ELECTRONIC TUBE REFERENCE

TV9140

Specialized - Traveling Wave electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
TRAVELINGWAVE

Broadband pulsed traveling-wave amplifier covering approximately 2.8–3.15 GHz, delivering roughly 6–10 kW peak output with permanent-magnet focusing and grid-controlled beam switching.

General characteristics

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

Section ratings

SECTION1 TravelingWave

No fixed ratings recorded.

Published ratings and characteristics audited; detailed numeric data retained in parameter table.

The TV9140 is a broadband pulsed traveling-wave-tube amplifier delivering approximately 6 to 10 kW peak output from 2.8 to 3.15 GHz. It uses permanent-magnet focusing, grid-controlled beam switching, and forced-air cooling.

SOURCE OPERATING CONDITIONS

1972 Thomson CSF

SOURCE PDF

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

1972 THOMSON CSF

Section 1 · TravelingWave

OTHER		
PARAMETER	**PUBLISHED VALUE**	**CONDITION / NOTE**
The TV	**9140**	The TV 9140 is a traveling wave pulse amplifier
which delivers [1]	**6**	which delivers 6 to 10 kilowatts peak output between 2. 8
which delivers [2]	**10**	which delivers 6 to 10 kilowatts peak output between 2. 8
which delivers [3]	**2**	which delivers 6 to 10 kilowatts peak output between 2. 8
which delivers [4]	**8**	which delivers 6 to 10 kilowatts peak output between 2. 8
its	**360 MHz**	its 360 MHz bandwidth without adjustment for change of
Heatercurrent . .. .cvivemeennnnnn [1]	**1.75 A**	Heatercurrent . .. .cvivemeennnnnn. 1.75 - 2.25 A
Heatercurrent . .. .cvivemeennnnnn [2]	**2.25 A**	Heatercurrent . .. .cvivemeennnnnn. 1.75 - 2.25 A
Beam voltage E [1]	**13 kV**	Beam voltage E 13 - 15 kV
Beam voltage E [2]	**15 kV**	Beam voltage E 13 - 15 kV
Output POWer . . .. 't aenan	**6 kW**	Output POWer . . .. 't aenan 6 - - kW
Capacitance grid to all other electrodes	**25 pF**	Capacitance grid to all other electrodes ..... - - 25 pF
Gridbiasvoltage ..... oo	**-100 V**	Gridbiasvoltage ..... oo -100
Heater warmuptime .....c [1]	**0**	Heater warmuptime c.000uus. 3
Heater warmuptime .....c [2]	**3**	Heater warmuptime c.000uus. 3

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heatervoltage . ...¢ [1]	**0 V**	Heatervoltage . ...¢.0oii nnnnnnn 7
Heatervoltage . ...¢ [2]	**7 V**	Heatervoltage . ...¢.0oii nnnnnnn 7
Operatingtemperature . ...cuovveun	**-20**	Operatingtemperature . ...cuovveun -20
Peak output power c	**0 W**	Peak output power . ...c...0....
Peak beamcurrent c0	**0 mA**	Peak beamcurrent c00ue.un
Gridbiasvoltage	**0 V**	Gridbiasvoltage ....000i viinnann,
These operating instructions provide basic information for installing and operating the TV	**9140**	These operating instructions provide basic information for installing and operating the TV 9140 pulsed
Specified heater voltage should be applied for at least	**3 V**	Specified heater voltage should be applied for at least 3 minutes before applying beam voltage. Heater
surge current should never exceed	**5 A**	surge current should never exceed 5 amperes.
applied. An overvoltage relay should be provided to limit the beam voltage to	**16 kV**	applied. An overvoltage relay should be provided to limit the beam voltage to 16 kV dc.
difference between grid and cathode to a maximum of	**500**	difference between grid and cathode to a maximum of 500 volts.
A peak current sensing device should be employed which will limit the peak beam current to	**4 A**	A peak current sensing device should be employed which will limit the peak beam current to 4 A
Published value [1]	**5**	5. 6 cm and should connect to the collector end of the tube.
Published value [2]	**6**	5. 6 cm and should connect to the collector end of the tube.
The R.F. input and output connectors mates with a [1]	**50**	The R.F. input and output connectors mates with a 50 - Ohms coaxial, type "'C"”, UG-573A/U plug or
The R.F. input and output connectors mates with a [2]	**573**	The R.F. input and output connectors mates with a 50 - Ohms coaxial, type "'C"”, UG-573A/U plug or
VSWR of load is no more than [1]	**2**	VSWR of load is no more than 2. 0 : 1 throughout the operating frequency range.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
VSWR of load is no more than [2]	**0**	VSWR of load is no more than 2. 0 : 1 throughout the operating frequency range.
VSWR of load is no more than [3]	**1**	VSWR of load is no more than 2. 0 : 1 throughout the operating frequency range.
Published value	**5 V**	5- APPLICATIONS OF VOLTAGES
— Apply heater voltage and allow at least	**3 V**	— Apply heater voltage and allow at least 3 minutes for cathode warm-up.
Published value [1]	**159**	15,9-22.2’91 RF OUTPUT CONNECTOR
Published value [2]	**-22.2**	15,9-22.2’91 RF OUTPUT CONNECTOR
Published value [3]	**91**	15,9-22.2’91 RF OUTPUT CONNECTOR
RF INPUT CONNECTOR ___ _?E;I [1]	**190**	RF INPUT CONNECTOR ___ _?E;I 19,0-25,4 Z‘: DIA 4 HOLES
RF INPUT CONNECTOR ___ _?E;I [2]	**-254**	RF INPUT CONNECTOR ___ _?E;I 19,0-25,4 Z‘: DIA 4 HOLES
RF INPUT CONNECTOR ___ _?E;I [3]	**4**	RF INPUT CONNECTOR ___ _?E;I 19,0-25,4 Z‘: DIA 4 HOLES

Tube Tinker

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