

9T40

Power - Triode (over 1000V 100W) electronic tube

Very-high-power vapor-cooled triode for medium- and short-wave broadcasting, modulation, oscillation, and industrial heating. Rated for approximately 150 kW plate dissipation and 15 kV plate operation for enormous continuous RF power.

GENERAL CHARACTERISTICS

BASE DESIGNATION	–	BASE PINS	–
NOMINAL HEATER	18 V / –	PARALLEL HEATER	– / –
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Triode	
TRANSCONDUCTANCE	0.08 S
AMPLIFICATION FACTOR	40
MAXIMUM PLATE VOLTAGE	15000 V
MAXIMUM PLATE DISSIPATION	150000 W
MAXIMUM CATHODE CURRENT	18 A
Published maximum ratings and characteristics audited; remaining numeric data retained densely in parameter table.	

The 9T40 is a high-power vapor-cooled triode for amplifier, modulator, and oscillator service in medium- and short-wave broadcast transmitters and industrial-heating equipment.

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 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Kalimun starting current LN BN BE B B B RE BF I I R I I I Y I B Y B O)	1 A	Kalimun starting current LN BN BE B B B RE BF I I R I I I Y I B Y B O) 1 ampls
Transconductance ([1]	8	Transconductance (8t Ib=5 AMPB.) eeveocaceasscoosvececonnens 80 milli-
Transconductance ([2]	5	Transconductance (8t Ib=5 AMPB.) eeveocaceasscoosvececonnens 80 milli-
Transconductance ([3]	80	Transconductance (8t Ib=5 AMPB.) eeveocaceasscoosvececonnens 80 milli-
Grid to Plate ® [1]	9	Grid to Plate ® 9 & 0.0 6000 82008 0t 000 0P O PSSO SN S AL PO b s 00 loo uuF
Grid to Plate ® [2]	0	Grid to Plate ® 9 & 0.0 6000 82008 0t 000 0P O PSSO SN S AL PO b s 00 loo uuF
Grid to Plate ® [3]	6000	Grid to Plate ® 9 & 0.0 6000 82008 0t 000 0P O PSSO SN S AL PO b s 00 loo uuF
Grid to Plate ® [4]	82008	Grid to Plate ® 9 & 0.0 6000 82008 0t 000 0P O PSSO SN S AL PO b s 00 loo uuF
Grid to Plate ® [5]	0	Grid to Plate ® 9 & 0.0 6000 82008 0t 000 0P O PSSO SN S AL PO b s 00 loo uuF
Grid to Plate ® [6]	0	Grid to Plate ® 9 & 0.0 6000 82008 0t 000 0P O PSSO SN S AL PO b s 00 loo uuF
Grid to Plate ® [7]	0	Grid to Plate ® 9 & 0.0 6000 82008 0t 000 0P O PSSO SN S AL PO b s 00 loo uuF
Grid to Filament B B BB Y B B IR B I N I I BN B NN BB PR Y B RE I Y Y O RE Y R	180	Grid to Filament B B BB Y B B IR B I N I I BN B NN BB PR Y B RE I Y Y O RE Y R 180 uLLP
Plate t0 Filament ¢ [1]	8	Plate t0 Filament ¢ 8 608 000000000008 080000000000ssLLIES '5 u'm '
Plate t0 Filament ¢ [2]	608	Plate t0 Filament ¢ 8 608 000000000008 080000000000ssLLIES '5 u'm '
Plate t0 Filament ¢ [3]	8	Plate t0 Filament ¢ 8 608 000000000008 080000000000ssLLIES '5 u'm '
Plate t0 Filament ¢ [4]	800000000000	Plate t0 Filament ¢ 8 608 000000000008 080000000000ssLLIES '5 u'm '
Plate t0 Filament ¢ [5]	5	Plate t0 Filament ¢ 8 608 000000000008 080000000000ssLLIES '5 u'm '
Maximum glass temperature ceeevcecerancea	180	Maximum glass temperature ceeevcecerancea 180 ¢
Ma.imum seal temperature ceceicececencreceacons	165	Ma.imum seal temperature ceceicececencreceacons 165 oC
DC Plate V0ltage ..oierecernc0c0rraccnosc0ceceoss0csannnes	15000 V	DC Plate V0ltage ..oierecernc0c0rraccnosc0ceceoss0csannnes 15000
Max.-Sienal DC Plate Current (Note [1]	3 A	Max.-Sienal DC Plate Current (Note 3): 18
Max.-Sienal DC Plate Current (Note [2]	18 A	Max.-Sienal DC Plate Current (Note 3): 18
Max.-Signal Fiате Input (Note [1]	3	Max.-Signal Fiате Input (Note 3) vuvieerieneonecoonnconens 270
Max.-Signal Fiате Input (Note [2]	270	Max.-Signal Fiате Input (Note 3) vuvieerieneonecoonnconens 270
Plate Dissiration (Note [1]	3	Plate Dissiration (Note 3) tuvieveereennoneecennenenncnans 150
Plate Dissiration (Note [2]	150	Plate Dissiration (Note 3) tuvieveereennoneecennenenncnans 150
DC Grid Voltawe ..vieeeeeessceconsc0ccesassessccnnne [1]	-300	DC Grid Voltawe ..vieeeeeessceconsc0ccesassessccnnne -300 340 volis

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC Grid Voltage ..viiiiieessceoncsccesassessccnnne [2]	340	DC Grid Voltage ..viiiiieessceoncsccesassessccnnne -300 340 volts
Peak AF Plate to Plate Voltage .ceevvecesecscceocnne [1]	19200 V	Peak AF Plate to Plate Voltage .ceevvecesecscceocnne 19200 22400 Volts
Peak AF Plate to Plate Voltage .ceevvecesecscceocnne [2]	22400 V	Peak AF Plate to Plate Voltage .ceevvecesecscceocnne 19200 22400 Volts
Zero-Signal DC Plate Current R R R [1]	2 A	Zero-Signal DC Plate Current R R R 2
Zero-Signal DC Plate Current R R R [2]	2 A	Zero-Signal DC Plate Current R R R 2
Max [1]	-3 A	Max.-Signal DC Plate Current ceceeccecccccncs 22 30 anpa.,
Max [2]	22 A	Max.-Signal DC Plate Current ceceeccecccccncs 22 30 anpa.,
Max [3]	30 A	Max.-Signal DC Plate Current ceceeccecccccncs 22 30 anpa.,
Max [1]	-3 A	Max.-Signal D Grid Current ocscecesocecoscsesa 1.72 1.24 amps.
Max [2]	1.72 A	Max.-Signal D Grid Current ocscecesocecoscsesa 1.72 1.24 amps.
Max [3]	1.24 A	Max.-Signal D Grid Current ocscecesocecoscsesa 1.72 1.24 amps.
Effective Load Resistance, Ilate to Plate [1]	784	Effective Load Resistance, Ilate to Plate 784 896 ohms
Effective Load Resistance, Ilate to Plate [2]	896	Effective Load Resistance, Ilate to Plate 784 896 ohms
Max.-Signal Power Outout (APTr0Xe) ceeeeeeeescenes [1]	234 W	Max.-Signal Power Outout (APTr0Xe) ceeeeeeeescenes 234 273 kv
Max.-Signal Power Outout (APTr0Xe) ceeeeeeeescenes [2]	273 W	Max.-Signal Power Outout (APTr0Xe) ceeeeeeeescenes 234 273 kv
Note	3	Note 3, Averaged over any audio-frequency cycle of sine-wave form.
DC Pl&te Voltage LR N R NI AR I I I A A I LI A A A A I I B [1]	2 V	DC Pl&te Voltage LR N R NI AR I I I A A I LI A A A A I I B 2 L Y 'Y 12000 volts
DC Pl&te Voltage LR N R NI AR I I I A A I LI A A A A I I B [2]	12000 V	DC Pl&te Voltage LR N R NI AR I I I A A I LI A A A A I I B 2 L Y 'Y 12000 volts
DC Grid V0thge .O.C..O.l...'......'...'%....l;,'.'l.'.. ~	-1500	DC Grid V0thge .O.C..O.l...'......'...'%....l;,'.'l.'.. ~-1500 volta
DC Plate Current [1]	6 A	DC Plate Current 6 0 05 000002 e0 00006000000 LEOLRNLOPONSILILEOSISIOEDILIDNOPLS 16 amps.
DC Plate Current [2]	0 mA	DC Plate Current 6 0 05 000002 e0 00006000000 LEOLRNLOPONSILILEOSISIOEDILIDNOPLS 16 amps.
DC Plate Current [3]	5 A	DC Plate Current 6 0 05 000002 e0 00006000000 LEOLRNLOPONSILILEOSISIOEDILIDNOPLS 16 amps.
DC Plate Current [4]	2 A	DC Plate Current 6 0 05 000002 e0 00006000000 LEOLRNLOPONSILILEOSISIOEDILIDNOPLS 16 amps.
DC Plate Current [5]	6000000 A	DC Plate Current 6 0 05 000002 e0 00006000000 LEOLRNLOPONSILILEOSISIOEDILIDNOPLS 16 amps.
DC Plate Current [6]	16 A	DC Plate Current 6 0 05 000002 e0 00006000000 LEOLRNLOPONSILILEOSISIOEDILIDNOPLS 16 amps.
nC Grid current S5 [1]	90000200000 A	nC Grid current S5 0090000200000 000000000000000a000s000v80e 4.5 aups.
nC Grid current S5 [2]	0 mA	nC Grid current S5 0090000200000 000000000000000a000s000v80e 4.5 aups.
nC Grid current S5 [3]	0 mA	nC Grid current S5 0090000200000 000000000000000a000s000v80e 4.5 aups.
nC Grid current S5 [4]	0 mA	nC Grid current S5 0090000200000 000000000000000a000s000v80e 4.5 aups.
nC Grid current S5 [5]	0 mA	nC Grid current S5 0090000200000 000000000000000a000s000v80e 4.5 aups.
nC Grid current S5 [6]	4.5 A	nC Grid current S5 0090000200000 000000000000000a000s000v80e 4.5 aups.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Input [1]	600	Plate Input 0600 008 0P OPOIRSPLEIOEPONQEPOESENISIOGLEOEANSSIEBROEOEIEDPDPEOETS 190 k¥
Plate Input [2]	8	Plate Input 0600 008 0P OPOIRSPLEIOEPONQEPOESENISIOGLEOEANSSIEBROEOEIEDPDPEOETS 190 k¥
Plate Input [3]	0	Plate Input 0600 008 0P OPOIRSPLEIOEPONQEPOESENISIOGLEOEANSSIEBROEOEIEDPDPEOETS 190 k¥
Plate Input [4]	190	Plate Input 0600 008 0P OPOIRSPLEIOEPONQEPOESENISIOGLEOEANSSIEBROEOEIEDPDPEOETS 190 k¥
Grid DiSSipatiOn [1]	0 kW	Grid DiSSipatiOn 0 06000000080000 5000000 SPOOELITIOGISHIOEISIOEIEDNDNES kW
Grid DiSSipatiOn [2]	600000080000 kW	Grid DiSSipatiOn 0 06000000080000 5000000 SPOOELITIOGISHIOEISIOEIEDNDNES kW
Grid DiSSipatiOn [3]	5000000 kW	Grid DiSSipatiOn 0 06000000080000 5000000 SPOOELITIOGISHIOEISIOEIEDNDNES kW
DC Plate Voltage cceeceseioroorsssscoassnnen [1]	10000 V	DC Plate Voltage cceeceseioroorsssscoassnnen 10000 10000 12000 vlts
DC Plate Voltage cceeceseioroorsssscoassnnen [2]	10000 V	DC Plate Voltage cceeceseioroorsssscoassnnen 10000 10000 12000 vlts
DC Plate Voltage cceeceseioroorsssscoassnnen [3]	12000 V	DC Plate Voltage cceeceseioroorsssscoassnnen 10000 10000 12000 vlts
DC Grid VOltagE S0 [1]	20000000 V	DC Grid Voltage S0 0020000000tV PRCONIOIBIOEOIEPLPTOCOE -530 "530 ~720
DC Grid VOltagE S0 [2]	-530 V	DC Grid Voltage S0 0020000000tV PRCONIOIBIOEOIEPLPTOCOE -530 "530 ~720
DC Grid VOltagE S0 [3]	530 V	DC Grid Voltage S0 0020000000tV PRCONIOIBIOEOIEPLPTOCOE -530 "530 ~720
DC Grid VOltagE S0 [4]	720 V	DC Grid Voltage S0 0020000000tV PRCONIOIBIOEOIEPLPTOCOE -530 "530 ~720
Peak RF Grid Voltage icevsvcccnccsnnes [1]	380 V	Peak RF Grid Voltage icevsvcccnccsnnes 380 1010
Peak RF Grid Voltage icevsvcccnccsnnes [2]	1010 V	Peak RF Grid Voltage icevsvcccnccsnnes 380 1010
Dc Pl&te Current LACRE I AR SRS A SR RN BB BT B Y S B Y) [1]	10 A	Dc Pl&te Current LACRE I AR SRS A SR RN BB BT B Y S B Y) 10-4 13
Dc Pl&te Current LACRE I AR SRS A SR RN BB BT B Y S B Y) [2]	-4 A	Dc Pl&te Current LACRE I AR SRS A SR RN BB BT B Y S B Y) 10-4 13
Dc Pl&te Current LACRE I AR SRS A SR RN BB BT B Y S B Y) [3]	13 A	Dc Pl&te Current LACRE I AR SRS A SR RN BB BT B Y S B Y) 10-4 13
DC Grid Current {ApDroX.) veececesccacessecs [1]	2.3 A	DC Grid Current {ApDroX.) veececesccacessecs 2.3 3
DC Grid Current {ApDroX.) veececesccacessecs [2]	3 A	DC Grid Current {ApDroX.) veececesccacessecs 2.3 3
DC Plate VOltaGAC ceeerrcenssrccsssonvoncescnensncosasencay	15000	DC Plate VOltaGAC ceeerrcenssrccsssonvoncescnensncosasencay 15000 volts
DC Grid VOltagE +eeeeeescasocosssoecnssassasesasasosssnna	-1500 V	DC Grid VOltagE +eeeeeescasocosssoecnssassasesasasosssnna -1500 volts
DC Plate Current ciiieiiiiceccossosossarecsrsosssrscncenas	20 A	DC Plate Current ciiieiiiiceccossosossarecsrsosssrscncenas . 20 aLNe
bDC Grid Currfint € [1]	5	bDC Grid Currfint € 5 P 3 8 8 000000 L0 LIS EEP et teNITREOCEOODSTY 4.5 aurs.
bDC Grid Currfint € [2]	3	bDC Grid Currfint € 5 P 3 8 8 000000 L0 LIS EEP et teNITREOCEOODSTY 4.5 aurs.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
bDC Grid Currfint € [3]	8	bDC Grid Currfint € 5 P 3 8 8 000000 L0 LIS EEP et teNITREOCEOODSTY 4.5 aurs.
bDC Grid Currfint € [4]	8	bDC Grid Currfint € 5 P 3 8 8 000000 L0 LIS EEP et teNITREOCEOODSTY 4.5 aurs.
bDC Grid Currfint € [5]	0	bDC Grid Currfint € 5 P 3 8 8 000000 L0 LIS EEP et teNITREOCEOODSTY 4.5 aurs.
bDC Grid Currfint € [6]	4.5	bDC Grid Currfint € 5 P 3 8 8 000000 L0 LIS EEP et teNITREOCEOODSTY 4.5 aurs.
Pl&te Input l'.....l.....ll.“ll!l....l>..00-...-...‘0CC	300	Pl&te Input l'.....l.....ll.“ll!l....l>..00-...-...‘0CC 300 k¥
Plate :issi;dtion ® [1]	0 kW	Plate :issi;dtion ® 0 00 0 PPN NELL NI REOEILEINDEIOEILINICSeLPOIY 120 KW
Plate :issi;dtion ® [2]	0 kW	Plate :issi;dtion ® 0 00 0 PPN NELL NI REOEILEINDEIOEILINICSeLPOIY 120 KW
Plate :issi;dtion ® [3]	0 kW	Plate :issi;dtion ® 0 00 0 PPN NELL NI REOEILEINDEIOEILINICSeLPOIY 120 KW
Plate :issi;dtion ® [4]	120 kW	Plate :issi;dtion ® 0 00 0 PPN NELL NI REOEILEINDEIOEILINICSeLPOIY 120 KW
Grid Disaip&tion AL [1]	2 kW	Grid Disaip&tion AL 2 B L BN 2R AU IE L BN 2R BN B 2K K Y K AU BN BN BN BC BN B BN B R A BC B BN B RSPy 2.5 kW
Grid Disaip&tion AL [2]	2 kW	Grid Disaip&tion AL 2 B L BN 2R AU IE L BN 2R BN B 2K K Y K AU BN BN BN BC BN B BN B R A BC B BN B RSPy 2.5 kW
Grid Disaip&tion AL [3]	2 kW	Grid Disaip&tion AL 2 B L BN 2R AU IE L BN 2R BN B 2K K Y K AU BN BN BN BC BN B BN B R A BC B BN B RSPy 2.5 kW
Grid Disaip&tion AL [4]	2 kW	Grid Disaip&tion AL 2 B L BN 2R AU IE L BN 2R BN B 2K K Y K AU BN BN BN BC BN B BN B R A BC B BN B RSPy 2.5 kW
Grid Disaip&tion AL [5]	2.5 kW	Grid Disaip&tion AL 2 B L BN 2R AU IE L BN 2R BN B 2K K Y K AU BN BN BN BC BN B BN B R A BC B BN B RSPy 2.5 kW
DC Plate VoltAZ® .ieecccovccracoscossnsacsans [1]	12000	DC Plate VoltAZ® .ieecccovccracoscossnsacsans 12000 15000 volts
DC Plate VoltAZ® .ieecccovccracoscossnsacsans [2]	15000	DC Plate VoltAZ® .ieecccovccracoscossnsacsans 12000 15000 volts