATER

Suitable for parallel operation only, a.c. or d.c.
The heater is centre-tapped and the two sections may be operated in series or parallel with one another.

Series	V_h applied between pins 4 and 5
Parallel	V_h applied between pin 9 and pins 4 and 5 connected together.

	Series	*Parallel*	
V_h[1]	12.6	6.3	V
I_h	300	600	mA

The maximum variation of heater current at V_h = 6.3V is ±30mA

CAPACITANCES[2] (measured without an external shield)

	Min.	*Av.*	*Max.*	
$c_{a'-g'}$	4.6	5.2	5.8	pF
*c_{in}	2.9	3.4	3.9	pF
c_{out}	400	600	800	mpF
*c_{h-k}	—	3.5	—	pF
$c_{a''-g''}$	4.8	5.4	6.0	pF
$c_{out''}$	350	500	650	mpF
$c_{g'-g''}$	—	—	25	mpF
$c_{a'-a''}$	—	0.9	1.2	pF

*Each section

CHARACTERISTICS[3]

V_{a-e}	250	V
R_k	620	Ω
I_a	14.5	mA
g_m	5.2	mA/V
r_a	3.85	kΩ
μ	20	

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CHARACTERISTIC RANGE VALUES FOR EQUIPMENT DESIGN

	Average	Initial range	End of life*	
Anode current				
at V_a = 100V, I_g = 200μA	29	>24	17	mA
at V_a = 120V, V_g = −2V	21	14 to 28	10	mA
at V_a = 200V, V_g = −15V	—	<1.0	1.0	mA
Grid current				
at V_a = 120V, V_g = −2V, R_g = 100kΩ	—	<0.2	1.0	μA
Mutual conductance				
at V_{a-e} = 250V, R_k = 620Ω	5.2	3.9 to 6.5	—	mA/V

INSULATION

	Initial range	End of life*	
Between heater and cathode measured at V_{h-k} = 200V (cathode positive) R_{lim} = 1.0MΩ			
Leakage current	<15	20	μA
Between any two electrodes measured at 300V	>100	20	MΩ

*To allow for valve deterioration during life, circuits should be designed to function with a valve in which one or more of the characteristics have changed to the values stated.

LIMITING VALUES[4] (absolute ratings) each section

$V_{a(b)}$ max.	660	V
$v_{a(pk)}$ max.	660	V
V_a max.	330	V
p_a max.	4.4	W
$p_{a'}+p_{a''}$ max.	7.7	W
+V_g max.	1.5	V
†+$v_{g(pk)}$ max.	25	V
−V_g max.	85	V
†−$v_{g(pk)}$ max.	350	V
I_g max.	5.5	mA
†$i_{g(pk)}$ max.	110	mA
I_k max.	31	mA
$i_{k(pk)}$ max.	350	mA
R_{g-k} max. (fixed bias)	500	kΩ
V_{h-k} max. (cathode positive)	200	V
V_{h-k} max. (cathode negative)	100	V
$v_{h-k(pk)}$ max. (cathode negative)	200	V
T_{bulb} max.	180	°C

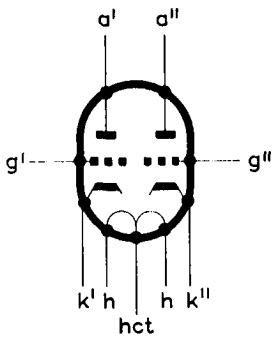
†Maximum duration = 10μs. Duty cycle = 1%

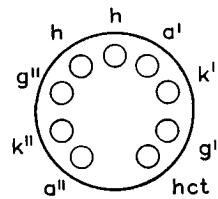
SHOCK AND VIBRATION

The 6463 can withstand vibrations of 2.5g and 25c/s for 96 hours and is proof against impact accelerations of approximately 500g.

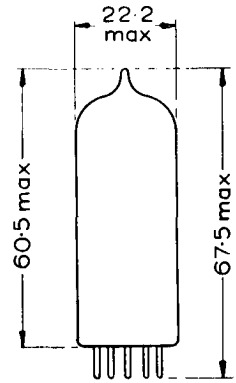
OPERATING NOTE

The 6463 will maintain its emission capabilities after long periods of operation under cut-off conditions but is not intended to be used in circuits critical with regard to hum, microphony or noise.





B9A
Noval base



5613

All dimensions in mm

The bulb and base dimensions of this valve are in accordance with BS448, Section B9A.