Half-Wave Vacuum Rectifier

Duodecar Type
Pressure-Welded Cathode Coating
For Color-TV Damper-Diode Applications

ELECTRICAL CHARACTERISTICS – Bogey Values

Heater Voltage, ac or dc .... \( E_h \) 6.3 V
Heater Current ........... \( I_h \) 2.5 A

Direct Interelectrode Capacitances:

\[ \begin{align*}
\text{Plate to cathode and heater} & : c_{p(k+h)} \quad 13 \text{ pF} \\
\text{Cathode to plate and heater} & : c_{k(p+h)} \quad 18 \text{ pF} \\
\text{Heater to cathode} & : c_{h-k} \quad 5.5 \text{ pF}
\end{align*} \]

Instantaneous Tube Voltage

Drop for instantaneous plate current \( i_b = 680 \text{ mA} \) \( e_b \) 20 V

MECHANICAL CHARACTERISTICS

Maximum Overall Length .......... 3.375 in (85.72 mm)
Maximum Seated Length .......... 3.000 in (76.2 mm)
Maximum Diameter ............... 1.188 in (30.1 mm)
Envelope ........................ JEDEC T9
Base ................................ Duodecar 12-Pin with Exhaust Tip
 ................................ (JEDEC E12-70)

Terminal Diagram ................ JEDEC 12GK
Type of Cathode ................. Coated Unipotential
Operating Position ............... Any

MAXIMUM RATINGS – Design-Maximum Values

For operation as a Damper Tube in Color-TV Receivers utilizing a 525-line, 30-frame system

Peak Inverse Plate Voltage. \( e_{bm} \) 5000 V
Heater-Cathode Voltage:

\[ \begin{align*}
\text{Peak} & : e_{hk} \quad \{ +300 \text{ V} \} \\
\text{Average} & : E_{hk(\text{av})} \quad \{ +100 \text{ V} \} \quad \{ -900 \text{ V} \}
\end{align*} \]

Heater Voltage, ac or dc .... \( E_h \) 5.7 to 6.9 V

Plate Current:

\[ \begin{align*}
\text{Peak} & : i_{bm} \quad 1500 \text{ mA} \\
\text{Average} & : I_{b(\text{av})} \quad 350 \text{ mA} \\
\text{Plate Dissipation} & : P_b \quad 11 \text{ W}
\end{align*} \]
Envelop Temperature (at hottest point on envelope surface) \( T_E \) \( \quad \) 220 \( ^\circ \text{C} \)

\( a \) Measured without external shield in accordance with the current issue of EIA Standard RS-191.

\( b \) Designed to mate with Duodecar 12-Contact Socket generally available from your local RCA Distributor.

\( c \) As defined in the current issue of EIA Standard RS-239.

\( d \) This rating is applicable when the duration of the voltage pulse does not exceed 15\% of one horizontal scanning cycle. In a 525-line, 30-frame system, 15\% of one horizontal scanning cycle is 10 \( \mu \text{s} \).

\( e \) Measured with a dc meter.

**OPERATING CONSIDERATIONS**

Socket terminals 2, 3, 5, 6, 8, 9 and 11 should not be used as tie points for external-circuit components. It is recommended that the socket tabs be removed to reduce the possibility of arc-over and to minimize leakage.

**TERMINAL DIAGRAM (Bottom View)**

Pin 1: Heater
Pin 2: Do Not Use
Pin 3: Do Not Use
Pin 4: Plate
Pin 5: Do Not Use
Pin 6: Do Not Use
Pin 7: Cathode
Pin 8: Do Not Use
Pin 9: Do Not Use
Pin 10: Plate
Pin 11: Do Not Use
Pin 12: Heater

JEDEC 12GK