7Q7

PENTAGRID CONVERTER

Heater■	Coated Unipotential Cathode		
Voltage	6.3□	a-c or d-c	volts
Current	0.3□□		amp.
Direct Interelectrode Capacitances:○			
Grid #3 to All Other Electrodes & Base Shell (R-F Input)		9.0	μμf
Plate to All Other Electrodes & Base Shell (Mixer Output)		9.0	μμf
Grid #1 to All Other Electrodes & Base Shell		7.0	μμf
Grid #3 to Plate		0.20 max.	μμf
Grid #1 to Grid #3		0.20 max.	μμf
Grid #1 to Plate		0.15 max.	μμf
Grid #1 to All Other Electrodes & Base Shell Except Cathode		5.0	μμf
Grid #1 to Cathode		2.2	μμf
Cathode to All Other Electrodes & Base Shell Except Grid #1		6.0	μμf
Maximum Overall Length		2-25/32"	
Maximum Seated Height		2-1/4"	
Maximum Diameter		1-3/16"	
Bulb		T-9	
Base		Lock-in 8-Pin	
Pin 1 - Heater		Pin 6 - Grid #3	
Pin 2 - Plate		Pin 7 - Cathode	
Pin 3 - Grids #2 & #4		Pin 8 - Heater	
Pin 4 - Grid #1		Plug - Base Shell	
Pin 5 - Grid #5			
Mounting Position	BOTTOM VIEW (8AL)		Any

CONVERTER SERVICE

Plate Voltage		300 max.	volts
Grids #2 & #4 Voltage		100 max.	volts
Grids #2 & #4 Supply Voltage		300 max.	volts
Grid #3 Voltage●		0 min.	volts
Plate & Grids #2 & #4 Dissipation (total)		2.0 max.	watts
Grids #2 & #4 Dissipation		1.0 max.	watt
Total Cathode Current		14 max.	ma.
Characteristics with Separate Excitation:*			
Plate Voltage	100	250	volts
Grids #2 & #4 Voltage	100	100	volts
Grid #3 (Control) Voltage	-2	-2	volts
Grid #5 Voltage	0	0	volts
Grid #1 Resistor	20000	20000	ohms
Plate Resistance	0.5	1	approx. megohm
Conversion Transcond.	525	550	μmhos
Conversion Transcond. with Grid #3 Bias of -35 volts	2	2	approx. μmhos
Plate Current	3.3	3.5	ma.
Grids #2 & #4 Current	8.5	8.5	ma.
Grid #1 Current	0.5	0.5	ma.
Total Cathode Current	12.3	12.5	ma.

■, □, □□, ●, ○, *: See next page.

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(continued from preceding page)

NOTE: The transconductance between Grid #1 and Grids #2 & #4 connected to plate (not oscillating) is approximately 4500 μmhos under the following conditions: Grids #1, #3, and #5 at 0 volts; Grids #2 & #4 and plate at 100 volts.

■ In circuits where the cathode is not directly connected to the heater, the potential difference between heater and cathode should be kept as low as possible.

□ Nominal voltage = 7.0 volts.

□□ Nominal current = 0.32 ampere.

o With shield-can connected to cathode.

● With self-excited oscillator.

* These characteristics correspond very closely to those obtained with zero bias in a self-excited oscillator circuit.

A typical self-excited converter circuit is shown under Type 6SA7.