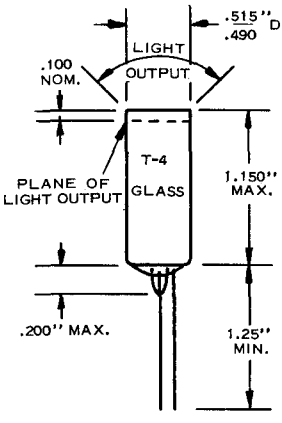
TUNG-SOL

OUTLINE



INDICATOR TRIODE

SUBMINIATURE TYPE

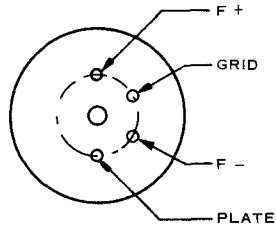
FOR

ELECTRONIC COMPUTER

APPLICATIONS

COATED FILAMENTARY CATHODE

BASE DIAGRAM



BOTTOM VIEW

THE 8569 IS A LONG-LIFE FILAMENTARY HIGH-VACUUM END-VIEW INDICATOR TRIODE IN A T-4 GLASS ENVELOPE. ITS GRID SHAPED PLATE IS COATED WITH A PHOSPHOR WHICH GIVES A BRIGHT BLUE GREEN LIGHT PROPORTIONAL TO PLATE CURRENT. IT IS DESIGNED FOR APPLICATIONS IN ELECTRONIC COMPUTERS, WHERE ITS SMALL SIZE, LOW ENERGY REQUIREMENTS, HIGH SENSITIVITY, AND FREEDOM FROM NOISE MAKE IT VERY USEFUL IN COMBINATION WITH TRANSISTORIZED CIRCUITS.

OPTICAL DATA

LIGHT OUTPUT	SEE TYPICAL OPERATION
SPECTRAL OUTPUT OF PHOSPHOR	SEE CURVE 1
PERSISTANCE CHARACTERISTICS	SEE CURVE 2
LIGHT OUTPUT VS. PLATE VOLTAGE	SEE CURVE 3

NOTE: LIGHT OUTPUT MEASURED BY COMPARISON WITH A TUNGSTEN LAMP OF 2 870°K COLOR TEMPERATURE USING AN S4 PHOTO DEVICE.

ELECTRICAL DATA

FILAMENT CHARACTERISTICS AND RATINGS

AVERAGE CHARACTERISTICS	0.70 VOLTS	35	mA
LIMITS OF APPLIED VOLTAGE - AC OR DC		0.65 – 0.75	VOLTS

MAXIMUM RATINGS

ABSOLUTE MAXIMUM SYSTEM - SEE EIA STANDARD RS-239

PLATE VOLTS	65	VOLTS
POSITIVE GRID VOLTAGE	0	VOLTS
NEGATIVE GRID VOLTAGE	50	VOLTS
PLATE CURRENT	750	μA
GRID CIRCUIT RESISTANCE	1	MEGOHM
MINIMUM GRID CIRCUIT RESISTANCE	0.1	MEGOHM

CONTINUED ON FOLLOWING PAGE

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CONTINUED FROM PRECEDING PAGE

AVERAGE CHARACTERISTICS

FILAMENT DC, NEGATIVE GROUNDED

PLATE VOLTAGE	50	VOLTS
GRID VOLTAGE	0	VOLTS
GRID RESISTOR	100	KOHMS
PLATE CURRENT	380	μA
AMPLIFICATION FACTOR	22	

TYPICAL OPERATION

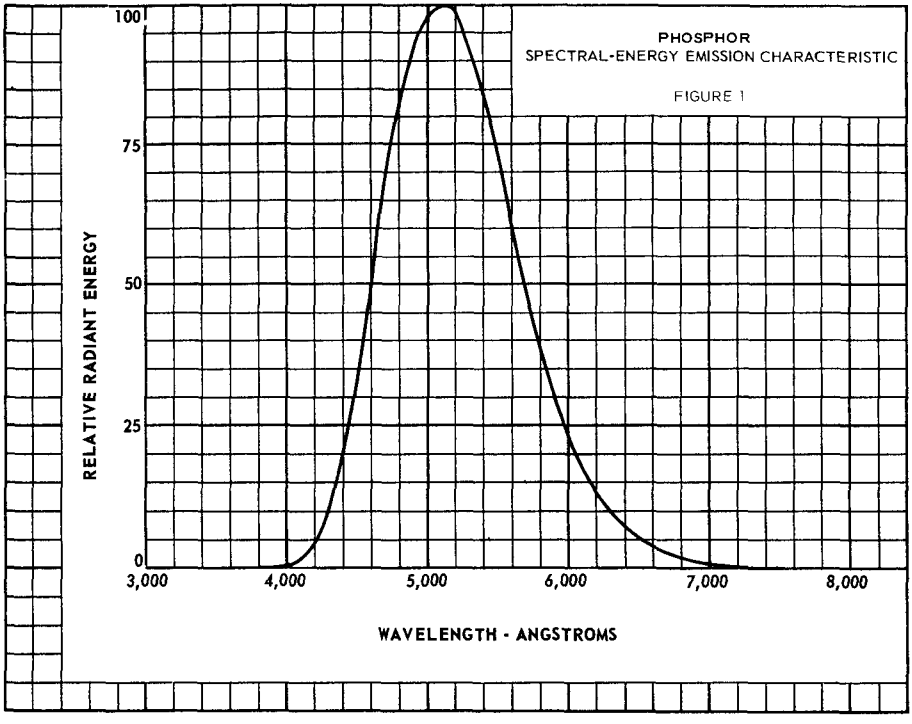
FILAMENT AC, TRANSFORMER CENTER TAP GROUNDED

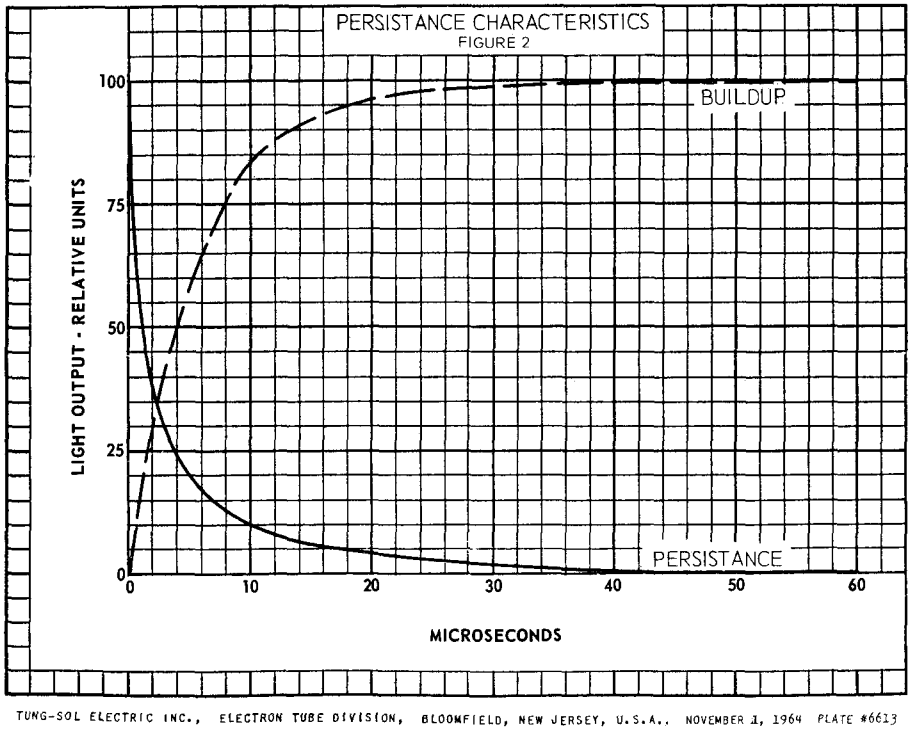
PLATE VOLTAGE	50	VOLTS
GRID RESISTOR	100	KOHMS
WITH GRID VOLTAGE = 0		
PLATE CURRENT	450	μA
LIGHT OUTPUT	5	m CANDLES
WITH GRID VOLTAGE = −3.0 VOLTS		
PLATE CURRENT	<5	μA
LIGHT OUTPUT	NOT VISIBLE	

DIRECT INTERELECTRODE CAPACITANCES

WITHOUT EXTERNAL SHIELD

GRID TO PLATE	1.9	pf
INPUT	1.6	pf
OUTPUT	1.7	pf





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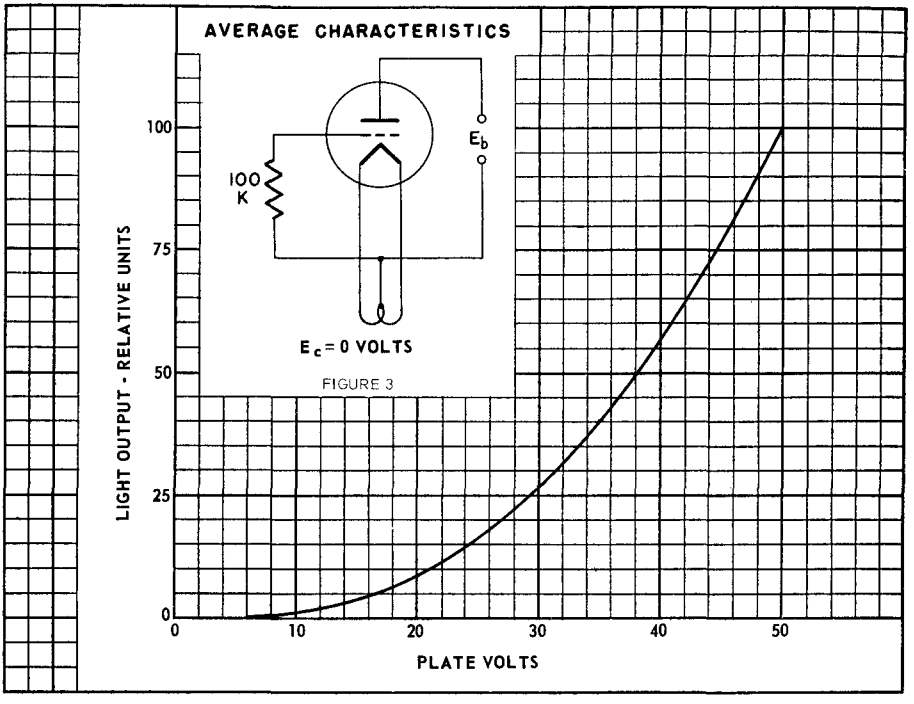
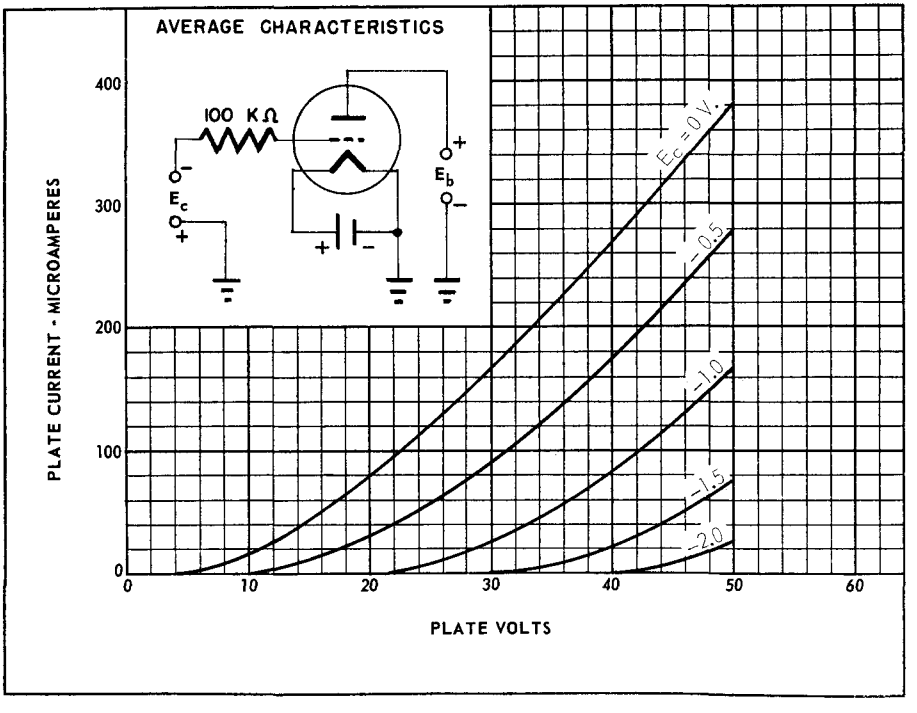
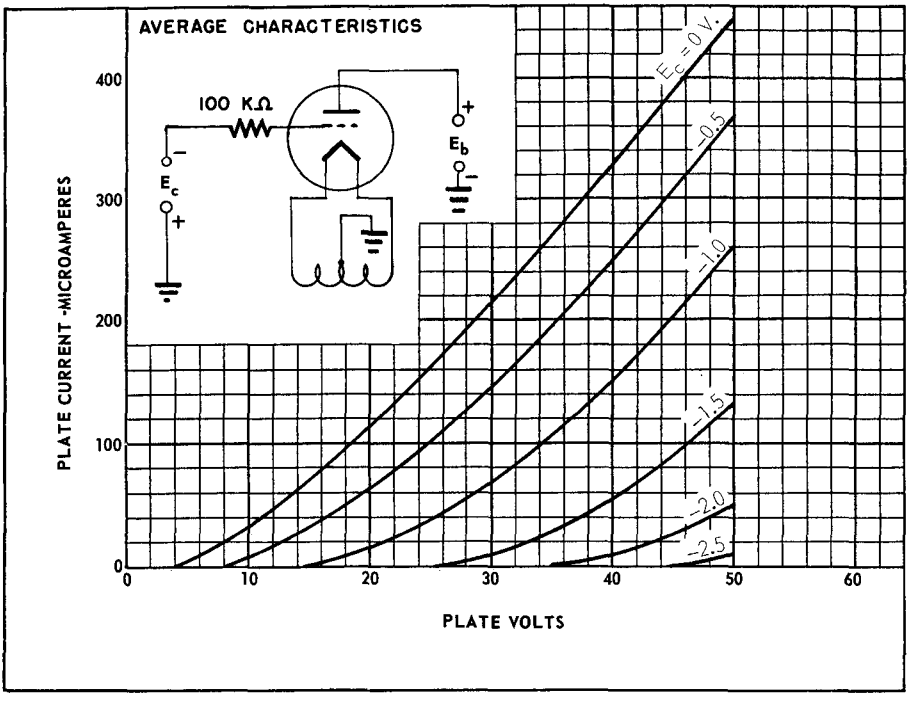

AVERAGE CHARACTERISTICS
100 K
E_b
E_c = 0 VOLTS
LIGHT OUTPUT - RELATIVE UNITS
0
25
50
75
100
0
10
20
30
40
50
PLATE VOLTS

FIGURE 3


AVERAGE CHARACTERISTICS
100 KΩ
E_c
E_b
PLATE CURRENT - MICROAMPERES
0
100
200
300
400
0
10
20
30
40
50
60
PLATE VOLTS
E_{cc} = 0 V.
-0.5
-1.0
-1.5
-2.0



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