



ELECTRONIC TUBE REFERENCE

3CU3A

Rectifier - TV Line Scan Boost electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

RECTIFIER

Fast-warm-up high-voltage pulsed rectifier for television high-voltage service. Its heater-cathode construction is designed for rapid operation in flyback-derived CRT accelerating-voltage supplies.

GENERAL CHARACTERISTICS

BASE DESIGNATION	8MK	BASE PINS	6
NOMINAL HEATER	3.15 V / 280 mA	PARALLEL HEATER	– / –
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Rectifier	
PEAK INVERSE VOLTAGE	33000 V
NOMINAL OUTPUT CURRENT	2.2 mA
PEAK FORWARD CURRENT	100 mA
FORWARD VOLTAGE DROP	50 V
<i>Published section ratings promoted where explicitly available; additional source values retained in parameter rows.</i>	

A vacuum rectifier documented for television or power-supply service.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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Published test conditions and operating points. Values on this page are preserved as reported by this source.

1971 RCA HB3 BINDER 4 OF 7

Section 1 · Rectifier

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Controlled for X-Radiation – published value 1	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Controlled for X-Radiation – published value 2	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Controlled for X-Radiation – published value 3	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Filament Voltage, ac or do – published value 1	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Filament Voltage, ac or do – published value 2	3.15 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Filament Voltage, ac or do – published value 3	0.5 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Filament Current at Ef = 3.15 V – published value 1	3.15 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Filament Current at Ef = 3.15 V – published value 2	0.28 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Direct Interelectrode Capacitance:a	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Instantaneous Tube Voltage – published value 1	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Instantaneous Tube Voltage – published value 2	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Plate Current (ib) = 7 mA – published value 1	7 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Plate Current (ib) = 7 mA – published value 2	50 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Type of Cathode – published value 1	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Type of Cathode – published value 2	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Type of Cathode – published value 3	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Inverse Plate Voltaged	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Filament Voltage (absolute min.) – published value 1	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Filament Voltage (absolute min.) – published value 2	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Filament Voltage (absolute min.) – published value 3	2.65 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
a Measured without external shield in accordance with the current – published value 1	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
a Measured without external shield in accordance with the current – published value 2	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
b As defined in the current issue of EIA Standard RS-239A – published value 1	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
b As defined in the current issue of EIA Standard RS-239A – published value 2	-239	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
d This rating is applicable when the duration of the voltage pulse – published value 1	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
d This rating is applicable when the duration of the voltage pulse – published value 2	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
d This rating is applicable when the duration of the voltage pulse – published value 3	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
points at or near filament potential. Otherwise, do not use – published value 1	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
points at or near filament potential. Otherwise, do not use – published value 2	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
points at or near filament potential. Otherwise, do not use – published value 3	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Measurement of Filament Voltage. It is recommended that a – published value 1	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Measurement of Filament Voltage. It is recommended that a – published value 2	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Measurement of Filament Voltage. It is recommended that a – published value 3	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
thermocouple rms voltmeter be used to measure filament – published value 1	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
thermocouple rms voltmeter be used to measure filament – published value 2	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
thermocouple rms voltmeter be used to measure filament – published value 3	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
voltage. The meter and its leads must be insulated to – published value 1	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
voltage. The meter and its leads must be insulated to – published value 2	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
circuit during this measurement, stray capacitances to ground – published value 1	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
circuit during this measurement, stray capacitances to ground – published value 2	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
X-Radiation Characteristic	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
changes in the X-radiation characteristic of the tube. Equip – published value 1	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
changes in the X-radiation characteristic of the tube. Equip – published value 2	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
X-Radiation from Receiving Tubes", and controlled in – published value 1	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
X-Radiation from Receiving Tubes", and controlled in – published value 2	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
X-Radiation from Receiving Tubes", and controlled in – published value 3	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
mended Practice for Quality Control of X-Radiation Emitted – published value 1	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
mended Practice for Quality Control of X-Radiation Emitted – published value 2	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
mended Practice for Quality Control of X-Radiation Emitted – published value 3	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
from High Voltage Rectifier and Shunt Regulator Receiving – published value 1	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
from High Voltage Rectifier and Shunt Regulator Receiving – published value 2	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
from High Voltage Rectifier and Shunt Regulator Receiving – published value 3	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
X-Radiation	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
The high voltages associated with the 3CU3A result in – published value 1	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
The high voltages associated with the 3CU3A result in – published value 2	3 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
The high voltages associated with the 3CU3A result in – published value 3	3 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
production of X-Radiation which may constitute a health – published value 1	0 mA	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
production of X-Radiation which may constitute a health – published value 2	0 mA	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
production of X-Radiation which may constitute a health – published value 3	0 mA	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
voltage is adjusted to the recommended value and that any – published value 1	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
voltage is adjusted to the recommended value and that any – published value 2	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
voltage is adjusted to the recommended value and that any – published value 3	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
The high voltages at which the 3CU3A is operated can be – published value 1	3 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
The high voltages at which the 3CU3A is operated can be – published value 2	3 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
The high voltages at which the 3CU3A is operated can be – published value 3	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
adjustment of, any high voltage circuit – published value 1	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
adjustment of, any high voltage circuit – published value 2	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
voltage output terminal is properly grounded while inserting – published value 1	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
voltage output terminal is properly grounded while inserting – published value 2	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
voltage output terminal is properly grounded while inserting – published value 3	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Pin 2 -Filament	2	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Pin 7 -Filament	7	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Instantaneous tube voltage drop	50 V	Explicitly published rectifier rating/characteristic.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MAXIMUM RATINGS ^b –High Voltage Rectifier	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Filament Voltage (absolute max.) – published value 1	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Filament Voltage (absolute max.) – published value 2	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Filament Voltage (absolute max.) – published value 3	3.65 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
X-Radiation, Maximum – published value 1	0 mA	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
X-Radiation, Maximum – published value 2	25 mA	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Peak inverse plate voltage	33000 V	Explicitly published rectifier rating/characteristic.
Peak plate current	100 mA	Explicitly published rectifier rating/characteristic.
Average plate current	2.2 mA	Explicitly published rectifier rating/characteristic.

TUBE TINKER

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