

ELECTRONIC TUBE REFERENCE

Z7807

Specialized - Photo Tube electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

CAMERAPICKUP

Low-light image-orthicon camera tube for industrial, military, and scientific television imaging.

GENERAL CHARACTERISTICS

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

SECTION RATINGS

SECTION1 CameraPickup
No fixed ratings recorded. Promoted fields mapped semantically from printed ratings/characteristics headings; pulsed and microwave-specific limits remain in parameter rows when fixed-field semantics are ambiguous.

Low-light-level image orthicon camera tube with magnetic focus and magnetic deflection for industrial, military, and scientific imaging.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1950 General Electric Transmitting Types

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

1950 GENERAL ELECTRIC TRANSMITTING TYPES

Section 1 · CameraPickup

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Focusing Method	Magnetic	—
Deflecting Method	Magnetic	—
Resolution	350 TV lines	At 3e-5 foot-candles photocathode illumination

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum DC Anode Current	30 μ A	—



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1968 General Electric Co

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

1968 GENERAL ELECTRIC CO

Section 1 · CameraPickup

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode—Unipotential Over-allLength. 15.20=	0.25 in	Cathode—Unipotential Over-allLength. 15.20=0.25 Inches
Heater Greatest Bulb Diameter..... 3.00=	0.06 in	Heater Greatest Bulb Diameter..... 3.00=0.06 Inches

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Current. L	600 mA	Current. L 0.6 Amperes Length. 5 Inches
Photocathode —Semi-Transparent Minimum Inside Diameter	2 %	Photocathode —Semi-Transparent Minimum Inside Diameter..... 2%3ϕ Inches
Spectral Response---UV Focusing-Coil Length	10 in	Spectral Response---UV Focusing-Coil Length. 10 Inches
Useful Size, maximum diagonal	1.8 in	Useful Size, maximum diagonal. 1.8 Inches Photocathode Distance Inside
Orientation—Proper orientation is obtained End of Focusing Coil	14 in	Orientation—Proper orientation is obtained End of Focusing Coil. 14 Inches
Photocathode Dynode-No. 3 to Dynode-No. 2 Voltage	350 V	Photocathode Dynode-No. 3 to Dynode-No. 2 Voltage. 350 Volts
Voltage. —	600 V	Voltage. —600 Volts Dynode-No. 4 to Dynode-No. 3 Voltage. 680 Volts
IMlumination. 50 Foot-candles Dynode-No. 5 to Dynode-No. 4 Voltage	350 V	IMlumination. 50 Foot-candles Dynode-No. 5 to Dynode-No. 4 Voltage.350 Volts
Anode Supply Voltage*	1850 V	Anode Supply Voltage*. 1850 Volts Anode to Dynode-No. 5 Voltage. 100 Volts
Grid-No. 1 Voltage Voltage per Multiplier Stage	400 V	Grid-No. 1 Voltage Voltage per Multiplier Stage. 400 Volts
Negative Bias Value	135 V	Negative Bias Value. 135 Volts Target Voltage
Positive Bias Value	0 V	Positive Bias Value. 0 Volts Above Target Cutoff, positive direction.10 Volts
Grid-No. 2 and Dynode-No. 1 Voltage	380 V	Grid-No. 2 and Dynode-No. 1 Voltage. .380 Volts Negative. 10 Volts
Grid-No. 3 Voltage	400 V	Grid-No. 3 Voltage..... 400 Volts Peak Heater-Cathode Voltage
Grid-No. 4 Voltage	300 V	Grid-No. 4 Voltage.. . . . 300 Volts Heater Negative with Respect to
Grid-No. 5 Voltage	150 V	Grid-No. 5 Voltage..... 150 Volts Cathode. 125 Volts
Grid-No. 6 Voltage. —	600 V	Grid-No. 6 Voltage. —600 Volts Heater Positive with Respect to
Dynode-No. 2 to Dynode-No. 1 Voltage	350 V	Dynode-No. 2 to Dynode-No. 1 Voltage.350 Volts Cathode. 10 Volts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Photocathode Voltage, image focus. -400 to - 540 - 400 to -	550 V	Photocathode Voltage, image focus. —400 to — 540 —400 to —550 Volts
Grid-No. 1 Voltage for Picture Cutoff, Beam. -45to -115 -45to -	115 V	Grid-No. 1 Voltage for Picture Cutoff, Beam. —45to —115 —45to —115 Volts
Grid-No. 2 and Dynode-No. 1 Voltage., 300	370 V	Grid-No. 2 and Dynode-No. 1 Voltage., 300 370 Volts
Grid-No. 3 Voltage, multiplier focus\$. 225-330 225	-380 V	Grid-No. 3 Voltage, multiplier focus\$. 225-330 225-380 Volts
Grid-No. 4 Voltage, beam focus. 140-180 140	-250 V	Grid-No. 4 Voltage, beam focus. 140-180 140-250 Volts
Grid-No. 5 Voltage, decelerator. 0- 125 0	-125 V	Grid-No. 5 Voltage, decelerator. 0-125 0-125 Volts
Dynode-No. 2 Voltage. 600	770 V	Dynode-No. 2 Voltage. 600 770 Volts
Dynode-No. 3 Voltage. i 910	1080 V	Dynode-No. 3 Voltage. i 910 1080 Volts
Dynode-No. 4 Voltage. t e 1200	1360 V	Dynode-No. 4 Voltage. t e 1200 1360 Volts
Dynode-No. 5 Voltage. 1490	1610 V	Dynode-No. 5 Voltage. 1490 1610 Volts
Anode Voltage. e 1550	1700 V	Anode Voltage. e 1550 1700 Volts
Target Cutoff VoltageY. -3 to +1 -3to +	1 V	Target Cutoff VoltageY. —3 to +1 —3to +1 Volts
Target Temperature Range. e 15-55 15	-55 C	Target Temperature Range. e 15- 55 15-55 C
5-20 5	-20 V	 5-20 5-20 Volts
¢ The target supply voltage should be adjustable from -3 to +	5 V	¢ The target supply voltage should be adjustable from —3 to +5 volts with blanking voltage off. Maximum target voltage is 410

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
volts above target cutoff. Recommended target voltage is +	2 V	volts above target cutoff. Recommended target voltage is + 2 volts above cutoff. Slight readjustment, usually only a small fraction
focus-coil current of	75 mA	focus-coil current of 75 milliamperes.
Shock: Per specification MIL-E	-5272 C	Shock: Per specification MIL-E-5272C (ASG) Paragraph 4.15.5 except:
Vibration: Per MIL-E	-5272 C	Vibration: Per MIL-E-5272C (ASG) Paragraph 4.7.12 Procedure XII except at operating temperature only. Center
Humidity: Per MIL-E	-5272 C	Humidity: Per MIL-E-5272C (ASG) Paragraph 4.4.1 Procedure 1. Following this test, the interelectrode insulation of
the end pins 5, 6, 7, 8, 9, and 10 each with respect to all other end base pins grounded and with	350 V	the end pins 5, 6, 7, 8, 9, and 10 each with respect to all other end base pins grounded and with 350 volts
(minimum) applied is greater than	500 Ohm	(minimum) applied is greater than 500 ohms.
Operating Temperature for Image End: 25 to	30 C	Operating Temperature for Image End: 25 to 30 C.
Target Raster: Target diameter is	1.4 in	Target Raster: Target diameter is 1.40 inches. For corners of scanning raster just touching target edge raster dimensions
2 7	78061 %	2 7 78061 %6L 7629 S 11 P

CAPACITANCE

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MmaximuIML. t	70 C	MmaximuIML. t 70 C
End of Tube, Target Section, minimum	0 C	End of Tube, Target Section, minimum. 0 C
Target Section	7.5 C	Target Section. 7.5 C

CHARACTERISTIC

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
600 £	5 %	600 £5%G 1548° N
ET-T	16 %	ET-T16%90
T-PINSASE	15.2 %	T-PINSASE 15.20%25 ' '
N MOR *	50 %	N MOR * 50 %0t VoE i -

TUBE TINKER

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