



ELECTRONIC TUBE REFERENCE

6SA7GTG

Voltage Radio Detector Converter electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

HEPTODE

GT/G pentagrid converter for combined oscillator and mixer service in superheterodyne receivers. Its multi-grid construction performs both frequency-changing functions within one conventional receiving tube.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	8
NOMINAL HEATER	6.3 V / 300 mA	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Heptode	
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	100 V
MAXIMUM PLATE DISSIPATION	1 W
MAXIMUM SCREEN DISSIPATION	1 W
MAXIMUM CATHODE CURRENT	14 mA
<i>Published promoted values applied where applicable; additional ratings, characteristics, and operating data retained as parameters.</i>	

Heptode vacuum tube for receiving, television, RF, audio, or power-amplifier service. The supplied datasheet was reviewed for heater data, maximum ratings, characteristics, typical operating conditions, capacitances, and application information.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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

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Section 1 · Heptode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage	6.3 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Current	300 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid 83 to Al l Other Et ect codes lR-F Input) 9.5~ – published value 1	83	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid 83 to Al l Other Et ect codes lR-F Input) 9.5~ – published value 2	9.5	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid NI to Al l – published value 1	7	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid NI to Al l – published value 2	8	Published datasheet value; multiple values represent separate source-table limits or conditions.
Electrodes except Cathode	4.4	Published datasheet value; multiple values represent separate source-table limits or conditions.
Cathode h Grid aM5	5	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid 81 to Cathode – published value 1	81	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid 81 to Cathode – published value 2	26	Published datasheet value; multiple values represent separate source-table limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid #I to Cathode 6 Grid #5 – published value 1	6 pF	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid #I to Cathode 6 Grid #5 – published value 2	5 pF	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid #I to Cathode 6 Grid #5 – published value 3	3 pF	Published datasheet value; multiple values represent separate source-table limits or conditions.
Electrodes except Grid k1	5 pF	Published datasheet value; multiple values represent separate source-table limits or conditions.
Cathode and Grid 4'5 to Al 1 Other – published value 1	4	Published datasheet value; multiple values represent separate source-table limits or conditions.
Cathode and Grid 4'5 to Al 1 Other – published value 2	5	Published datasheet value; multiple values represent separate source-table limits or conditions.
El ect codes except Grid 1M1 – published value 1	1 pF	Published datasheet value; multiple values represent separate source-table limits or conditions.
El ect codes except Grid 1M1 – published value 2	14 pF	Published datasheet value; multiple values represent separate source-table limits or conditions.
f6SA7,Shell,Grid #5 – published value 1	5	Published datasheet value; multiple values represent separate source-table limits or conditions.
f6SA7,Shell,Grid #5 – published value 2	8	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 2 -Heater	2	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 3 -Plate	3	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 4 -Grids #2 d #4 – published value 1	4	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 4 -Grids #2 d #4 – published value 2	2	Published datasheet value; multiple values represent separate source-table limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pin 4 -Grids #2 d #4 – published value 3	4	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 5 -Grid #1 – published value 1	5	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 5 -Grid #1 – published value 2	1	Published datasheet value; multiple values represent separate source-table limits or conditions.
Ping 6SA7,Cathode – published value 1	6	Published datasheet value; multiple values represent separate source-table limits or conditions.
Ping 6SA7,Cathode – published value 2	0	Published datasheet value; multiple values represent separate source-table limits or conditions.
6SA7-GT/G,Cathode h	6	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid #5	5	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 7 -Heater	7	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 8 -Grid #3 – published value 1	8	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 8 -Grid #3 – published value 2	3	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid #3 Voltage " – published value 1	3 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid #3 Voltage " – published value 2	0 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Voltage – published value 1	100 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Voltage – published value 2	250 V	Published datasheet value; multiple values represent separate source-table limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage – published value 3	100 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Voltage – published value 4	250 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grids #2 d #4 Volt – published value 1	100 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grids #2 d #4 Volt – published value 2	100 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grids #2 d #4 Volt – published value 3	100 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grids #2 d #4 Volt – published value 4	100 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid #3 (Control) Volt – published value 1	0 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid #3 (Control) Volt – published value 2	0 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid #3 (Control) Volt – published value 3	2 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid #3 (Control) Volt – published value 4	2 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid #1 Resistor – published value 1	20000 ohm	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid #1 Resistor – published value 2	20000 ohm	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid #1 Resistor – published value 3	20000 ohm	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid #1 Resistor – published value 4	20000 ohm	Published datasheet value; multiple values represent separate source-table limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Res. (Approx.) – published value 1	0.5 Mohm	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Res. (Approx.) – published value 2	1 Mohm	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Res. (Approx.) – published value 3	0.5 Mohm	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Res. (Approx.) – published value 4	1 Mohm	Published datasheet value; multiple values represent separate source-table limits or conditions.
Conversion Transcond – published value 1	425	Published datasheet value; multiple values represent separate source-table limits or conditions.
Conversion Transcond – published value 2	450	Published datasheet value; multiple values represent separate source-table limits or conditions.
Conversion Transcond – published value 3	425	Published datasheet value; multiple values represent separate source-table limits or conditions.
Conversion Transcond – published value 4	450	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Current – published value 1	3.3 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Current – published value 2	3.5 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Current – published value 3	3.3 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Current – published value 4	3.5 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grids #2 d #4 Current – published value 1	8.5 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grids #2 d #4 Current – published value 2	8.5 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grids #2 d #4 Current – published value 3	8.5 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grids #2 d #4 Current – published value 4	8.5 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid #1 Current – published value 1	0.5 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid #1 Current – published value 2	0.5 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid #1 Current – published value 3	0.5 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid #1 Current – published value 4	0.5 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Total Cathode Current – published value 1	12.3 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Total Cathode Current – published value 2	12.5 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Total Cathode Current – published value 3	12.3 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Total Cathode Current – published value 4	12.5 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
NOTE: The transconductance between Grid 1 and Grids 2 & 3 to connected	8	Published datasheet value; multiple values represent separate source-table limits or conditions.
following conditions: Grids 1, 3, and Snell at 0 volts; Grids	0 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
with Grid 3 Diode at -35 volts	-35 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
_ PLATE VOLTS=250	250 V	Published datasheet value; multiple values represent separate source-table limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
– GRIDS -N32 S N~4 VOLTS=100 – published value 1	4 V	Published datasheet value; multiple values represent separate source-table limits or conditions.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid JFS to Plate – published value 1	0.13 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid JFS to Plate – published value 2	0.5 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid ~lS to Grid NI – published value 1	0 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid ~lS to Grid NI – published value 2	15 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid ~lS to Grid NI – published value 3	0.4 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid kl to Plate – published value 1	0.06 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid kl to Plate – published value 2	0.2 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Voltage	300 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grids #2 6 #4 Voltage – published value 1	2 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grids #2 6 #4 Voltage – published value 2	6 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grids #2 6 #4 Voltage – published value 3	4 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grids #2 6 #4 Voltage – published value 4	100 V	Published datasheet value; multiple values represent separate source-table limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grids #2 8 #4 Supply Voltage – published value 1	2 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grids #2 8 #4 Supply Voltage – published value 2	8 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grids #2 8 #4 Supply Voltage – published value 3	4 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grids #2 8 #4 Supply Voltage – published value 4	300 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Dissipation	1 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Screen Dissipation	1 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Total Cathode Current	14 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.