

ELECTRONIC TUBE REFERENCE

GI31

Voltage - Triode (single) electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
TRIODE

Russian metal-ceramic RF triode for pulsed oscillator and amplifier service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	6.3 V / —	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Triode	
MAXIMUM PLATE VOLTAGE	28000 V
MAXIMUM PLATE DISSIPATION	12 W
MAXIMUM GRID DISSIPATION	0.5 W
MAXIMUM CATHODE CURRENT	2.5 A
Promoted-field completeness audit performed from English ratings/characteristics.	

The GI-31 metal-ceramic triode is used as an RF oscillator for pulsed operation with anode keying in the decimetric wavelength range.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1968 Electronintorg

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

1968 ELECTRONINTORG

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
pulsed [1]	31	NmnynbcHbld reHepaTopHbin Tpuog M-31 npep- The N'N-31 triode is used as a RF oscillator for pulsed
pulsed [2]	31	NmnynbcHbld reHepaTopHbin Tpuog M-31 npep- The N'N-31 triode is used as a RF oscillator for pulsed
temperature, °C 980 C ... L [1]		AMHEAHbIS 980 Ambient temperature, °C L. —60to +100
temperature, °C -60 C ... L [2]		AMHEAHbIS 980 Ambient temperature, °C L. —60to +100
temperature, °C 100 C ... L [3]		AMHEAHbIS 980 Ambient temperature, °C L. —60to +100
voltage (ACorDC), V [1]	63 V	Hanpsikenve Hakana (~vwvm =), B 6,3 Heater voltage (ACorDC), V 6.3
voltage (ACorDC), V [2]	6.3 V	Hanpsikenve Hakana (~vwvm =), B 6,3 Heater voltage (ACorDC), V 6.3
current, uA, atmost [1]	6 uA	ObpaTHbIfi TOK CETKM, MKA, He 6onee 2 Inverse grid current, uA, atmost 2
current, uA, atmost [2]	2 uA	ObpaTHbIfi TOK CETKM, MKA, He 6onee 2 Inverse grid current, uA, atmost 2
current, uA, atmost [3]	2 uA	ObpaTHbIfi TOK CETKM, MKA, He 6onee 2 Inverse grid current, uA, atmost 2
current [1]	350 mA	aHopna 350 B, Toke aHopa 35 MA), MA/B, He meHee 15 350V, anode current 35 mA), mA/V,
current [2]	35 mA	aHopna 350 B, Toke aHopa 35 MA), MA/B, He meHee 15 350V, anode current 35 mA), mA/V,

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
current [3]	15 mA	aHopna 350 B, Toke aHopa 35 MA), MA/B, He meHee 15 350V, anode current 35 mA), mA/V,
current [4]	350 mA	aHopna 350 B, Toke aHopa 35 MA), MA/B, He meHee 15 350V, anode current 35 mA), mA/V,
current [5]	35 mA	aHopna 350 B, Toke aHopa 35 MA), MA/B, He meHee 15 350V, anode current 35 mA), mA/V,
pulse [1]	200 V	B umnynsce 200 B, AnutensHocTu anode and grid voltages 200 V, pulse
pulse [2]	200 V	B umnynsce 200 B, AnutensHocTu anode and grid voltages 200 V, pulse
pulse [1]	25 A	HanpshkeHuy aHoaa B umnynece 2,5 kB, 2.5kV, peak anode current 2.1 A, pulse
pulse [2]	2.5 A	HanpshkeHuy aHoaa B umnynece 2,5 kB, 2.5kV, peak anode current 2.1 A, pulse
pulse [3]	2.1 A	HanpshkeHuy aHoaa B umnynece 2,5 kB, 2.5kV, peak anode current 2.1 A, pulse
wavelength [1]	21 cm	TOKe aHoAa B umnynbce 2,1 A, AnnMTensHOCTH duration 3 us), 1/duty factor 500, wavelength
wavelength [2]	3 cm	TOKe aHoAa B umnynbce 2,1 A, AnnMTensHOCTH duration 3 us), 1/duty factor 500, wavelength
wavelength [3]	1 cm	TOKe aHoAa B umnynbce 2,1 A, AnnMTensHOCTH duration 3 us), 1/duty factor 500, wavelength
wavelength [4]	500 cm	TOKe aHoAa B umnynbce 2,1 A, AnnMTensHOCTH duration 3 us), 1/duty factor 500, wavelength
Interelectrode capacitance, pF [1]	14 pF	AnvHe BonHbl 14—14.,5 cm), kBT, He menea 1,5 Interelectrode capacitance, pF:
Interelectrode capacitance, pF [2]	-14 pF	AnvHe BonHbl 14—14.,5 cm), kBT, He menea 1,5 Interelectrode capacitance, pF:
Interelectrode capacitance, pF [3]	5 pF	AnvHe BonHbl 14—14.,5 cm), kBT, He menea 1,5 Interelectrode capacitance, pF:
Interelectrode capacitance, pF [4]	15 pF	AnvHe BonHbl 14—14.,5 cm), kBT, He menea 1,5 Interelectrode capacitance, pF:
input	3.5	MexanekTpogHble eMKOCTH, Nd: input 3.5
voltage, kV	28 kV	Hawb6onbluee Hanps>xeHue aHoga Peak anode voltage, kV 28

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
anode L	12	PaccevBaemas HaMb0nbLLAasi MOWHOCTb, BT: anode L 12
grid [1]	12	BHOAOM v e e 12 grid . . . 0.5
grid [2]	0.5	BHOAOM v e e 12 grid . . . 0.5
current, A o	5 A	CETKOWM v v ot s 0,5 Peak anode current, A o
temperature, °C [1]	25 C	aHOAA BUMMYMBCE o o ... 2,5 Envelope temperature, °C 200
temperature, °C [2]	200 C	aHOAA BUMMYMBCE o o ... 2,5 Envelope temperature, °C 200
frequency, MHz [1]	200 MHz	Haun6onblasn TemnepaTypa obonoqku, °C 200 Operating frequency, MHz 2,100
frequency, MHz [2]	2100 MHz	Haun6onblasn TemnepaTypa obonoqku, °C 200 Operating frequency, MHz 2,100
pulse duration, us,atmost [1]	15 us	Haunbornblwee BpeMs FOTOBHOCTW, C 15 Maximum pulse duration, us,atmost 3
pulse duration, us,atmost [2]	3 us	Haunbornblwee BpeMs FOTOBHOCTW, C 15 Maximum pulse duration, us,atmost 3
Hawbonblas paboyaa vactota, My [1]	2100	Hawbonblas paboyaa vactota, My 2100 Minimum 1/duty factor, atleast 400
Hawbonblas paboyaa vactota, My [2]	1	Hawbonblas paboyaa vactota, My 2100 Minimum 1/duty factor, atleast 400
Hawbonblas paboyaa vactota, My [3]	400	Hawbonblas paboyaa vactota, My 2100 Minimum 1/duty factor, atleast 400
voltage, kV	2.5 kV	Hanpsxenue aHoga B umnynbce, kB Peak anode voltage, kV 2.5
current, A oL L [1]	21 A	Tok aHoga B umnynbce, A 2,1 Peak anode current, A oL L 2.1
current, A oL L [2]	2.1 A	Tok aHoga B umnynbce, A 2,1 Peak anode current, A oL L 2.1
Wavelength, cm, atleast TP	14 cm	[nvHa BonHbl, CM, HE MEHEE Wavelength, cm, atleast TP 14
frequency [1]	4 Hz	4 L4 U; = 6.3 V; T = 1 us; frequency 2,000 imp/s

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
frequency [2]	6.3 Hz	4 L4 U; = 6.3 V; T = 1 us; frequency 2,000 imp/s
frequency [3]	1 Hz	4 L4 U; = 6.3 V; T = 1 us; frequency 2,000 imp/s
frequency [4]	2000 Hz	4 L4 U; = 6.3 V; T = 1 us; frequency 2,000 imp/s
Pulsed Operation [1]	500	J 500 1000 00 2000 7500 Averaged Anode-Grid Characteristic Curves in Pulsed Operation:
Pulsed Operation [2]	1000	J 500 1000 00 2000 7500 Averaged Anode-Grid Characteristic Curves in Pulsed Operation:
Pulsed Operation [3]	0	J 500 1000 00 2000 7500 Averaged Anode-Grid Characteristic Curves in Pulsed Operation:
Pulsed Operation [4]	2000	J 500 1000 00 2000 7500 Averaged Anode-Grid Characteristic Curves in Pulsed Operation:
Pulsed Operation [5]	7500	J 500 1000 00 2000 7500 Averaged Anode-Grid Characteristic Curves in Pulsed Operation:
frequency [1]	14 Hz	(/fl, 14 U; = 6.3 V; 7 = 1 us; frequency 2,000 imp/s 40 20 0 20 4060 80 UgV
frequency [2]	6.3 Hz	(/fl, 14 U; = 6.3 V; 7 = 1 us; frequency 2,000 imp/s 40 20 0 20 4060 80 UgV
frequency [3]	7 Hz	(/fl, 14 U; = 6.3 V; 7 = 1 us; frequency 2,000 imp/s 40 20 0 20 4060 80 UgV
frequency [4]	1 Hz	(/fl, 14 U; = 6.3 V; 7 = 1 us; frequency 2,000 imp/s 40 20 0 20 4060 80 UgV
frequency [5]	2000 Hz	(/fl, 14 U; = 6.3 V; 7 = 1 us; frequency 2,000 imp/s 40 20 0 20 4060 80 UgV
frequency [6]	40 Hz	(/fl, 14 U; = 6.3 V; 7 = 1 us; frequency 2,000 imp/s 40 20 0 20 4060 80 UgV
frequency [7]	20 Hz	(/fl, 14 U; = 6.3 V; 7 = 1 us; frequency 2,000 imp/s 40 20 0 20 4060 80 UgV
frequency [8]	0 Hz	(/fl, 14 U; = 6.3 V; 7 = 1 us; frequency 2,000 imp/s 40 20 0 20 4060 80 UgV
frequency [9]	20 Hz	(/fl, 14 U; = 6.3 V; 7 = 1 us; frequency 2,000 imp/s 40 20 0 20 4060 80 UgV
frequency [10]	4060 Hz	(/fl, 14 U; = 6.3 V; 7 = 1 us; frequency 2,000 imp/s 40 20 0 20 4060 80 UgV
frequency [11]	80 Hz	(/fl, 14 U; = 6.3 V; 7 = 1 us; frequency 2,000 imp/s 40 20 0 20 4060 80 UgV
Voltage: U; =	6.3 W	Output Power versus Anode Voltage: U; = 6.3V i

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage: $U_y =$	6.3 V	Anode Voltage: $U_y = 6.3V$ g5 .