



PREMIUM QUALITY, 10,000 HOUR TUBES

|                                                |                                                       |                    |         |                |       | MAXIMUM RATINGS |                                                  |               |                         |                     | TYPICAL CHARACTERISTICS |                     |               |                  |               |                     |                    |                      |
|------------------------------------------------|-------------------------------------------------------|--------------------|---------|----------------|-------|-----------------|--------------------------------------------------|---------------|-------------------------|---------------------|-------------------------|---------------------|---------------|------------------|---------------|---------------------|--------------------|----------------------|
| TYPE                                           |                                                       | Heater             |         | Capacitances   |       |                 | Max.<br>Anode<br>Dissipation                     | Anode Voltage | Suppressor Grid Voltage | Screen Grid Voltage | Cathode Current         | Screen Grid Voltage | Anode Voltage | Cathode Resistor | Anode Current | Screen Grid Current | Mutual Conductance | Amplification Factor |
|                                                |                                                       | Voltage            | Current | Cold Values    | Input | Output          |                                                  |               |                         |                     |                         |                     |               |                  |               |                     |                    |                      |
|                                                |                                                       |                    |         |                |       |                 |                                                  |               |                         |                     |                         |                     |               |                  |               |                     |                    |                      |
| E81L/6686<br>Power<br>Pentode                  |                                                       | 6.3                | 0.375   | -              | 11.5  | 6.5             | 4.5<br>(design<br>center value)                  | 210           | 0                       | 210                 | 30                      | 210                 | 210           | 120              | 20            | 5.3                 | 11,000             | 36                   |
| E83F/6689<br>wide-band<br>amplifier<br>pentode |                                                       | 6.3                | 0.3     | -              | 8.5   | 3.6             | 2.1<br>(design<br>center value)                  | 210           | 0                       | 210                 | 16                      | 120                 | 210           | 165              | 10            | 2.1                 | 9,000              | 34                   |
| E92CC<br>Twin<br>Triode                        |                                                       | 6.3                | 0.4     | one<br>section | 3.5   | 0.3             | 2.0 $\frac{1}{2}$<br>(absolute<br>value)         | 300           | -                       | -                   | 15                      | -                   | 150           | -                | 8.5           | -                   | 6,000              | 50                   |
| 5920/E90CC<br>Twin<br>Triode                   |                                                       | 6.3                | 0.4     | one<br>section | 3.4   | 0.35            | 2.0 $\frac{1}{2}$<br>(absolute<br>value)         | 300           | -                       | -                   | 15                      | -                   | 100           | -                | 8.5           | -                   | 6,000              | 27                   |
| 7062<br>Twin<br>Triode                         |                                                       | 6.3                | 0.400   | one<br>section | 3.5   | 0.5             | 2.0 $\frac{1}{2}$<br>(absolute<br>value)         | 600           | -                       | -                   | 20                      | -                   | 150           | -                | 8.5           | -                   | 6,300              | 45                   |
|                                                |                                                       | 12.6               | 0.200   |                |       |                 |                                                  |               |                         |                     |                         |                     |               |                  |               |                     |                    |                      |
| 7119/E182CC<br>Twin<br>Triode                  |                                                       | Series<br>12.6     | 0.4     | one<br>section | 6.5   | 1.1             | 4.5<br>(absolute<br>value)                       | 330           | -                       | -                   | 60                      | -                   | 120           | -                | 36            | -                   | 15,500             | 24.                  |
|                                                |                                                       | Par.<br>6.3        | 0.8     |                |       |                 |                                                  |               |                         |                     |                         |                     |               |                  |               |                     |                    |                      |
| Rugged Construction                            | E88CC/6922<br>Twin<br>Triode                          | 6.3                | 0.3     | one<br>section | 3.3   | 0.2             | 1.5 $\frac{1}{2}$<br>(design<br>center<br>value) | 220           | -                       | -                   | 20                      | -                   | 100           | 680              | 15            | -                   | 12,500             | 33                   |
|                                                | E180F/6688<br>Broad-band<br>amplifier<br>pentode      | 6.3                | 0.3     | -              | 7.5   | 3.0             | 3.0<br>(absolute<br>value)                       | 210           | 0                       | 175                 | 25                      | 160                 | 190           | 630              | 13            | 3.3                 | 16,500             | 50                   |
|                                                | 6084/E80F<br>Sharp<br>cut-off<br>amplifier<br>pentode | 6.3                | 0.3     | -              | 5.0   | 7.3             | 1.3<br>(absolute<br>value)                       | 300           | 0                       | 200                 | 9                       | 100                 | 250           | 550              | 3             | 0.65                | 1,850              | 25                   |
|                                                | 6085/E80CC<br>Twin<br>Triode                          | 12.6               | 0.3     | one<br>section | 2.6   | 3.5             | 2.0 $\frac{1}{2}$<br>(absolute<br>value)         | 300           | -                       | -                   | 12                      | -                   | 250           | 920              | 6             | -                   | 2,700              | 27                   |
|                                                |                                                       | par. series<br>6.3 | 0.6     |                |       |                 |                                                  |               |                         |                     |                         |                     |               |                  |               |                     |                    |                      |
|                                                | 6227/E80L<br>Power<br>Pentode                         | 6.3                | 0.75    | -              | 11.5  | 7.0             | 8.0<br>(absolute<br>value)                       | 300           | 0                       | 300                 | 50                      | 250                 | 250           | 130              | 30            | 4.1                 | 9,000              | 21.                  |

$\frac{1}{2}$  Ratings and operating conditions apply to one section

| Typical Operation |               |                  |                      |                  |                           |                                            |                    |                 |               |            |              |                 | Base Connections | Life                     | Maximum Length | Maximum Diameter | TYPE                                         |
|-------------------|---------------|------------------|----------------------|------------------|---------------------------|--------------------------------------------|--------------------|-----------------|---------------|------------|--------------|-----------------|------------------|--------------------------|----------------|------------------|----------------------------------------------|
| Plate Resistance  | Anode Current | Anode Resistance | Screen Grid Resistor | Cathode Resistor | Cathode By-Pass Capacitor | Input Resistance Following Amplifier Stage | Grid Leak Resistor | Output Voltage  | Amplification | Distortion | Output Power | Input Voltage   |                  |                          |                |                  |                                              |
| megohms           | mA            | kilohms          | kilohms              | kilohms          | $\mu$ f                   | kilohms                                    | megohms            | volts effective | $V_o/V_i$     | %          | watts        | volts effective |                  |                          | inches         | inches           |                                              |
| 0.3               | 20            | 15               | -                    | 0.12             | 50                        | -                                          | 0.1                | -               | -             | 5          | 1.0          | -               |                  | LONGER THAN 10,000 HOURS | 2-5/8          | 7/8              | E81L/6686<br>Power Pentode                   |
| 0.5               | 8.3           | 20               | 5.6                  | 0.18             | 50                        | -                                          | 0.1                | -               | -             | 10         | 0.66         | 1.1             |                  |                          | 2-5/8          | 7/8              | E83F/6689<br>wide-band amplifier pentode     |
| 0.0083            | -             | -                | -                    | -                | -                         | -                                          | -                  | -               | -             | -          | -            | -               |                  |                          | 2-5/8          | 3/4              | E92CC<br>Twin Triode                         |
| 0.0045            | -             | -                | -                    | -                | -                         | -                                          | -                  | -               | -             | -          | -            | -               |                  |                          | 2-5/8          | 3/4              | 5920/E90CC<br>Twin Triode                    |
| 0.0072            | -             | -                | -                    | -                | -                         | -                                          | -                  | -               | -             | -          | -            | -               |                  |                          | 2-5/8          | 7/8              | 7062<br>Twin Triode                          |
| 0.0016            | -             | -                | -                    | -                | -                         | -                                          | -                  | -               | -             | -          | -            | -               |                  |                          | 2-5/8          | 7/8              | 7119/E182CC<br>Twin Triode                   |
| 0.00264           | -             | -                | -                    | -                | -                         | -                                          | -                  | -               | -             | -          | -            | -               |                  |                          | 2-3/16         | 7/8              | E88CC/6922<br>Twin Triode                    |
| 0.09              | -             | 1.0              | -                    | -                | -                         | -                                          | 0.5                | -               | -             | 0.9        | -            | 0.1             |                  |                          | 1-3/4          | 7/8              | E180F/6688<br>Broad-band amplifier pentode   |
| 1.5               | 0.8           | 220              | 1200                 | 1.5              | 50                        | 680                                        | 1.0                | 25              | 175           | 1.4        | -            | -               |                  |                          | 2-5/8          | 7/8              | 6084/E80F<br>Sharp cut-off amplifier pentode |
| 0.01              | 0.67          | 220              | -                    | 3.9              | 50                        | 680                                        | -                  | 29              | 21            | 2.6        | -            | -               |                  | Rugged Construction      | 3-1/16         | 7/8              | 6085/E80CC<br>Twin Triode                    |
| 0.09              | 24            | 10               | 1.0                  | 0.27             | 50                        | -                                          | 1.0                | -               | -             | 10         | 2.8          | 2.9             |                  |                          | 3-1/16         | 7/8              | 6227/E80L<br>Power Pentode                   |