Type 6663/6AL5 is designed specifically for use in mobile communications equipment. The 6663/6AL5 may be operated without serious degradation under normal variations in supply voltage as encountered with automotive electrical systems. Also consistent with the requirements of the equipment, the tube is capable of withstanding appreciable on-off cycling.

**MECHANICAL DATA**

- Bulb: T-5½
- Base: E7-1, Miniature Button 7-Pin
- Outline: 5-1
- Basing: 6BT
- Cathode: Coated Unipotential
- Mounting Position: Any

**ELECTRICAL DATA**

### HEATER CHARACTERISTICS

- Heater Voltage\(^1\): 6.3 Volts
- Heater Current: 300 Ma
- Heater-Cathode Voltage (Design Center Values):
  - Heater Negative with Respect to Cathode: 275 Volts Max.
  - Heater Positive with Respect to Cathode: 100 Volts Max.

### DIRECT INTERELECTRODE CAPACITANCES

<table>
<thead>
<tr>
<th>Shielded</th>
<th>Unshielded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Input (Each Section)</td>
<td>3.2 (\mu)f</td>
</tr>
<tr>
<td>Plate to Plate</td>
<td>.026 (\mu)f</td>
</tr>
<tr>
<td>Cathode Input (Each Section)</td>
<td>3.6 (\mu)f</td>
</tr>
<tr>
<td>Cathode to Plate</td>
<td>.068 (\mu)f</td>
</tr>
</tbody>
</table>

### RATINGS (Design Center Values)

- Peak Inverse Plate Voltage: 275 Volts Max.
- Peak Plate Current Per Plate\(^2\): 350 Ma Max.
- DC Output Current Per Plate: 10 Ma Max.
- Steady State Peak Plate Current Per Plate: 60 Ma Max.

### CHARACTERISTICS

- Voltage Drop at Ib = 60 Ma Per Plate: 10 Volts

### TYPICAL OPERATION

- AC Plate Voltage Per Plate: 117 Volts
- Effective Plate Supply Impedance Per Plate: 300 Ohms Max.
- DC Output Current Per Plate: 9.0 Ma

### SPECIAL TESTS AND RATINGS

- Heater Cycling Rating:
  - Cycles of Intermittent Operation (Minimum): 2000 Cycles
  - Ef = 7.5 volts cycled for one minute on and one minute off.
  - Eb = 0 volts, Ehk = 135 volts with heater positive with respect to cathode.

### NOTES:

1. When operated from automotive electrical systems, the heater may be subjected to voltage variations as great as \(\pm\) 20 percent. Although such extremes in heater voltage may be tolerated for short periods, increased equipment reliability can be achieved with improved supply-voltage regulation.

2. Maximum duration 0.1 second.

**SYLVANIA**

**ENGINEERING DATA SERVICE**

**6663/6AL5**

**QUICK REFERENCE DATA**

Sylvania Type 6663/6AL5 is designed specifically for mobile operation. It is a T-5½ duo diode intended for use in circuits as a clipper, clamer, isolator, switching device, detector, or FM discriminator.

Type 6663/6AL5 possesses electrical characteristics essentially equivalent to Type 6AL5.
AVERAGE PLATE CHARACTERISTICS

CURRENT IN MA

PLATE VOLTAGE

E_f = RATED VALUE

AVERAGE OPERATION CHARACTERISTICS
Half-Wave Rectification — Single Diode

RECTIFIED MILLIAMPERES

DC LOAD RESISTANCE OHMS

SIGNAL INPUT VOLS RMS

E_f = 6.3 VOLTS

RECTIFIED MILLIAMPERES

DC DEVELOPED VOLTS