

ELECTRONIC TUBE REFERENCE

C6J

Specialized - Thyatron electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
THYRATRON

Grid-controlled xenon thyatron documented by Amperex for controlled switching and power-conduction service, with published operating ratings and characteristics.

GENERAL CHARACTERISTICS

BASE DESIGNATION	4BZ	BASE PINS	4
NOMINAL HEATER	2.5 V / 21 A	PARALLEL HEATER	– / –
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Thyatron	
MAXIMUM PLATE VOLTAGE	750 V
MAXIMUM CATHODE CURRENT	77 A
PEAK INVERSE VOLTAGE	1250 V
NOMINAL OUTPUT CURRENT	6.4 A
PEAK FORWARD CURRENT	100 A
FORWARD VOLTAGE DROP	14 V
WARM-UP TIME	60 s
Xenon thyatron; applicable rectifier-like conduction ratings promoted from the published specification.	

C6J is listed in the supplied Amperex material as a grid-controlled xenon thyatron. Published ratings and operating characteristics were captured from the supplied table.

SOURCE OPERATING CONDITIONS

1955 Vacuum Tube Products

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

1955 VACUUM TUBE PRODUCTS

Section 1 · Thyatron

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Current	17 A–23 A	—
Operating Temperature	-55–75 C	—
Tube Voltage Drop	14 V	Anode current=6.4A
Peak Emission Voltage Drop	45 V	Anode current=100A
Critical Grid Voltage	-7.5--3 V	Anode=1000V
Critical Anode Voltage	75 V	Grid=+3V; conduction below this value

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Rated Anode Current Continuous	6.4 A	—
Rated Anode Current Average	6.4 A	—
Rated Anode Current 15-Second	12.8 A	15s on / 15s off
Peak Anode Current	100 A	Continuously oscillographically recorded
Peak Forward Voltage	1000 V	—
Peak Inverse Voltage	1250 V	—

1958 Amperex Industrial

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

1958 AMPEREX INDUSTRIAL

Section 1 · Thyatron

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater/filament voltage	2.5 V	Published rating
Heater/filament current	21 A	Published rating
Filament heating time	60 s	XenonThyratron
Tube voltage drop	9 V	XenonThyratron
Deionization time	1000 us	XenonThyratron

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum peak forward voltage	750 V	XenonThyratron
Maximum peak inverse voltage	1250 V	XenonThyratron
Maximum peak anode current	12.8 A	XenonThyratron
Maximum average anode current	6.4 A	XenonThyratron
Maximum grid voltage	-100 V	XenonThyratron



SOURCE DATA APPENDIX

1971 RCA HB3 Binder 2 of 7

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

1971 RCA HB3 BINDER 2 OF 7

Section 1 · Thyatron

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament voltage nominal	2.4–2.6 V	AC or DC
Filament current nominal	19 A–23 A	At 2.5 V

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode voltage drop average	9 V	Beginning of life
Anode voltage drop maximum	—12 V	End of life
Grid control ratio	210	10000-ohm grid resistor; circuit returns to filament transformer center tap

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Minimum heating time before conduction	60— s	—
Maximum deionization time	—1000 μ s	—
Maximum critical grid current	—10 μ A	—
Maximum commutation factor	—0.66 V·A/ μ s ²	Averaged over first 350 V of inverse anode-voltage rise
Peak forward anode voltage maximum	—750 V	Grid-controlled rectifier service
Peak inverse anode voltage maximum	—1250 V	Grid-controlled rectifier service
Peak grid voltage maximum before conduction	-100— V	—
Peak anode current maximum	—77 A	—
Average anode current maximum	—6.4 A	Averaged over any period of 6 seconds
Average overload anode current maximum	—77 A	Overload Rating I; duration 0.5 s
Average overload anode current maximum	—38.5 A	Overload Rating I; duration 1 s
Average overload anode current maximum	—19.2 A	Overload Rating I; duration 2 s
Average overload anode current maximum	—12.8 A	Overload Rating I; duration 3 s
Average overload anode current maximum	—9.6 A	Overload Rating I; duration 4 s
Average overload anode current maximum	—7.7 A	Overload Rating I; duration 5 s
Average overload anode current maximum	—12.8 A	Overload Rating II; duration 3 s
Average overload anode current maximum	—11.2 A	Overload Rating II; duration 4 s

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Average overload anode current maximum	—10.3 A	Overload Rating II; duration 5 s
Average overload anode current maximum	—9.6 A	Overload Rating II; duration 6 s
Fault anode current maximum	—770 A	Maximum duration 0.1 s
Ambient temperature minimum	-55— °C	—
Ambient temperature maximum	—75 °C	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-anode capacitance	4 pF	Approximate
Grid-to-cathode capacitance	21 pF	Approximate