

Flyback Rectifier

For operation in a 525-line, 30-frame system

MAXIMUM RATINGS (Design-Maximum Values)

Peak Inverse Plate Voltage#	30000*	volts
Peak Plate Current	80	mA
Average Plate Current	1.5	mA
Heater Voltage:		
Absolute-maximum value	2.9	volts
Absolute-minimum value	2.1	volts

CHARACTERISTIC, Instantaneous Value

Tube Voltage Drop (Approx.), for plate current of 7 mA	60	volts
--	----	-------

X-RADIATION CHARACTERISTIC

X-Radiation, Maximum:		
Statistical value controlled on a lot sampling basis	0.5	mR/hr

Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).

* The dc component must not exceed 24000 volts.

Caution—Operation of this tube outside of the maximum values indicated above may result in either temporary or permanent changes in the X-radiation characteristic of the tube. Equipment design must be such that these maximum values are not exceeded.

2CN3A

Refer to chart at end of section.

2CW4

Refer to type 6CW4.

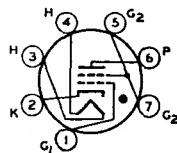
2CY5

Refer to type 6CY5.

2D21

INDUSTRIAL
TYPE

GAS THYRATRON



7BN

Miniature type gas-tetrode thyatron intended for relay applications. Outlines section, 5C; requires miniature 7-contact socket.

Heater Voltage (ac/dc)	6.3 ± 10%	volts
Heater Current	0.6	ampere
Cathode:		
Heating time prior to tube conduction	10	seconds
Heater-Cathode Voltage:		
Peak value	-100 +25	volts
Direct Interelectrode Capacitances (Approx.):		
Grid No. 1 to anode	0.026	pF
Input	2.4	pF
Output	1.6	pF
Ionization Time (Approx.):		
For conditions: dc anode volts = 100; grid-No. 1 square-pulse volts = 50; peak anode amp. during conduction = 0.5	0.5	μs
Deionization Time (Approx.):		
For conditions: dc anode volts = 125; grid-No. 1 volts = -100; grid-No. 1 resistor (ohms) = 1000; ac anode amp. = 0.1	35	μs
For conditions: dc anode volts = 125; grid-No. 1 volts = -10; grid-No. 1 resistor (ohms) = 1000; dc anode amp. = 0.1	75	μs
Maximum Critical Grid-No. 1 Current with an anode-supply volts (rms) = 460, and average anode amp. = 0.1	0.5	μA
Anode Voltage Drop (Approx.)	8	volts
Grid-No. 1 Control Ratio (Approx.) with grid-No. 1 resistor (megohms) = 0; grid-No. 2 volts = 0	250	
Grid-No. 2 Control Ratio (Approx.) with grid-No. 1 resistor (megohms) = 0; grid-No. 2 resistor (megohms) = 0; grid-No. 1 volts = 0	1000	

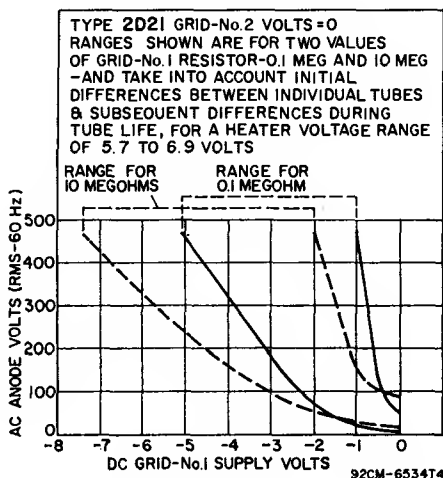
Relay and Grid-Controlled Rectifier Service

MAXIMUM RATINGS (Absolute-Maximum Values)

Peak Anode Voltage:		
Forward	650	volts
Inverse	1300	volts
Grid-No. 2 (Shield-Grid) Voltage:		
Peak, before anode conduction	-100	volts
Average, during anode conduction	-10	volts

Grid-No. 1 (Control-Grid) Voltage:		
Peak, before anode conduction	—100	volts
Average, during anode conduction	—10	volts
Cathode Current:		
Peak	0.5	ampere
Average	0.1	ampere
Fault, for duration of 0.1 sec. max.	10	amperes
Grid-No. 2 Current:		
Average	+0.01	ampere
Grid-No. 1 Current:		
Average	+0.01	ampere
Ambient Temperature Range	—75 to +90	°C

*Operational Range of Critical Grid-No. 1
Voltage.*



TYPICAL OPERATING CONDITIONS FOR RELAY SERVICE

RMS Anode Voltage	117	400	volts
Grid-No.2 Voltage	0	0	volts
RMS Grid-No.1 Bias Voltage	5	—	volts
DC Grid-No.1 Bias Voltage	—	—6	volts
Peak Grid-No.1 Signal Voltage	5	6	volts
Grid-No.1-Circuit Resistance	1.0	1.0	megohm
Anode-Circuit Resistance#	1200	2000	ohms

MAXIMUM CIRCUIT VALUE

Grid-No.1-Circuit Resistance	10	megohms
------------------------------	----	---------

■ Averaged over any interval of 30 seconds maximum.

□ Approximately 180° out of phase with the anode voltage.

Sufficient resistance, including the tube load, must be used under any conditions of operation to prevent exceeding the current ratings.

Refer to chart at end of section.

2D21W

Refer to type 6DS4.

2DS4

Refer to type 6DV4.

2DV4

Refer to chart at end of section.
For replacement use type 2AF4B/2DZ4.

2DZ4

Refer to chart at end of section.

2E5