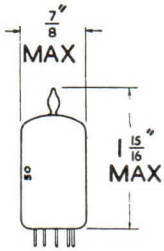
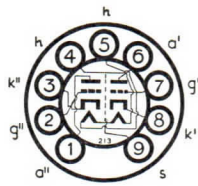
# BRIMAR VALVES




## TYPE **E88CC**
## LONG LIFE
## MINIATURE
## DOUBLE TRIODE




The BRIMAR E88CC is a miniature double triode featuring a high mutual conductance and low drift of characteristics over long periods of operation.

### RATINGS

| | | |
|---|---|---|
| Heater Voltage | 6.3 | volts |
| Heater Current | 0.3 | amp. |
| Max. Anode Voltage (Ia = 0) | 400 | volts |
| Max. Anode Voltage (Pa = 1.5 W) | 220 | volts |
| Max. Anode Dissipation (each section) | 1.5 | watts |
| Max. Total Anode Dissipation | 3.0 | watts |
| Max. Grid Dissipation | 30 | milliwatts |
| Max. Grid Circuit Resistance | 1.0 | MΩ |
| Max. Negative Anode Voltage | 100 | volts |
| *Max. Peak Negative Grid Voltage | 200 | volts |
| Max. Cathode Current | 20 | mA |
| *Max. Peak Cathode Current | 100 | mA |
| Max. Heater-Cathode Voltage (k + ve) | 120 | volts |
| Max. Heater-Cathode Voltage (k − ve) | 60 | volts |
| Max. Bulb Temperature | 170 | °C |

**Max. duty cycle = 10%; max. pulse duration 200μ secs.*

### OPERATING CHARACTERISTICS

Vh = 6.3 V, Va(b) = 100 V, Vg = + 9 V, Rk = 680 ohms, Ck = 1,000 μF

| | Min. | Bogey | Max. | |
|---|---|---|---|---|
| Anode Current | 14.2 | 15.0 | 15.8 | mA |
| Mutual Conductance | 10.5 | 12.5 | 15 | mA/V |
| Amplification Factor | | 33 | | |
| Anode Impedance | | 2.65 | | kΩ |

### COMPUTER OPERATION

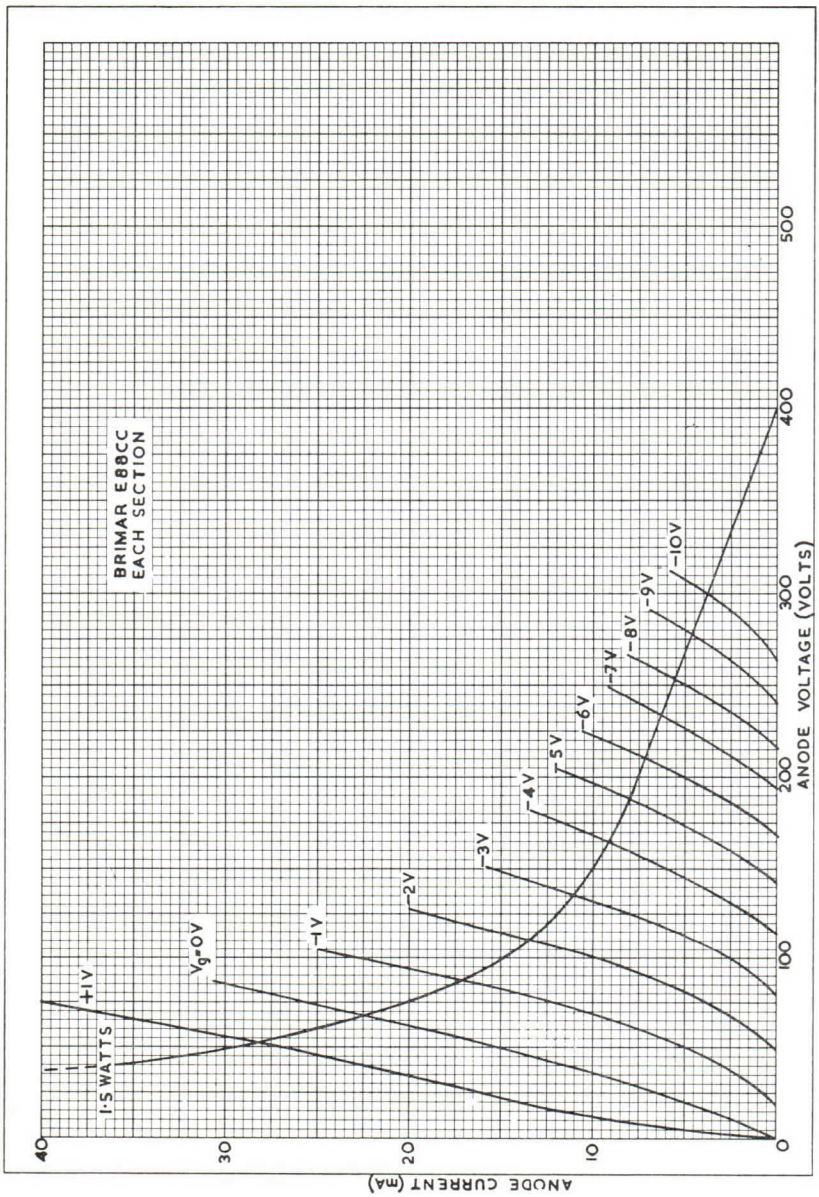
| | | |
|---|---|---|
| Anode Supply Voltage | 150 | volts |
| Anode Load Resistor | 2.5 | kΩ |
| Grid Supply Voltage | 150 | volts |
| Grid Resistor | 300 | kΩ |
| *Anode Current | 33 ± 5 | mA |
| Grid Voltage for Ia = 100 μA | −7.0±1.5 | V |
| Difference in cut-off voltage (between sections) | <2 | volts |

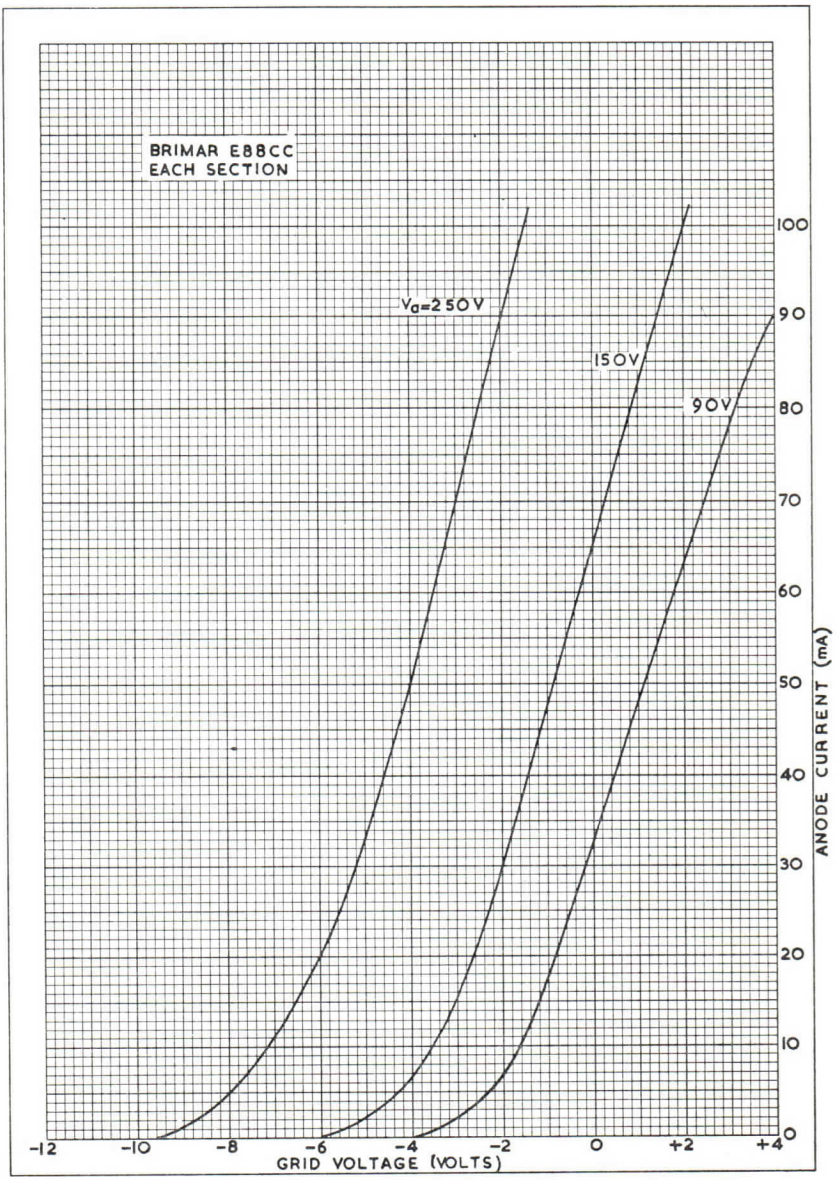
** This condition is not suitable for continuous operation as the cathode current rating is exceeded.*

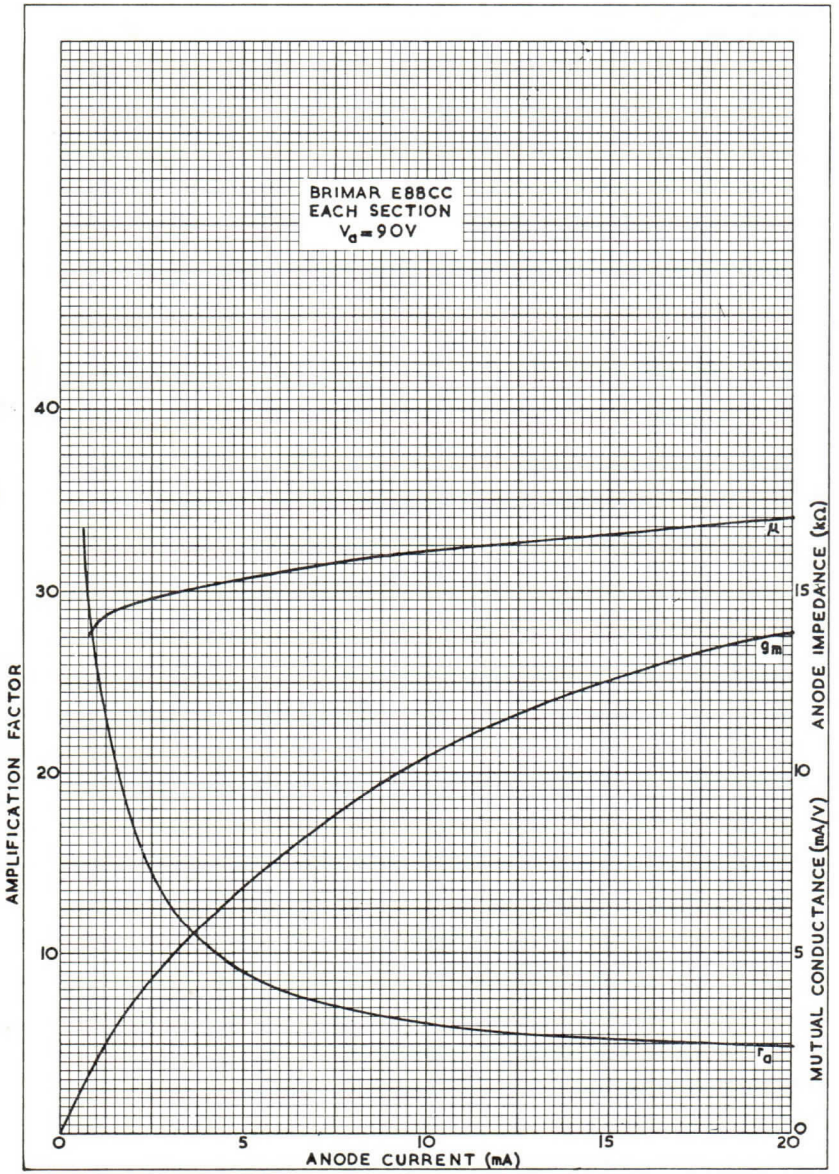
### INTER-ELECTRODE CAPACITANCES*

| | | |
|---|---|---|
| Ca′ − g′; Ca″ − g″ | 1.4 ± 0.2 | pF |
| Ca′ − k′; Ca″ − k″ | 0.18 ± 0.05 | pF |
| Ca′ − s; Ca″ − s | 1.3 ± 0.2 | pF |
| Cg′ − k′ + h; Cg″ − k″ + h | 3.3 ± 0.6 | pF |
| Ca′ − k′ + h + s | 1.75 ± 0.2 | pF |
| Ca″ − k″ + h + s | 1.65 ± 0.2 | pF |
| Ck′ − h | 2.6 | pF |
| Ck″ − h | 2.7 | pF |

**With external shield*


BRIMAR E88CC
EACH SECTION
1·5 WATTS
+1V
$V_g$=0V
-1V
-2V
-3V
-4V
-5V
-6V
-7V
-8V
-9V
-10V
ANODE CURRENT (mA)
0
10
20
30
40
ANODE VOLTAGE (VOLTS)
100
200
300
400
500


BRIMAR E88CC
EACH SECTION
Va=250V
150V
90V
100
90
80
70
60
50
40
30
20
10
0
ANODE CURRENT (mA)
-12
-10
-8
-6
-4
-2
0
+2
+4
GRID VOLTAGE (VOLTS)


BRIMAR E88CC
EACH SECTION
$V_a = 90V$
AMPLIFICATION FACTOR
40
30
20
10
0
ANODE IMPEDANCE (kΩ)
15
10
5
0
MUTUAL CONDUCTANCE (mA/V)
μ
gm
ra
0
5
10
15
20
ANODE CURRENT (mA)