

ELECTRONIC TUBE REFERENCE

7F71RA

Power - Tetrode (NOT beam) (over 1000V 100W) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
TETRODE

Forced-air-cooled VHF power tetrode for television and FM transmitters. Rugged coaxial ceramic-metal construction, high transconductance, and long-life design support professional broadcast service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	4 V / 110 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Tetrode	
TRANSCONDUCTANCE	0.072 S
AMPLIFICATION FACTOR	10.5
MAXIMUM PLATE VOLTAGE	5080 V
MAXIMUM PLATE DISSIPATION	2900 W
Published maximum ratings and characteristics audited; remaining numeric data retained densely in parameter table.	

The 7F71RA is a forced-air-cooled VHF power tetrode for television and FM transmitters, with rugged coaxial ceramic-to-metal construction, high transconductance, and long-life design.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1971 NEC

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

1971 NEC

Section 1 · Tetrode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
techniques bein; empleyed, the NEC TF7	1	techniques bein; empleyed, the NEC TF71RA has hiesh transconductance essential
Current} [1]	78 A	Current}..... 78 ~2mps,
Current} [2]	2 A	Current}..... 78 ~2mps,
Maximun Startinge Current R R PL	160 A	Maximun Startinge Current R R PL 160 amous.
Transconductance (It= [1]	1.6	Transconductance (It=1.6 BED3.) veeeevecnenconones 72 millimohs
Transconductance (It= [2]	72	Transconductance (It=1.6 BED3.) veeeevecnenconones 72 millimohs
Amrlification Pactor, Grid No [1]	2	Amrlification Pactor, Grid No.2 to Crid Mo.l 10.5
Amrlification Pactor, Grid No [2]	10.5	Amrlification Pactor, Grid No.2 to Crid Mo.l 10.5
Grid No.l to Plate ...veiiiirccerernonasncenne	0.3	Grid No.l to Plate ...veiiiirccerernonasncenne 0.3 uuF
Filarent {o Plate;.....;	0.04	Filarent {o Plate;.....;.... 0.04 uuF
Grid Mool £ [1]	0	Grid Mool £0 F1ARENE «vovnenrnennenenneneen 54 uuF
Grid Mool £ [2]	54	Grid Mool £0 F1ARENE «vovnenrnennenenneneen 54 uuF
Grid No [1]	1	Grid No.1l to Grid N0.2 ceiviviereeorooansonncees 100 ypkF
Grid No [2]	2	Grid No.1l to Grid N0.2 ceiviviereeorooansonncees 100 ypkF

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No [3]	100	Grid No.11 to Grid N0.2 ceiviviereeorooansonnces 100 ypkF
Grid No [1]	2	Grid No.2 to Piate feeserencacotiensanoaaseens 14 puf-
Grid No [2]	14	Grid No.2 to Piate feeserencacotiensanoaaseens 14 puf-
Frequency for Maximum RAatings ceesesesceccesanoacns	250	Frequency for Maximum RAatings ceesesesceccesanoacns 250 NHZ
G : Grid YNn	2	G : Grid YNn.2
Maximum incoming air temperature(	45	Maximum incoming air temperature(..... 45 oC
DC Plate Yoltage e cessacaseestees et etsnnannn	5000	DC Plate Voltage e cessacaseestees et etsnnannn 5,000 volts
DC Crid No [1]	2 V	DC Crid No.2 Voltage;..... 1,000 volts
DC Crid No [2]	1000 V	DC Crid No.2 Voltage;..... 1,000 volts
DC Grid YNo.l Voltage R R TR	-500 V	DC Grid YNo.l Voltage R R TR -500 wvolts
DC Plate CUTTEnl tv.evneseeserereonoroonnns	2.4	DC Plate CUTTEnl tv.evneseeserereonoroonnns 2.4 amps.
Plate Dissination cieieveeseeveeseoeensnnnoans	5.5	Plate Dissination cieieveeseeveeseoeensnnnoans 5.5 k¥
Grid Mo [1]	1	Grid Mo.1 Dissination veveveeeeeeceraneenanns 20 watts
Grid Mo [2]	20	Grid Mo.1 Dissination veveveeeeeeceraneenanns 20 watts
DC Plete Voltage R R KT TR [1]	2520 V	DC Plete Voltage R R KT TR 2,520 3,000 volts
DC Plete Voltage R R KT TR [2]	3000 V	DC Plete Voltage R R KT TR 2,520 3,000 volts
PC Grid [1]	0.2	PC Grid 0.2 Voltasme coiviivrnnennnnnnns 5C0 500 volts
PC Grid [2]	5	PC Grid 0.2 Voltasme coiviivrnnennnnnnns 5C0 500 volts
PC Grid [3]	500	PC Grid 0.2 Voltasme coiviivrnnennnnnnns 5C0 500 volts
Zero Sirnal DC Plate Current ..ovveevse [1]	0 mA	Zero Sirnal DC Plate Current ..ovveevse 0.% 0.5 amus.
Zero Sirnal DC Plate Current ..ovveevse [2]	500 mA	Zero Sirnal DC Plate Current ..ovveevse 0.% 0.5 amus.
DC Crid No	2 A	DC Crid No.2 Current:

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
FrequenCy toieeereaaesaesacasacasassnsas	220	FrequenCy toieeereaaesaesacasacasassnsas 220 FHz
Bandwidth {= [1]	1	Bandwidth {=1 dB) tuiueevroenoeonannsanna 7 4z
Bandwidth {= [2]	7	Bandwidth {=1 dB) tuiueevroenoeonannsanna 7 4z
Bandwidth {= [3]	4	Bandwidth {=1 dB) tuiueevroenoeonannsanna 7 4z
DC Plate Voltage [1]	8 V	DC Plate Voltage 8 0 0 8 00 00 0 &4 000 a0 5,080 volis
DC Plate Voltage [2]	0 V	DC Plate Voltage 8 0 0 8 00 00 0 &4 000 a0 5,080 volis
DC Plate Voltage [3]	0 V	DC Plate Voltage 8 0 0 8 00 00 0 &4 000 a0 5,080 volis
DC Plate Voltage [4]	8 V	DC Plate Voltage 8 0 0 8 00 00 0 &4 000 a0 5,080 volis
DC Plate Voltage [5]	0 V	DC Plate Voltage 8 0 0 8 00 00 0 &4 000 a0 5,080 volis
DC Plate Voltage [6]	0 V	DC Plate Voltage 8 0 0 8 00 00 0 &4 000 a0 5,080 volis
DC Plate Voltage [7]	0 V	DC Plate Voltage 8 0 0 8 00 00 0 &4 000 a0 5,080 volis
DC Plate Voltage [8]	4 V	DC Plate Voltage 8 0 0 8 00 00 0 &4 000 a0 5,080 volis
DC Plate Voltage [9]	0 V	DC Plate Voltage 8 0 0 8 00 00 0 &4 000 a0 5,080 volis
DC Plate Voltage [10]	5080 V	DC Plate Voltage 8 0 0 8 00 00 0 &4 000 a0 5,080 volis
IC Grid %No [1]	2	IC Grid %No.2 Voltare L I I B R B A A A I R Y 1,000 volts
IC Grid %No [2]	1000	IC Grid %No.2 Voltare L I I B R B A A A I R Y 1,000 volts
DC Plate Current .uieeeececeoneeen	1.8 A	DC Plate Current .uieeeececeoneeen 1.8 amps.
\Plate Dissivation soeeeeceee. LR B B A B B I K S0 I B Y	3.5 kW	\Plate Dissivation soeeeeceee. LR B B A B B I K S0 I B Y 3.5 kW
Grid Yo [1]	2 W	Grid Yo.2 Dissipation LU Y B R 50 wvatts
Grid Yo [2]	50 W	Grid Yo.2 Dissipation LU Y B R 50 wvatts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1 Dissipation cveiecvscscsersaossccsnes	20 W	Grid No.1 Dissipation cveiecvscscsersaossccsnes 20 watts
DC Plate Voltage ticeenenonase S [1]	9 V	DC Plate Voltage ticeenenonase S 9 600 s caa s e s volts
DC Plate Voltage ticeenenonase S [2]	600 V	DC Plate Voltage ticeenenonase S 9 600 s caa s e s volts
DC Grid lNo [1]	2	DC Grid lNo.2 Voltage *t e 8 e 460640000 000ae
DC Grid lNo [2]	8	DC Grid lNo.2 Voltage *t e 8 e 460640000 000ae
DC Grid lNo [3]	460640000	DC Grid lNo.2 Voltage *t e 8 e 460640000 000ae
DC Grid lNo [4]	0	DC Grid lNo.2 Voltage *t e 8 e 460640000 000ae
DC Grid Ho.1 Voltame ocev.n.. ¢« oo	-150	DC Grid Ho.1 Voltame ocev.n.. ¢« oo -150 volts
Peak RF Grid lNo.1 Voltage	185 V	Peak RF Grid lNo.1 Voltage 185 volts
DC Plate Current .veiiieiniiaivenerononnanene	1.3 A	. DC Plate Current .veiiieiniiaivenerononnanene 1.3 amps.
DC Crid YMo [1]	2 A	DC Crid YMo.2 Current ...civciconaeenn aeetaoane 70 nA
DC Crid YMo [2]	70 A	DC Crid YMo.2 Current ...civciconaeenn aeetaoane 70 nA
DC Grid No [1]	1 A	DC Grid No.11 Current .eceieeeevoasnroasnnnsons 85 mA
DC Grid No [2]	85 A	DC Grid No.11 Current .eceieeeevoasnroasnnnsons 85 mA
Driving Power (anprox.)in evacseanene	16 W	Driving Power (anprox.)in evacseanene 16 watts
Plate Power Outvut (AnDroX.) eeverevecenooons	3.1 kW	Plate Power Outvut (AnDroX.) eeverevecenooons 3.1 kW
MAXIWMUM ALLCWARLT TEMPERATURE RI3E	1	MAXIWMUM ALLCWARLT TEMPERATURE RI3E 1
FILAMENT VOLTAGE (Ef) =	4 V	FILAMENT VOLTAGE (Ef) = 4 VOLTS. AC
GRID NC [1]	2 V	GRID NC.2 VOLTAGE (Ec2) = 500 VOLTS. DC
GRID NC [2]	500 V	GRID NC.2 VOLTAGE (Ec2) = 500 VOLTS. DC
GRID K0	1	GRID K0.1 VOLTAGK (Ec;) IN VOLTS
FILAKENT VOLTAGE (Ef) =	4 V	FILAKENT VOLTAGE (Ef) = 4 VOLTS. AC

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
CRID R0 [1]	2 V	CRID RO.2 VOLTAGE Bcp) = 600 VOLTO. DC
CRID R0 [2]	600 V	CRID RO.2 VOLTAGE Bcp) = 600 VOLTO. DC
GRID N0	1	GRID N0.1 VOLTAGH]

TUBE TINKER

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