An r.f. pentode suitable for use in applications where long life and close control of characteristics are required.

The A3064 will replace the CV138, CV4014 and Z77 in most applications.

BASE CONNECTIONS AND VALVE DIMENSIONS

Base : Small-button miniature (B7G)
Bulb : Tubular
Max. overall length : 54.5mm
Max. seated length : 47.5mm
Max. diameter : 19mm

Viewed from underside of base.

HEATER

\[v_h = 6.3 ~ V \]
\[i_h = 0.3 ~ A\]

MAXIMUM RATINGS (Absolute)

\[v_{a(o)} = 550 ~ V\]
\[v_a = 300 ~ V\]
\[p_h = 2.5 ~ W\]
\[v_{g2(o)} = 450 ~ V\]
\[v_{g2} = 300 ~ V\]
\[p_{g2} = 0.8 ~ W\]
\[R_{g2-k} = 0.5 ~ \Omega\]
\[v_{h-k} (heater positive) = 100 ~ V\]
\[v_{h-k} (heater negative) = 250 ~ V\]
\[T_{bulb} = 200 ~ ^\circ C\]

CAPACITANCES (Measured on a cold screened valve)

\[C_{g1-all less a} = 6.5-8.7pF\]
\[C_{a-all less g1} = 2.75-3.75pF\]
\[C_{a-g1} = 0.01pF (max)\]
A3064

CHARACTERISTIC SPREAD

Measured at:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Min.</th>
<th>Mean</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_a$</td>
<td>250</td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>$V_{g2}$</td>
<td>250</td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>$V_{g1}$</td>
<td>0</td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>$R_k$</td>
<td>160</td>
<td></td>
<td>Ω</td>
</tr>
</tbody>
</table>

*Ia* 8.7 9.85 11.0 mA

*Ig2* 1.8 2.6 3.4 mA

*$g_m* 6.8 7.62 8.43 mA/V

*$g_0* 0.5 μA

*I_a* (at $-V_{g1} = 8$V) 100 μA

*$g* 60 75 89 -

*I_\mu* (at $-V_{g1} = 3.5$V, $I_a = 50$μA) 70 95 120 V

*$V_{g3}$ 275 300 325 mA

*These tests are performed on a sample basis only, and the figures given are of the average spread.

LIFE PERFORMANCE

The average life expectancy of the A3064 is at least 10,000 hours. In order to obtain maximum life, the valve must be operated within the ratings given on page 1. The environment must be a static one and the valve must not be switched more than 12 times in 24 hours. The life expectancy may be reduced if conditions other than those specified are imposed on the valve, and will be reduced appreciably if the absolute maximum ratings are exceeded. Both reliability and performance will be jeopardised if heater voltage ratings are exceeded. Life and reliability are directly related to the degree to which regulation of heater voltage is maintained at its centre rated value. Attention should also be paid to the recommendations of the British Standard Code of Practice CP1005 "The Use of Electronic Valves".

A valve is considered to have reached the end of life when it is either inoperative, or one or more of its characteristics has reached the following values:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>$I_a$</td>
<td>5.25 mA</td>
</tr>
<tr>
<td>$g_m$</td>
<td>4.9 mA/V</td>
</tr>
<tr>
<td>$g_l$</td>
<td>3.0 μA</td>
</tr>
<tr>
<td>$I_{hk}$ ($V_{hk} = 100$)</td>
<td>20 μA</td>
</tr>
</tbody>
</table>

measured as "Characteristic Spread".

INSTALLATION

The valve may be mounted in any position.
$V_{q2} = 250V$

$I_{a} (mA)$ vs $V_a (V)$

- $V_{q1} = 0V$
- $-0.5V$
- $-1V$
- $-1.5V$
- $-2V$
- $-2.5V$
- $-3V$
- $-3.5V$
- $-4V$

$I_{a}$ at $V_{q1} = -2$
$V_{o1} = 250\, \text{V}$
$V_{o2} = 250\, \text{V}$
$V_o = V_{g2} = 25.0V$

$R_k = 1600\Omega$ bypassed by 1000pF

$f = 45\text{ Mc/s}$

CURVE A $V_{g3} = 0V$

" B $V_{g3} = 20 \times V_{g1}$

" C $V_{g3} = 22 \times V_{g1}$

" D $V_{g3} = 30 \times V_{g1}$
CURVE A $V_{Q3} = 0V$
- B $V_{Q3} = 20 \times V_{G1}$
- C $V_{Q3} = 22 \times V_{G1}$
- D $V_{Q3} = 30 \times V_{G1}$

$V_0 = V_{Q3} = 250V$
$R_k = 1600\, \Omega$ bypassed by $1000\, \text{pF}$
$f = 45\, \text{Mc/s}$
$V_0 = V_{G2} = 250V$
$V_{G3} = 0$ (earth)
$f = 45 MHz$

Values of unby-passed cathode resistor

- 0Ω
- 22Ω
- 33Ω
- 47Ω
- 68Ω
- 100Ω

$I_a(mA)$ vs. $I_d(mA)$