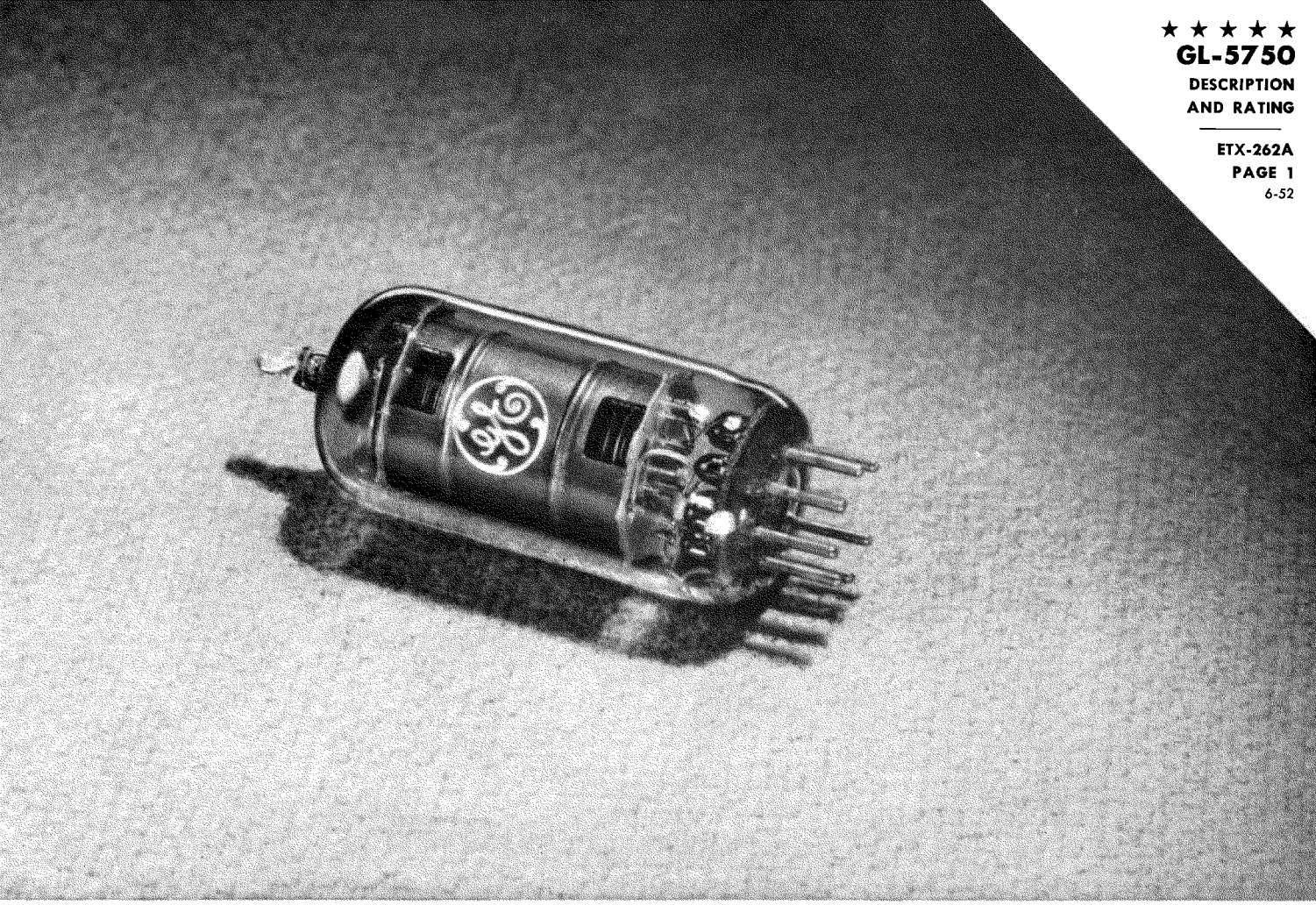


PENTAGRID CONVERTER

DESCRIPTION

The GL-5750 is a miniature pentagrid converter designed for reliable life under conditions of intermittent operation.

TECHNICAL INFORMATION

GENERAL

Electrical Data

Cathode—indirectly heated

Heater voltage (A-C or D-C)	6.3	Volts
Heater current	0.300	Ampere
Direct interelectrode capacitances (without external shield)		
Mixer grid to plate, maximum	0.30	uuf
Mixer grid to oscillator grid, maximum	0.15	uuf
R-f input	7.1	uuf
Oscillator input	5.5	uuf
Mixer output	7.6	uuf
Oscillator grid to cathode	3.0	uuf
Oscillator output	15.0	uuf

Mechanical Data

Mounting position—any
Envelope—T-5½ glass

TECHNICAL INFORMATION (CONT'D)

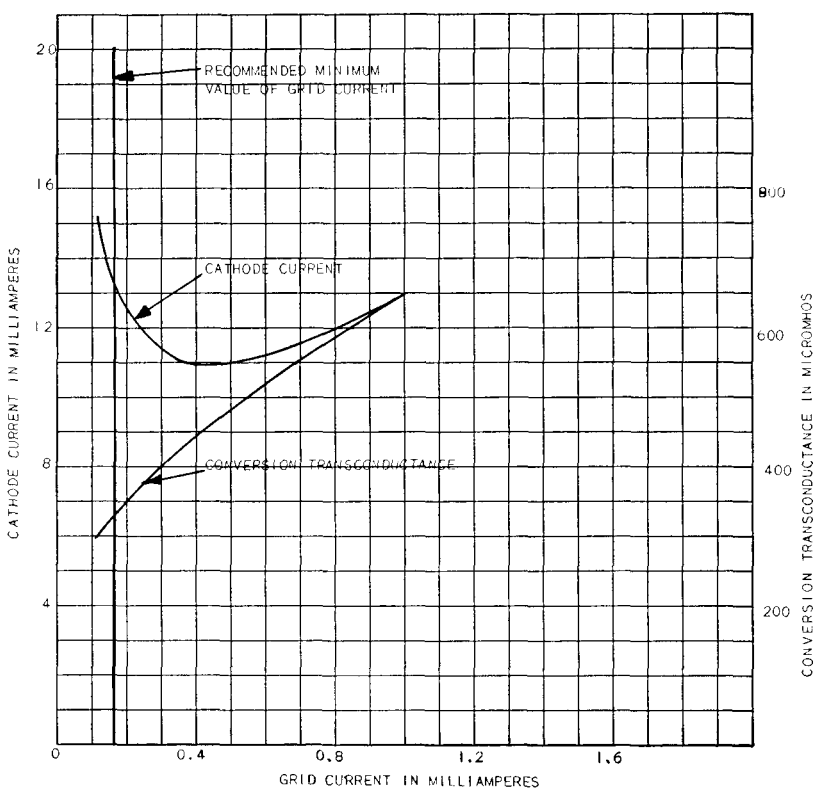
MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

Maximum ratings, design center			
Plate voltage		300	volts
Screen voltage		100	volts
Screen supply voltage		300	volts
Positive grid No. 3 bias voltage		0	volts
Negative grid No. 3 bias voltage		50	volts
Plate dissipation		1.0	watts
Grid No. 2 dissipation		1.0	watts
Total cathode current		14	milliamperes
Heater-cathode voltage		90	volts
Typical operation			
Converter service—separate excitation*			
Plate voltage	100	250	volts
Grid No. 3 voltage	−1.5	−1.5	volts
Screen voltage	100	100	volts
Oscillator grid voltage, rms	10	10	volts
Oscillator grid resistance	20,000	20,000	ohms
Plate resistance, approximate	0.4	1.0	megohms
Oscillator grid current	0.5	0.5	milliamperes
Conversion transconductance	455	475	micromhos
Plate current	2.6	2.6	milliamperes
Screen current	7.5	7.5	milliamperes
Total cathode current	10.6	10.6	milliamperes
Grid No. 3 voltage, $G_c = 10$ umhos	−30	−30	volts
Grid No. 3 voltage, $G_c = 100$ umhos	−6	−6	volts
Oscillator transconductance§	7800	7800	micromhos
Oscillator plate current§	25	25	milliamperes
Oscillator amplification factor§	20	20	

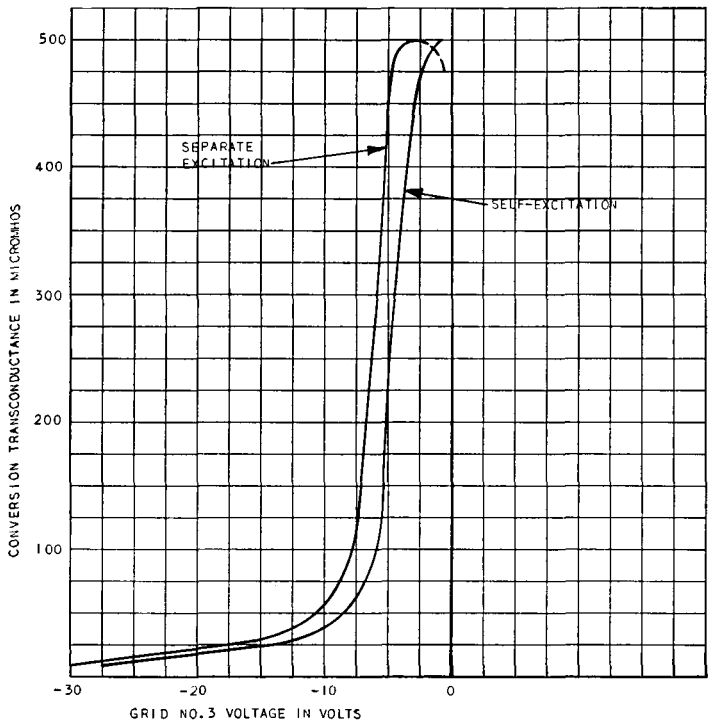
*The characteristics shown with separate excitation correspond very closely to those obtained in a self-excited oscillator circuit operating with zero bias.

§Approximate values with grids number 1 and number 3 at zero volts and with grids number 2 and number 4 connected to plate and operated at 100 volts.

GL-5750
OPERATION CHARACTERISTICS
$E_f = 6.3$ VOLTS, $E_b = 250$ VOLTS
E_{c2} AND $E_{c4} = 100$ VOLTS
$E_{c3} = -1.5$ VOLTS, $R_g = 20{,}000$ OHMS



5750
OPERATION CHARACTERISTICS
E_f = 6.3 VOLTS, E_b = 250 VOLTS
E_{c2} AND E_{c4} = 100 VOLTS
I_c = 0.5 MILLIAMPERE, R_g = 20,000 OHMS



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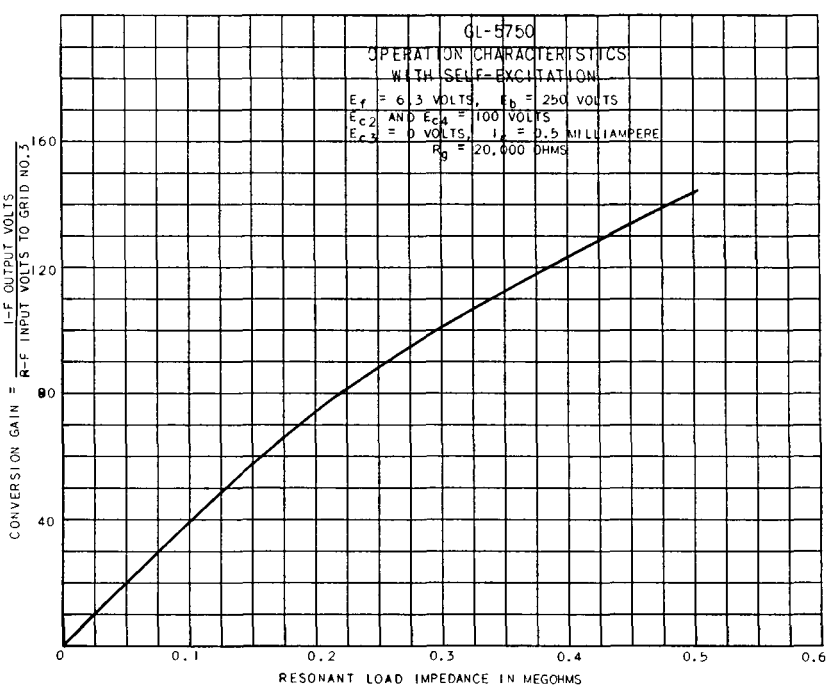
5750
OPERATION CHARACTERISTICS WITH SELF-EXCITATION
E_f = 6.3 VOLTS, E_b = 250 VOLTS
E_{c2} AND E_{c4} = 100 VOLTS
E_{c3} = 0 VOLTS, I_c = 0.5 MILLIAMPERE
R_g = 20,000 OHMS



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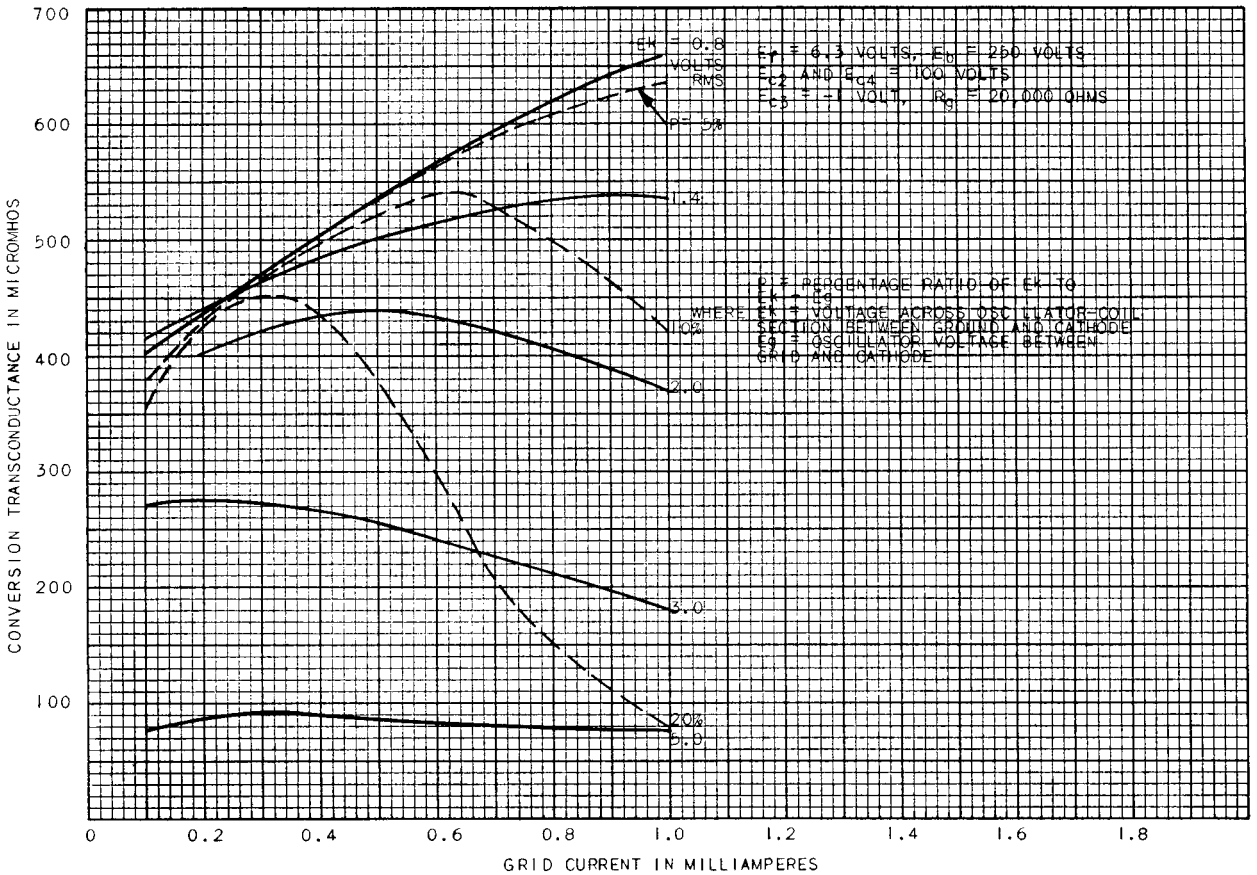
5750
OPERATION CHARACTERISTICS WITH SELF-EXCITATION



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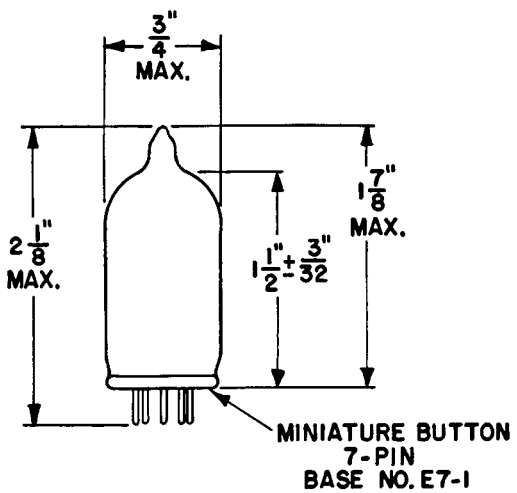
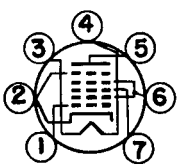
OUTLINE
GL-5750



BASING DIAGRAM



7CH

PIN 1: GRID NO. 1 (OSCILLATOR GRID)
PIN 2: CATHODE AND GRID NO. 5
PIN 3: HEATER
PIN 4: HEATER
PIN 5: PLATE
PIN 6: GRID NO. 2 AND GRID NO. 4 (SCREEN)
PIN 7: GRID NO. 3

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