## Half-Wave Vacuum Rectifier

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

Heater Voltage, ac or dc.	ELECTRICAL CHARACTERI	STICS - E	Bogey Value	5		
Heater Current   Ih	Heater Voltage, ac or dc	$E_{h}$	6.3	V		
Capacitances:   Plate to cathode and heater.   Cp(k+h)   13   pF	Heater Current		1.8	Α		
Plate to cathode and heater						
Cathode to plate and heater.   Cathode   Cat		c <sub>p(k+h)</sub>	13	pF		
Heater to cathode	Cathode to plate and heater.	ck(n+h)	16	pF		
Drop for instantaneous plate current (i <sub>b</sub> ) = 700 mA e <sub>b</sub> 25         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 12HF           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         cebm         5000d         V           Heater-Cathode Voltage         +300         V           Peak         chk(av)         +100         V           Average c         Ehk(av)         +100         V           Heater Voltage, ac or dc         Eh         5.7 to 6.9         V           Plate Current:         Peak         ibm         2100         mA           Average c         Ibm         350         mA	Heater to cathode		4.0	pF		
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 12HF           Type of Cathode         Coated Unipotential           Operating Position         Any           MAXIMUM RATINGS - Design-Maximum Values For operation as a Damper Tube in Color-TV Receivers         attilizing a 525-line, 30-frame system           Peak Inverse Plate Voltage         Tebm         5000d         V           Heater-Cathode Voltage:         +300         V           Peak         Ehk(av)         +5000         V           Average E         Ehk(av)         +100         V           Heater Voltage, ac or dc         Eh         5.7 to 6.9         V           Plate Current:         Peak         ibm         2100         mA           Average E         Ibm         350         mA	Drop for instantaneous	eu	25	v		
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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 12HF           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 - ebm         5000d         V           Heater-Cathode Voltage:         +300         V           Peak         ehkm         -50000         V           Average e         Ehk(av)         +100         V           Heater Voltage, ac or dc         Eh         5.7 to 6.9         V           Plate Current:         Peak         ibm         2100         mA           Average e         Ib(av)         350         mA	-					
Duodecar 12-Pin with Exhaust Tip (JEDEC E12-70)   Terminal Diagram	•					
(JEDEC E12-70)           Terminal Diagram         JEDEC 12HF           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:         +300         V           Heater-Cathode Voltage:         +300         V           Peak         -50000         V           Average <sup>e</sup> Ehk(av)         +100         V           Heater Voltage, ac or dc         Eh         5.7 to 6.9         V           Plate Current:         Peak         1bm         2100         mA           Average <sup>e</sup> Ibm         350         mA	Envelope			JEDEC T9		
Type of Cathode	Base b	ouodecar '				
Operating Position         Any           MAXIMUM RATINGS – Design-Maximum Values <sup>c</sup> For operation as a Damper Tube in Color-TV Receivers           utilizing a 525-line, 30-frame system           Peak Inverse Plate Voltage         -ebm         5000 <sup>d</sup> V           Heater-Cathode Voltage         +300         V           Peak         -5000         V           Average <sup>e</sup> Ehk(av)         +100         V           -900         V           Heater Voltage, ac or dc         Eh         5.7 to 6.9         V           Plate Current:         Peak         1bm         2100         mA           Average <sup>e</sup> Ibm         350         mA	Terminal Diagram		J	EDEC 12HF		
MAXIMUM RATINGS – Design-Maximum Values <sup>C</sup> For operation as a Damper Tube in Color-TV Receivers           utilizing a 525-line, 30-frame system           Peak Inverse Plate Voltage. Peak         -ebm         5000 <sup>d</sup> V           Heater-Cathode Voltage: Peak         +300         V           -5000         V           Average         Ehk(av)         +100         V           -900         V           Heater Voltage, ac or dc         Eh         5.7 to 6.9         V           Plate Current: Peak         ibm         2100         mA           Average         Ibman 350         mA	Type of Cathode		Coated	Unipotential		
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: $^{+300}_{peak}$ $^{+300}_{-5000}$ V  Average $^{e}$	Operating Position			Any		
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$						
Heater-Cathode Voltage:   +300   V     Peak   e   hkm   +5000   V     Average	•					
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Peak Inverse Plate Voltage.	-е <sub>hm</sub>	5000 <sup>d</sup>	v		
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	·		( +300	v		
Average Ehk(av) \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Peak	e <sub>hkm</sub>	1 -5000	v		
Heater Voltage, ac or dc··· E <sub>h</sub> 5.7 to 6.9 V  Plate Current:  Peak i <sub>bm</sub> 2100 mA  Average 1 I <sub>b(av)</sub> 350 mA	Average	Е.,,	s +100	v		
Plate Current:         Peak			}-900	v		
Average 350 mA	<u> </u>	$\mathbf{E_{h}}$	5.7 to 6.9	v		
Average		i bm				
Plate Dissipation P <sub>b</sub> 6.5 W	•	lb(av)				
	Plate Dissipation	P <sub>b</sub>	b.5	W		



Envelope remperature (at			
hottest point on envelope			
surface)	$T_{\mathbf{F}}$	220	°C

- 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 µs.
- Measured with a dc meter.

## **OPERATING CONSIDERATIONS**

Socket terminals 2, 5, 6, 8 and 9 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: No Internal Connection

Pin 4: Plate

Pin 5: Do Not Use

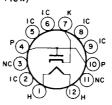
Pin 6: Do Not Use Pin 7: Cathode

Pin 8: Do Not Use

Pin 9: Do Not Use Pin 10: Plate

Pin 11: No Internal Connection

Pin 12: Heater



JEDEC 12HF