GENERAL ELECTRODYNAMICS

TD 1305-001 SUPER-RUGGEDIZED VIDICON

ELECTROSTATIC FOCUS AND MAGNETIC DEFLECTION HALF-INCH DIAMETER

The TD 1305-001 Vidicon is designed for use where rugged environment, power, weight and volume are all of prime consideration. This half-inch tube is capable of withstanding severe shock and vibration, high ambient noise, and the low pressure encountered in space. The 1305-001 employs electrostatic focus, and as a result, the power required is less, and the deflection coils can be smaller and lighter than for fully magnetic half-inch vidicons. At the typical operating voltages given below, the limiting center resolution is 500 lines. This tube is suitable for televising live scenes giving pictures of satisfactory quality with as little as 0.2 foot-candles average illumination on the faceplate.

GENERAL:

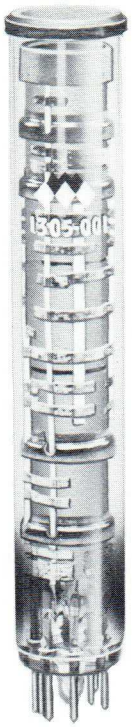
Operating Position	Any
Focusing Method	Electrostatic
Deflection Method	Magnetic
Max. Useful Diagonal of Rectangular Image (4 x 3 Aspect Ratio)	0.35 in.
Orientation of Image....Horizontal Scan should be essentially parallel to a plane passing through tube axis and the short index pin.	

ELECTRICAL CHARACTERISTICS:

Heater	
Voltage (AC or DC)	6.3 V ± 5%
Current (at 6.3 V)	.17 A ± 10%
Direct Interelectrode Capacity (Signal Electrode to all other Electrodes)	2 pf
Spectral Response	S-18

ABSOLUTE MAXIMUM RATINGS:

Heater - Cathode Peak Values	
Heater Negative with Respect to Cathode	50 V
Heater Positive with Respect to Cathode	10 V
Short term overload	± 125 V, 1 min. max.
Grid No. 1 Voltage	
Negative Bias Values	200 V
Positive Bias Values	0 V



ABSOLUTE MAXIMUM RATINGS (Continued):

Grids No. 2 and 4 Voltage		750 V
Grid No. 3 Voltage		750 V
Grid No. 5 Voltage		750 V
Signal Electrode Current		.35 ua
Signal Electrode Voltage		50 V
Faceplate		
Illumination		1000 ft-c
Operating Temperature		-10 to + 71° C
Storage Temperature		125° C
Shock		100 g for 11 milliseconds 200 g for 5 milliseconds
Vibration:	Gaussian Noise	20 g RMS, from 10 - 2000 CPS for 20 mins. 60 g RMS, from 10 - 2000 CPS for 5 seconds in vertical plane.
Ambient Acoustical Noise		175 db sound pressure level
Humidity		100%

TYPICAL OPERATION:

Minimum Peak-to-Peak Blanking Voltage	
When applied to Grid No. 1	70 V
When applied to Cathode	30 V
Grid No. 1 Voltage (For picture cut off with no blanking voltage on Grid No. 1)	-45 to -100 V
Grids No. 2 and 4 Voltage	400 V
Grid No. 3 Voltage	60 to 100 V
Grid No. 5 Voltage	600 V
Signal Electrode Voltage	10 to 50 V
Scanned Area	0.28 x 0.21 in.
Faceplate Temperature	30° to 35° C.
Average Gamma of Transfer Characteristic over Signal Output Current Range of .05 to .2 uA	.65
Typical Signal Output Current at .05 ua dark current and 1 foot-candle average faceplate illumination	.15 ua

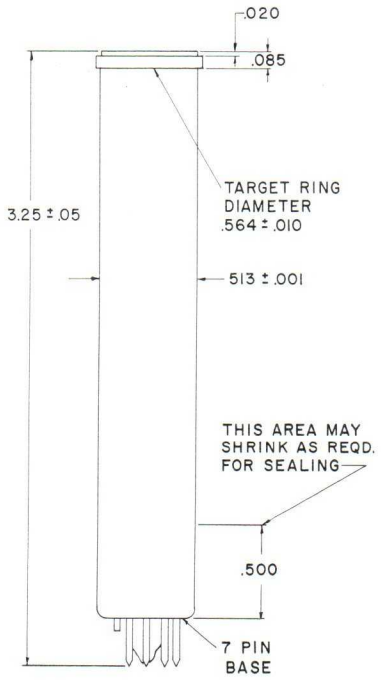
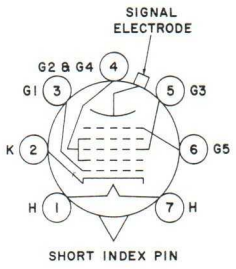


FIG. 1



PIN 1: HEATER
PIN 2: CATHODE
PIN 3: GRID NO. 1
PIN 4: GRIDS NO. 2 & 4
PIN 5: GRID NO. 3
PIN 6: GRID NO. 5
PIN 7: HEATER
SHORT INDEX PIN: INTERNAL CONNECTION --DO NOT USE

FIG. 2 BOTTOM VIEW

NOTES

1. Base-pin positions fit 0.25 inch thick, 9-hole flat plate gage with holes located as follows: 8 holes, 0.0470 (±0.0005) inch diameter, equally spaced 0.1200 (±0.0005) inch apart on a circle, 0.3125 (±0.0005) inch diameter, plus a center hole, 0.187 (±0.001) inch diameter, concentric with 8-hole circle.
2. All dimensions are shown in inches.
3. Faceplate thickness 0.055 ± 0.001.
4. The socket for this tube can be obtained from GEC.
5. The following coils can be used with this tube:
   Alignment Coil 5VA362
   Deflection Yoke 5HVY361