

## V.H.F. DOUBLE TRIODE

# ECC189

Variable- $\mu$ , low noise v.h.f. frame grid double triode with high mutual conductance for use as a cascode amplifier.

### HEATER

$V_h$	6.3	V
$I_h$	365	mA

### CAPACITANCES

	Shielded	Unshielded	
$C_{a'-a''}$	< 15	< 45	mpF
$C_{g'-a''}$	< 4.0	< 4.0	mpF
<b>Grounded cathode section</b>			
$C_{a'-g'}$	1.9	1.9	pF ←
$C_{g'-k'+h+s}$	3.5	3.5	pF
$C_{a'-k'+h+s}$	2.3	1.7	pF
$C_{g'-h}$	< 280	< 280	mpF
<b>Grounded grid section</b>			
$C_{a''-g''}$	1.9	1.9	pF
$C_{k''-g''+h+s}$	6.0	6.0	pF ←
$C_{a''-g''+h+s}$	4.0	3.4	pF ←
$C_{k''-h}$	3.0	3.0	pF
$C_{a''-k''}$	170	180	mpF

### CHARACTERISTICS (each section)

$V_a$	90	V
$V_g$	-1.4	V ←
$I_a$	15	mA
$g_m$	12.5	mA/V
$r_a$	2.5	k $\Omega$ ←
$\mu$	34	
$V_g$ (for 20 : 1 reduction in $g_m$ )	-5.0	V
$V_g$ (for 100 : 1 reduction in $g_m$ )	-9.0	V

### DESIGN CENTRE RATINGS (each section)

$V_{a(b)}$ max.	550	V
$V_a$ max.	130	V
$p_a$ max.	1.8	W
$I_k$ max.	22	mA
$-V_g$ max.	50	V
$R_{g'-k}$ max.	1.0	M $\Omega$
$R_{g''-k}$ max.	500	k $\Omega$
$V_{h-k'}$ max.	50	V
$V_{h-k''}$ max. (cathode positive)	150	V
$R_{h-k}$ max.	20	k $\Omega$

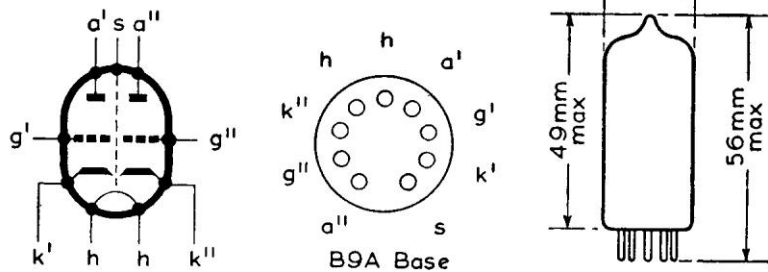
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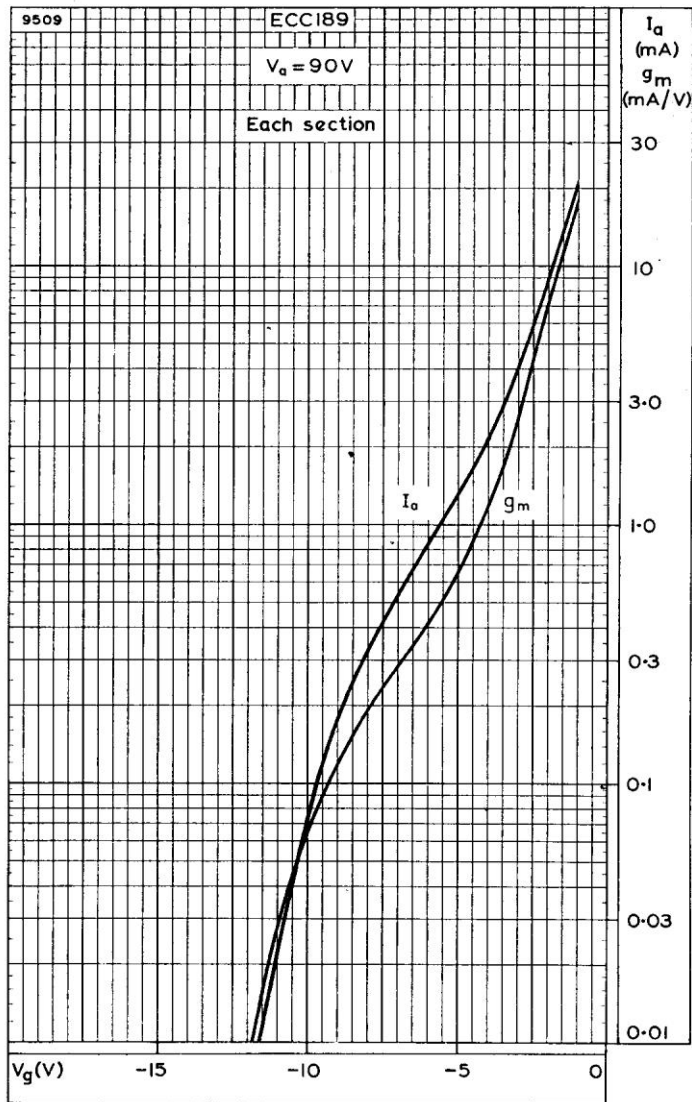
## NOTE

In order not to exceed the maximum permissible anode voltage when the cascode amplifier is controlled, it is necessary to use a voltage divider for the grid of the grounded grid section.

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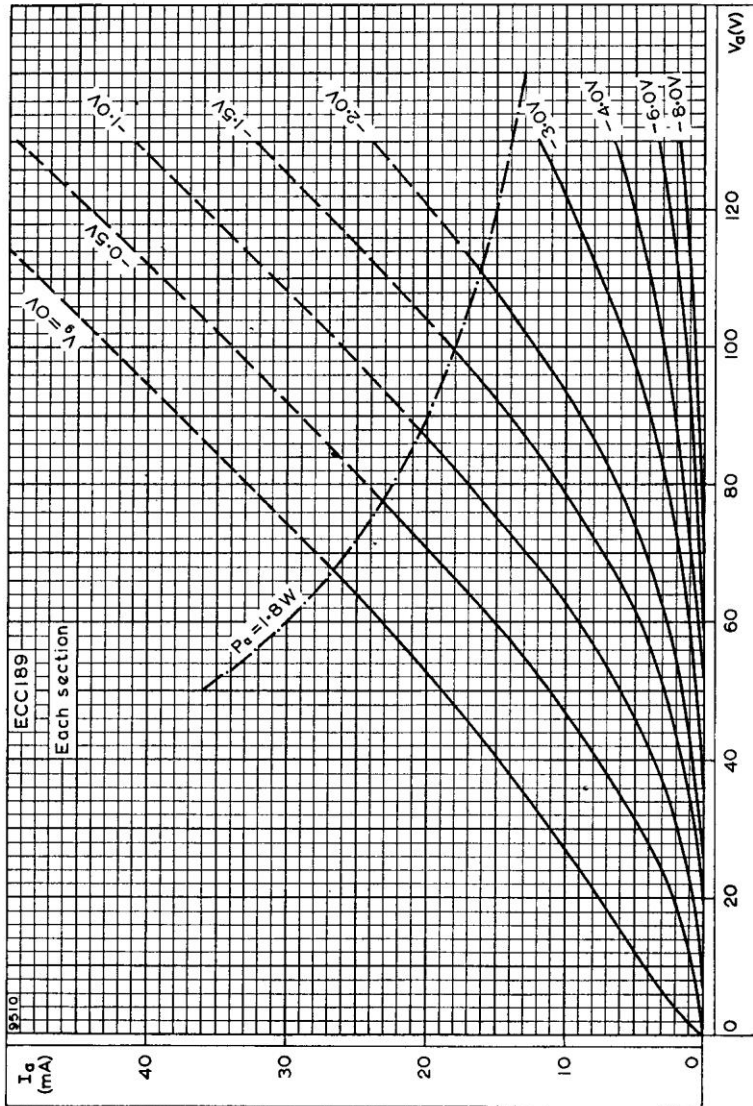
The triode on pins 6, 7, 8, should have the grounded cathode connection and that on pins 1, 2, 3, should have the grounded grid connection.



ANODE CURRENT AND MUTUAL CONDUCTANCE PLOTTED AGAINST GRID VOLTAGE

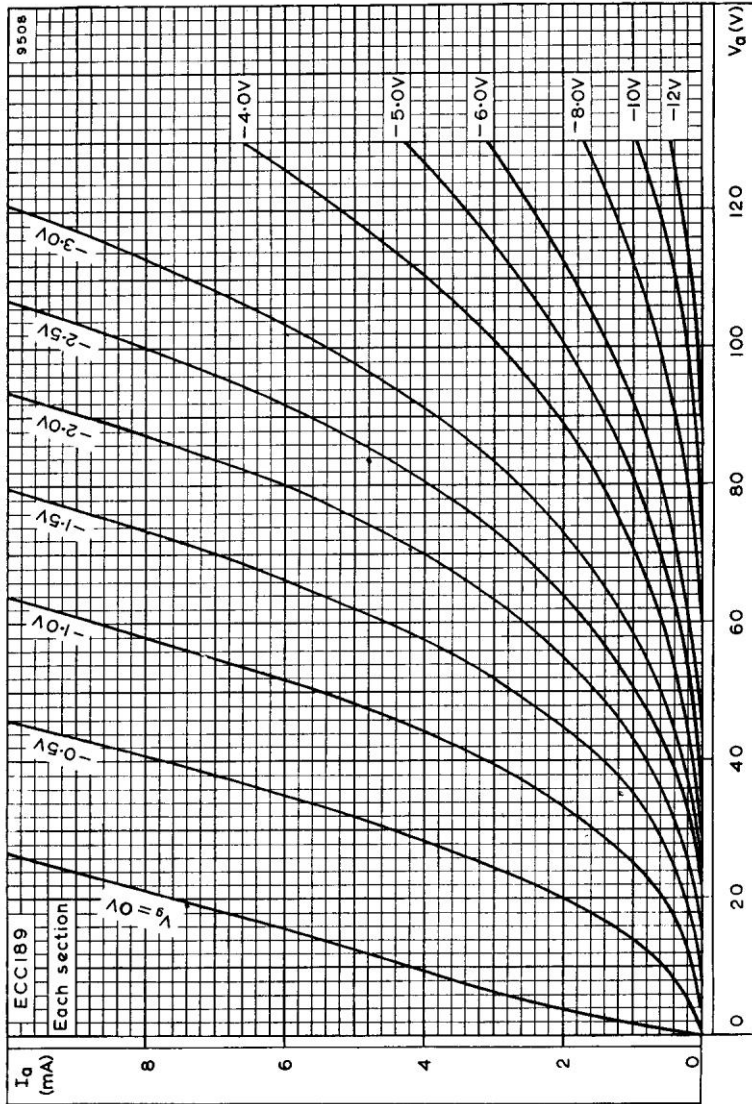
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ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE WITH GRID VOLTAGE AS PARAMETER





ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE WITH GRID VOLTAGE AS PARAMETER IN THE REGION OF THE ORIGIN