ELECTRONIC TUBE REFERENCE

6811

Specialized - Klystron electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
KLYSTRON

Long-life single-cavity reflex klystron designed for microwave local-oscillator service over approximately 2.5–5.0 GHz, with CW operation and pulse capability where specified.

General characteristics

BASE DESIGNATION	_	**BASE PINS**	_
NOMINAL HEATER	6.3 V / 600 mA	**PARALLEL HEATER**	_ / _
HEATING	Indirect	**SERIES OPERATION**	Not specified
CATHODE ARRANGEMENT	Separate cathodes	**SECTION CONSTRUCTION**	Similar

Section ratings

SECTION1 Klystron

No fixed ratings recorded.

Published ratings and characteristics audited; additional numerical data retained in TUBE_SECTION_PARAMETER.

The 6811 is a single-cavity reflex klystron microwave oscillator for pulse or continuous-wave operation from approximately 2500 to 5000 MHz. It is intended for transmitting service and as a local oscillator in microwave relay systems, with special attention to long life.

SOURCE OPERATING CONDITIONS

1960 Ericsson

SOURCE PDF

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

1960 ERICSSON

Section 1 · Klystron

OTHER		
PARAMETER	**PUBLISHED VALUE**	**CONDITION / NOTE**
sonator voltage. In pulsed operation with	**800 V**	sonator voltage. In pulsed operation with 800 volts resonator voltage
the control grid should have a negative bias of about	**10**	the control grid should have a negative bias of about 10 volts.
Frequency range with suitable cavities [1]	**2500 MHz**	Frequency range with suitable cavities 2500-5000 Mc/s
Frequency range with suitable cavities [2]	**-5000 MHz**	Frequency range with suitable cavities 2500-5000 Mc/s
Frequency change with temperature	**0.6**	Frequency change with temperature 0.6 Mc/OC
Frequency change with resonator voltage	**0.1 V**	Frequency change with resonator voltage 0.1 Mc /volt
Heater Voltage [1]	**6.3 V**	Heater Voltage 6.3 7% 5% volts
Heater Voltage [2]	**7 V**	Heater Voltage 6.3 7% 5% volts
Heater Voltage [3]	**5 V**	Heater Voltage 6.3 7% 5% volts
Heater Current	**600 mA**	Heater Current 0.6 amps
Control Grid to Cathode	**3**	. Control Grid to Cathode 3 uuF
Control Grid to Resonator	**3**	Control Grid to Resonator 3 uuF
Resonator Voltage DC	**825 V**	Resonator Voltage DC 825 volts
Resonator Current (pulse value)	**100 mA**	Resonator Current (pulse value) 100 milliamps
Control Grid Voltage (pulse value) +	**25 V**	Control Grid Voltage (pulse value) + 25 volts
Control Grid Current {pulse value)	**20 mA**	Control Grid Current {pulse value) 20 milliamps
Reflector Voltage DC Max	**700 V**	Reflector Voltage DC Max. - 700 volts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Average Power Input	**9 W**	Average Power Input 9 watts
Heater - Cathode Voltage	**90 V**	Heater - Cathode Voltage 90 golts
Bulb Temperature	**90**	Bulb Temperature 90 C
Resonator Voltage	**375 V**	Resonator Voltage 375 volts
Resonator Current	**30 mA**	Resonator Current 30 milliamps
Control Grid Voltage +	**12 V**	Control Grid Voltage +12 volts
Control Grid Current	**5 mA**	Control Grid Current 5 milliamps
Reflector Voltage Max	**700 V**	Reflector Voltage Max. - 700 volts
Heater - Cathode Voltage	**90 V**	Heater - Cathode Voltage 90 Xolts
TYPICAL OPERATION. FREQUENCY	**4000 MHz**	TYPICAL OPERATION. FREQUENCY 4000 Mc/s. PULSED OPERATION
Resonator Voltage DC	**800 V**	Resonator Voltage DC 800 volts
Resonator Current (pulse value)	**70 mA**	Resonator Current (pulse value) 70 milliamps .
Control Grid Bias for Cutoff	**-10**	Control Grid Bias for Cutoff -10 volts
Control Grid Voltage (pulse value)	**25 V**	Control Grid Voltage (pulse value) 25 volts
Control Grid Current (pulse value)	**10 mA**	Control Grid Current (pulse value) 10 milliamps
Reflector Transit Mode [1]	**2**	Reflector Transit Mode 2 3/4
Reflector Transit Mode [2]	**3**	Reflector Transit Mode 2 3/4
Reflector Transit Mode [3]	**4**	Reflector Transit Mode 2 3/4
Reflector Voltage	**150 V**	Reflector Voltage - 150 volts .
Power Output (pulse value)	**1 W**	Power Output (pulse value) 1 watt
Electronic Tuning (to half power points)	**30 MHz**	Electronic Tuning (to half power points) 30 Mc/s
Modulation Sensitivity Min	**0.4**	Modulation Sensitivity Min. 0.4 Mc /volt
Control Grid Resistance	**2000 ohm**	Control Grid Resistance 2000 ohms
TYPICAL OPERATION. FREQUENCY	**4000 MHz**	TYPICAL OPERATION. FREQUENCY 4000 Mc/s. CW OPERATION
Resonator Voltage	**350 V**	Resonator Voltage 350 volts
Resonator Current	**22 mA**	Resonator Current 22 milliamps
Control Grid Voltage [1]	**5 V**	Control Grid Voltage 5-10 volts
Control Grid Voltage [2]	**-10 V**	Control Grid Voltage 5-10 volts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Control Grid Current	**3.5 mA**	Control Grid Current 3.5 milliamps
Reflector Transit Mode [1]	**3**	Reflector Transit Mode 3 3/4
Reflector Transit Mode [2]	**3**	Reflector Transit Mode 3 3/4
Reflector Transit Mode [3]	**4**	Reflector Transit Mode 3 3/4
Reflector Voltage	**160 V**	Reflector Voltage - 160 volts
Power Output	**0.09 W**	Power Output 0.09 watt
Electronic Tuning (to half power points)	**20 MHz**	Electronic Tuning (to half power points) 20 Mc/s
Modulation Sensitivity Min,	**0.5**	Modulation Sensitivity Min, 0.5 Mc /volt
Control Grid Resistance	**2000 ohm**	Control Grid Resistance 2000 ohms .
Published value [1]	**1**	1 Control Grid 5 Heater
Published value [2]	**5**	1 Control Grid 5 Heater
Published value [1]	**2**	2 Cathode 6 No Connection
Published value [2]	**6**	2 Cathode 6 No Connection
Published value [1]	**3**	3 Heater 7 Cathode
Published value [2]	**7**	3 Heater 7 Cathode
Published value	**4**	4 Cathode Reflector to be connected to pin on top of tube.
RESONATOR YOLTAGE =	**350**	RESONATOR YOLTAGE = 350 YOLTS
COMTROL GRID VOLTAGE = +	**9 V**	COMTROL GRID VOLTAGE = + 9 VOLTS
RESCNATOR VOLTAGE «	**330 V**	RESCNATOR VOLTAGE « 330 YOLTS
RESONATOR YOLTAGE =	**350**	RESONATOR YOLTAGE = 350 YOLTS ™ Lfi‘c,
CONTROL GRID YOLTAGE = +	**9**	CONTROL GRID YOLTAGE = + 9 YOLTS [P fOg »
AESONATOR VOLTAGE =	**350 V**	AESONATOR VOLTAGE = 350 VOLTS
FREQUENCY	**4700 MHz**	FREQUENCY 4700 Mc/s
RESONATOR VOLTAGE =	**350 V**	RESONATOR VOLTAGE = 350 VOLTS AT \
FREQUENCY	**4700**	FREQUENCY 4700 Me/s
Published value [1]	**0.2 V**	0.2 RESONATOR VOLTAGE « 800 VOLTS
Published value [2]	**800 V**	0.2 RESONATOR VOLTAGE « 800 VOLTS
RESONATOR VOLTAGE =	**800 V**	RESONATOR VOLTAGE = 800 VOLTS L1
|| coNTROL GRID VOLTAGE = +	**16 V**	|| coNTROL GRID VOLTAGE = + 16 VOLTS P
Published value [1]	**1000 V**	. 1000 RESONATOR VOLTAGE = 500 VOLTS

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Published value [2]	**500 V**	. 1000 RESONATOR VOLTAGE = 500 VOLTS
CONTROL GRID VOLTAGE = + [1]	**16 V**	CONTROL GRID VOLTAGE = + 16 VOLTS ,4
CONTROL GRID VOLTAGE = + [2]	**4 V**	CONTROL GRID VOLTAGE = + 16 VOLTS ,4
RESONATOR VOLTAGE =	**860 V**	RESONATOR VOLTAGE = 860 YOLTS
CONTROL GRID YOLTAGE = +	**16**	CONTROL GRID YOLTAGE = + 16 VOLTS
RESONATOR VOLTAGE =	**806 V**	RESONATOR VOLTAGE = 806 VOLTS
CONTROL GRID YOLTAGE = »	**16**	CONTROL GRID YOLTAGE = » 16 VOLTS
FREQUENCY {Mc /	**1**	FREQUENCY {Mc /1]
The resonator of the	**6811 V**	The resonator of the 6811 can be either operated at groundpotential with
brought out separately. The heatercathode voltage maynot exceed	**90 V**	brought out separately. The heatercathode voltage maynot exceed 90 volts.
In the	**6811 V**	In the 6811 the control grid is operating at a positive potential. Positive
operation at	**800 V**	operation at 800 volts resonator voltage the grid should have a negative
bias of about	**10 W**	bias of about 10 volts. In pulsed condition the average power input may
not exceed [1]	**9 V**	not exceed 9 watts and at 800 volts resonator voltage the maximum duty
not exceed [2]	**800 V**	not exceed 9 watts and at 800 volts resonator voltage the maximum duty
The cavity of the	**6811**	The cavity of the 6811 is of the external type and the mechanical tuning
to as reflector modes, e.g [1]	**1**	to as reflector modes, e.g. 1 3/4, 2 3/4 and 3 3/4. The curves show
to as reflector modes, e.g [2]	**3**	to as reflector modes, e.g. 1 3/4, 2 3/4 and 3 3/4. The curves show
to as reflector modes, e.g [3]	**4**	to as reflector modes, e.g. 1 3/4, 2 3/4 and 3 3/4. The curves show
to as reflector modes, e.g [4]	**2**	to as reflector modes, e.g. 1 3/4, 2 3/4 and 3 3/4. The curves show
to as reflector modes, e.g [5]	**3**	to as reflector modes, e.g. 1 3/4, 2 3/4 and 3 3/4. The curves show
to as reflector modes, e.g [6]	**4**	to as reflector modes, e.g. 1 3/4, 2 3/4 and 3 3/4. The curves show

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
to as reflector modes, e.g [7]	**3**	to as reflector modes, e.g. 1 3/4, 2 3/4 and 3 3/4. The curves show
to as reflector modes, e.g [8]	**3**	to as reflector modes, e.g. 1 3/4, 2 3/4 and 3 3/4. The curves show
to as reflector modes, e.g [9]	**4**	to as reflector modes, e.g. 1 3/4, 2 3/4 and 3 3/4. The curves show

Tube Tinker

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