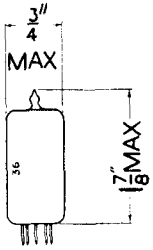
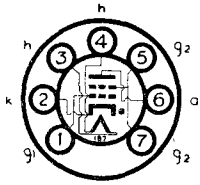
**Industrial Type**




# TYPE 2D21 MINIATURE HOT CATHODE GAS FILLED THYRATRON




## RATINGS

| | |
|---|---|
| Heater Voltage ... ... ... ... ... ... ... | 6.3 volts |
| Heater Current ... ... ... ... ... ... ... | 0.6 amp. |
| Cathode Heating Time ... ... ... ... ... ... | 10 secs. min. |
| Peak Forward Anode Voltage ... ... ... ... ... | 650 volts max. |
| Peak Inverse Voltage ... ... ... ... ... ... | 1,300 volts max. |
| Peak Screen Grid Voltage before Conduction ... ... | –100 volts max. |
| †Average Voltage during Conduction ... ... ... ... | –10 volts max. |
| Peak Control Grid Voltage before Conduction ... ... | –100 volts max. |
| Peak Cathode Current ... ... ... ... ... | 0.5 amp. max. |
| †Average Cathode Current ... ... ... ... ... | 0.1 amp. max. |
| Surge Current (Duration 0.1 sec. max.) ... ... ... | 10 amps. max. |
| †Average Screen Current ... ... ... ... ... | 0.01 amp. max. |
| †Average Control Grid Current ... ... ... ... | 0.01 amp. max. |
| Grid Circuit Resistance ... ... ... ... ... | 10 MΩ max. |
| Peak Heater-Cathode Voltage, Heater Negative ... ... | 100 volts max. |
| Peak Heater-Cathode Voltage, Heater Positive ... ... | 25 volts max. |
| Ambient Temperature Range ... ... ... ... ... | –75°C. to 90°C. |

*† Averaged over any interval of 30 seconds.*

## OPERATING CHARACTERISTICS

| | |
|---|---|
| Voltage Drop ... ... ... ... ... ... ... | 8 volts approx. |
| Control Grid Control Ratio ($Rg_1 = 0\,\Omega$) ... ... ... | 250 approx. |
| Screen Grid Control Ratio ($Rg_2 = 0\,\Omega$) ... ... ... | 1,000 approx. |

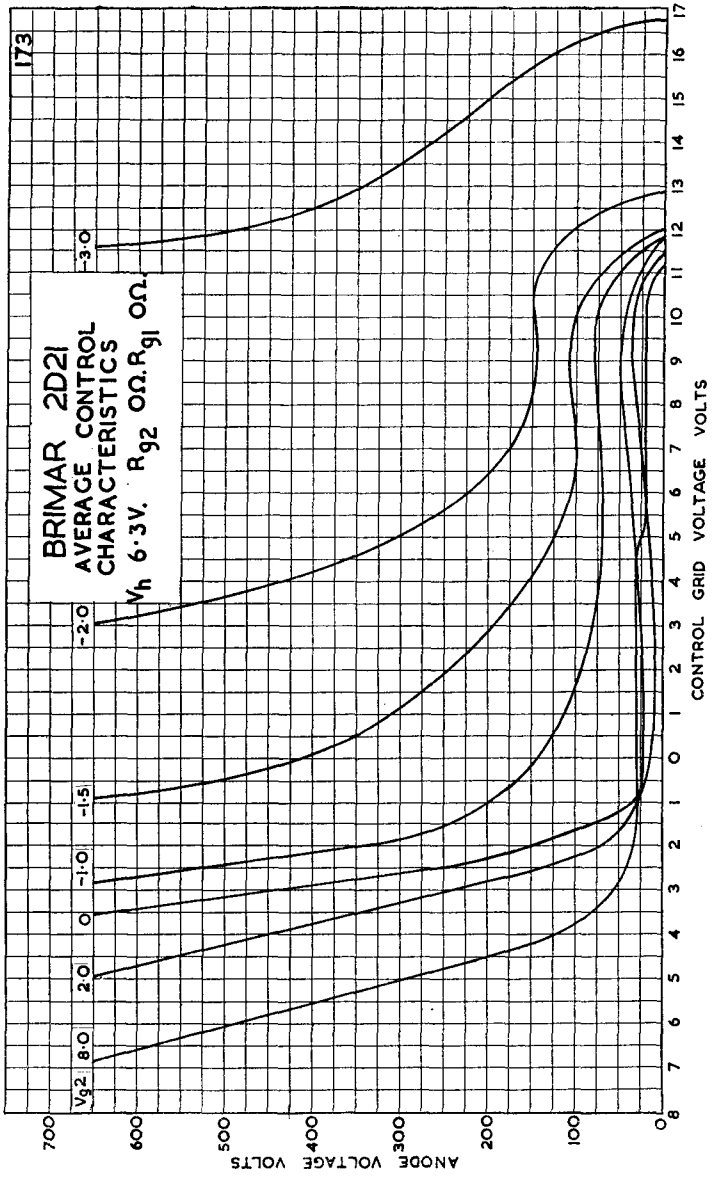
## RELAY SERVICE

| | | | |
|---|---|---|---|
| Anode Voltage ... ... ... ... ... | 117 | 460 | volts R.M.S. |
| Direct Screen Grid Voltage ... ... ... | 0 | 0 | volts |
| Control Grid Voltage (180° out of phase with Va) ... ... ... ... ... | 5 | — | volts R.M.S. |
| Direct Control Grid Voltage ... ... ... | — | -6 | volts |
| Control Grid Signal Voltage ... ... ... | 5 | 6 | volts peak |
| Control Grid Circuit Resistance ... ... | 1.0 | 1.0 | MΩ |
| *Anode Circuit Resistance ... ... ... | 1.2 | 2.0 | kΩ |

** Anode circuit resistance, including the valve load, must be sufficient to prevent the cathode current from exceeding the valve ratings.*

## INTER-ELECTRODE CAPACITANCES

| | | | |
|---|---|---|---|
| Grid to Anode ... ... | 0.026 pF | Output ... ... | 1.6 pF |
| Input ... ... ... | 2.4 pF | | |


173
BRIMAR 2D21
AVERAGE CONTROL
CHARACTERISTICS
Vh 6·3V. R92 0Ω. R91 0Ω.
Vg2 8·0
2·0
0
-1·0
-1·5
-2·0
-3·0
CONTROL GRID VOLTAGE VOLTS
ANODE VOLTAGE VOLTS
0
100
200
300
400
500
600
700
8
7
6
5
4
3
2
1
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17