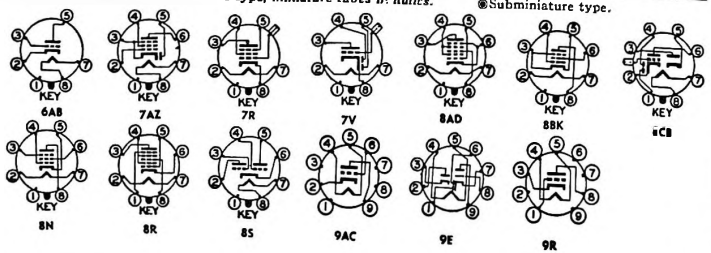
| Tube Type | Classification by Construction | Base Connections | Outline Dwg | Type Cathode | Filament Volts | Filament Amp | Max Plate Volts | Max Screen Volts | Capacitance in Micromicrofarads: Input | Output | Grid-plate |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6Q7<br>6Q7-G<br>6Q7-GT | Duplex-Diode High-Mu Triode | 7V | 8-4<br>12-8<br>9-18 | Htr | 6.3 | 0.3 | 300 | — | — | — | — |
| *6R4* | High-Frequency Triode | 9R | 6-2 | Htr | 6.3₄ | 0.2 | 275 | — | 1.7 | 0.5 | 1.5 |
| 6R7<br>6R7-G<br>6R7-GT | Duplex-Diode Medium-Mu Triode | 7V | 8-4<br>12-8<br>9-17 | Htr | 6.3 | 0.3 | 250 | — | 4.8 | 3.8 | 2.4 |
| *6R8* | Triple-Diode, Low-Mu Triode | 9E | 6-2 | Htr | 6.3 | 0.45 | 250 | — | — | — | — |
| *6S4*<br>*6S4-A* | Medium-Mu Triode | 9AC | 6-3 | Htr | 6.3<br>6.3¶ | 0.6<br>0.6¶ | 500 | — | 4.2 | 0.9 | 2.6 |
| 6S7<br>6S7-G | Remote-Cutoff RP Pentode | 7R | 8-2<br>12-8 | Htr | 6.3 | 0.15 | 300 | 150 | 6.5<br>4.4 | 10.5<br>8.0 | 0.005 ♣<br>0.008 ♣ |
| 6S8-GT | Triple-Diode High-Mu Triode | 8CB | 9-23<br>or<br>9-48 | Htr | 6.3 | 0.3 | 300 | — | — | — | — |
| 6SA7<br>6SA7-GT | Pentagrid Converter | 8R ♥<br>8AD ♥ | 8-1<br>9-11<br>or<br>9-41 | Htr | 6.3 | 0.3 | 300 | 100 | Osc $I_{g1}$ = 0.5 ma<br>$R_{g1}$ = 20,000 ohms | | |
| 6SB7-Y | Pentagrid Converter | 8R ♥ | 8-1 | Htr | 6.3 | 0.3 | 300 | 100 | Osc $I_{g1}$ = 0.35 ma<br>$R_{g1}$ = 20,000 ohms | | |
| 6SC7<br>6SC7-GT | High-Mu Twin-Triode | 8S | 8-1<br>9-11 | Htr | 6.3 | 0.3 | 250 | — | — | — | — |
| 6SD7-GT | Semi-Remote-Cutoff Pentode | 8N | 9-12 | Htr | 6.3 | 0.3 | 300 | 125 | 9.0 | 7.5 | 0.0035 ♣ |
| 6SE7-GT | Sharp-Cutoff Pentode | 8N | 9-12 | Htr | 6.3 | 0.3 | 300 | 125 | 8.0 | 7.5 | 0.005 ♣ |
| 6SF5<br>6SF5-GT | High-Mu Triode | 6AB | 8-1<br>9-11 | Htr | 6.3 | 0.3 | 300 | — | — | — | — |
| 6SF7 | Diode Remote-Cutoff Pentode | 7AZ | 8-1 | Htr | 6.3 | 0.3 | 300 | 100 | 5.5 | 6.0 | 0.004 ♣ |
| 6SG7<br>6SG7-GT | Semi-Remote-Cutoff RF Pentode | 8BK | 8-1<br>9-12 | Htr | 6.3 | 0.3 | 300 | 150 | 8.5<br>8.5 | 7.0<br>7.0 | 0.003 ♣<br>0.0035 ♣ |
| 6SH7<br>6SH7-GT | Sharp-Cutoff RF Pentode | 8BK | 8-1<br>9-12 | Htr | 6.3 | 0.3 | 300 | 150 | 8.5 | 7.0 | 0.003 ♣ |
| 6SJ7<br>6SJ7-GT | Sharp-Cutoff Pentode | 8N | 8-1<br>9-12 | Htr | 6.3 | 0.3 | 300<br>250 | 150<br>— | Pentode Connection<br>Triode Connection ($G_1$, $G_2$ & P tied) | | |
| 6SK7<br>6SK7-W<br>6SK7-GT | Remote-Cutoff RF Pentode | 8N | 8-1<br>8-1<br>9-12 | Htr | 6.3 | 0.3 | 300 | 150 | 6.0<br>6.5 | 7.0<br>7.5 | 0.003 ♣<br>0.005 ♣ |

Metal tubes are shown in bold-face type, *miniature tubes in italics.* ⊛Subminiature type.






| Service | Plate Volts | Screen Volts | Neg Grid Volts | Plate Milliamperes | Screen Milliamperes | $R_{p'}$ Ohms | $G_{m'}$ μmhos | μ Factor | Load for Rated Output, Ohms | Power Output, Watts | Tube Type |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Class A Amplifier | 250<br>100 | —<br>— | 3.0<br>1.0 | 1.0<br>0.8 | —<br>— | 58,000<br>58,000 | 1,200<br>1,200 | 70<br>70 | —<br>— | —<br>— | 6Q7<br>6Q7-G<br>6Q7-GT |
| Class A Amplifier | 150<br>120 | —<br>— | 2.0'<br>2.0 | 30<br>20 | —<br>— | —<br>— | 5,500<br>4,000 | 16<br>16 | —<br>— | —<br>— | *6R4* |
| Class A Amplifier | 250 | — | 9.0 | 9.5 | — | 8,500 | 1,900 | 16 | — | — | 6R7<br>6R7-G<br>6R7-GT |
| Class A Amplifier | 250 | — | 9.0 | 9.5 | — | 8,500 | 1,900 | 16 | 10,000 | 0.30 | *6R8* |
| Vertical Deflection Amplifier | 250 | — | 8.0 | 26 | — | 3,600§ | 4,500 | 16 | — | — | *6S4*<br>*6S4-A* |
| Max positive pulse plate voltage: ▣ = 2,200 volts; max plate dissipation = 7.5 watts; max d-c cathode current = 30 ma | | | | | | | | | | | |
| Class A Amplifier | 250 | 100 | 3.0 | 8.5 | 2.0 | 1,000,000§ | 1,750 | — | — | — | 6S7<br>6S7-G |
| Class A Amplifier | 250 | — | 2.0 | 0.9 | — | 91,000§ | 1,100 | 100 | — | — | 6S8-GT |
| Converter | 250<br>100 | 100<br>100 | 2.0<br>2.0 | 3.5<br>3.3 | 8.5<br>8.5 | 1,000,000§<br>500,000§ | 450‡<br>425‡ | —<br>— | —<br>— | —<br>— | 6SA7<br>6SA7-GT |
| Converter | 250 | 100 | 1.0 | 3.8 | 10 | 1,000,000§ | 950‡ | — | — | — | 6SB7-Y |
| Class A Amplifier♣ | 250 | — | 2.0 | 2.0 | — | 53,000§ | 1,325§ | 70 | — | — | 6SC7<br>6SC7-GT |
| Class A Amplifier | 250 | 125 | 2.0 | 9.5 | 3.0 | 700,000 | 4,250 | — | — | — | 6SD7-GT |
| Class A Amplifier | 250 | 100 | 1.5 | 4.5 | 1.5 | 1,000,000 | 3,400 | — | — | — | 6SE7-GT |
| Class A Amplifier | 250<br>100 | —<br>— | 2.0<br>1.0 | 0.9<br>0.4 | —<br>— | 60,000<br>85,000 | 1,500<br>1,150 | 100<br>100 | —<br>— | —<br>— | 6SF5<br>6SF5-GT |
| Class A Amplifier | 250 | 100 | 1.0 | 12.4 | 3.3 | 700,000§ | 2,050 | — | — | — | 6SF7 |
| Class A Amplifier | 250<br>250<br>100 | 150<br>125<br>100 | 2.5<br>1.0<br>1.0 | 9.2<br>11.8<br>8.2 | 3.4<br>4.4<br>3.2 | 1,000,000*<br>900,000<br>250,000 | 4,000<br>4,700<br>4,100 | —<br>—<br>— | —<br>—<br>— | —<br>—<br>— | 6SG7<br>6SG7-GT |
| Class A Amplifier | 250 | 150 | 1.0 | 10.8 | 4.1 | 900,000§ | 4,900 | — | — | — | 6SH7<br>6SH-7GT |
| Class A Amplifier<br>Class A Amplifier<br>Class A Amplifier | 250<br>100<br>250<br>180 | 100<br>100<br>—<br>— | 3.0<br>3.0<br>8.5<br>6.0 | 3.0<br>2.9<br>9.2<br>6.0 | 0.8<br>0.9<br>—<br>— | 1,000,000*<br>700,000<br>7,600<br>8,200 | 1,650<br>1,575<br>2,500<br>2,300 | —<br>—<br>19<br>19 | —<br>—<br>—<br>— | —<br>—<br>—<br>— | 6SJ7<br>6SJ7-GT |
| Class A Amplifier | 250<br>100 | 100<br>100 | 3.0<br>1.0 | 9.2<br>13 | 2.6<br>4.0 | 800,000§<br>120,000§ | 2,000<br>2,350 | —<br>— | —<br>— | —<br>— | 6SK7<br>6SK7-W<br>6SK7-GT |

§ Approximate.
▲ Without external shield.
† Zero signal.
♦ Grids 3 and 5 are screen. Grid 4 is signal-input grid.
‡ Conversion transconductance.
♣ Maximum.
♥ Grids 2 and 4 are screen. Grid 3 is signal-input grid.
✱ Screen supply voltage.
▣ Absolute maximum rating.
↕ Plate-to-plate.
♠ Per section.
⊕ For both sections.
* Minimum.
¶ Heater warm-up time controlled for series-string service.
‖ Plate supply voltage.
‖ Input plate.
₂—The duration of the pulse voltage must not exceed 15 percent of one scanning cycle.
₁—Section 1.
₂—Section 2.
₄—A resistor of 3 ohms must be put in series with heater.