# 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:[a] | | | |
| Plate to cathode and heater | $c_{p(k+h)}$ | 13 | pF |
| Cathode to plate and heater | $c_{k(p+h)}$ | 18 | pF |
| Heater to cathode | $c_{h-k}$ | 5.5 | pF |
| Instantaneous Tube Voltage Drop for instantaneous plate current ($i_b$) = 680 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[b] | 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[c]

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

| | | | |
|---|---|---|---|
| Peak Inverse Plate Voltage | $-e_{bm}$ | 5000[d] | V |
| Heater-Cathode Voltage: | | | |
| Peak | $e_{hkm}$ | +300<br>-5000 | V<br>V |
| Average[e] | $E_{hk(av)}$ | +100<br>-900 | V<br>V |
| Heater Voltage, ac or dc | $E_h$ | 5.7 to 6.9 | V |
| Plate Current: | | | |
| Peak | $i_{bm}$ | 1500 | mA |
| Average[e] | $I_{b(av)}$ | 350 | mA |
| Plate Dissipation | $P_b$ | 11 | W |

| | | | |
|---|---|---|---|
| Envelope Temperature (at hottest point on envelope surface) . . . . . | $T_E$ | 220 | °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 $\mu$s.

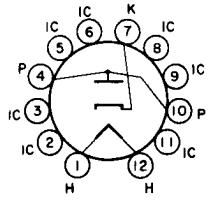
[e] Measured with a dc meter.

## 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