

ELECTRONIC TUBE REFERENCE

Z7806

Specialized - Photo Tube electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

CAMERAPICKUP

Ruggedized low-light image-orthicon camera tube for severe shock and vibration environments.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	6.3 V / 600 mA	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 CameraPickup	
MAXIMUM CATHODE CURRENT	3 mA
<i>Promoted fields mapped semantically from printed ratings/characteristics headings; pulsed and microwave-specific limits remain in parameter rows when fixed-field semantics are ambiguous.</i>	

Ruggedized low-light-level image orthicon camera tube with magnetic focus and deflection for severe shock and vibration environments.



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
LowLightSensitivity	1.5e-7 foot-candle	100 television lines per target inch



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
Current	600 mA	Current. 0.6 Amperes Length . ..5 Inches
Spectral Response—S-20 Focusing-Coil Length	10 in	Spectral Response—S-20 Focusing-Coil Length. 10 Inches
Rectangular Image, 4 by 3 aspect ratio Alignment-Coil Length	12 in	Rectangular Image, 4 by 3 aspect ratio Alignment-Coil Length. 12 Inches

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
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. covvino.. —	600 V	Voltage. covvino.. —600 Volts Dynode-No. 4 to Dynode-No. 3 Voltage. 680 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
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

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
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. i ... 0-125 0	-125 V	Grid-No. 5 Voltage, decelerator. 0-125 0-125 Volts
Dynode-No. 2 Voltage. e 600	770 V	Dynode-No. 2 Voltage. e 600 770 Volts
Dynode-No. 3 Voltage. i 910	1080 V	Dynode-No. 3 Voltage. i 910 1080 Volts
Dynode-No. 4 Voltage. i 1200	1360 V	Dynode-No. 4 Voltage. i 1200 1360 Volts
Dynode-No. 5 Voltage. ottt 1490	1610 V	Dynode-No. 5 Voltage. ottt 1490 1610 Volts
Anode Voltage. 1550	1700 V	Anode Voltage. 1550 1700 Volts
Target Cutoff Voltage. -3to +1 -3to+	1 V	Target Cutoff Voltage. —3to +1 —3to+1 Volts
Target Temperature Range. 15-55 15	-55 C	Target Temperature Range. 15-55 15-55 C
Peak-to-Peak Blanking Voltage. 5-20 5	-20 V	Peak-to-Peak Blanking Voltage. 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 +10
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

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
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
f(;u;; Vet . P;c - -406 to -	540 V	f(;u;; Vet . P;c - -406 to -540 Volts Dynode-No. 3 Voltage . . 800 Voits
45t0 ~	115 V	 45t0 ~ 115 Volts
Gnid-No. 4 Vvltnce. beam focus. . 140 to	180 V	Gnid-No. 4 Vvltnce. beam focus. . 140 to. 180 Volts P ing voltage . Oto 2.0 Volts
0 to	125 V	0 to 125 Volts T""""*Tp cak Blanking Voltage. .. 155to
-	20 V	_ 20 Volts
PublishedData	55 C	55 C
Voltage, approximate. . . . -300 to -	405 V	Voltage, approximate. . . . -300 to -405 Volts . Focusing Coil} . . . 75 Gaussess

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MAXIMUML. . . .ottt	70 C	MAXIMUML. . . .ottt 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
Photocsthode Voltage. ~	5 %	. Photocsthode Voltage. ~5%0 Volts . Target Voltage I ,
PublishedData	10 V	. 10 Volts
Alive st 0 Veits Cathode	125 V	Alive st 0 Veits Cathode . . 125 Volts
; ~!¥o. 2 and Dynode-No. 1 Vohue	350 V	; ~!¥o. 2 and Dynode-No. 1 Vohue . 350 Volts c,e:h:de 've
w <	10 V	w < . 10 Volts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Gfld-fio. 3 Voltage. . . . o	400 V	Gfld-fio. 3 Voltage. . . . o 400 Volts :
Qrid-No. 5 Voltage	150 V	Qrid-No. 5 Voltage. . . 150 Volts T
Grid-No. 6 Voltage. .—~	8550 V	Grid-No. 6 Voltage. .—~8550 Volts
Voltage per Multiplier Stage	350 V	Voltage per Multiplier Stage. 350 Volts

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
;le"—l)nipotmtul L Over-all Length . /	15204025 in	;le"—l)nipotmtul L Over-all Length . /. 15204025 Inches
ater Voltage, AC or DC	63 %	ater Voltage, AC or DC..... . 63%10% Volts' * Greatest Diameter of Bulb. .3.00 20.06 Inches
Haster Carrent .- o . 0.6 Amperc Minimum Deflecting- Coil Inside Diameter	233 in	Haster Carrent .- o . 0.6 Amperc Minimum Deflecting-Coil Inside Diameter 233 Inches
Z Reaponse-5:20 N Focusing- Coil Length o	10 in	Z Reaponse-5:20 N Focusing-Coil Length o .. 10 Inches
g "'fx'."&%'%'%fi&'&"&?"w	1.8 in	g "'fx'."&%'%'%fi&'&"&?"w 1.8 Inches Alignment-Coil Length. - R Inch -