

Traveling Wave Tube CW Amplifier
(Tentative Data Sheet)



LD - 637

The LD-637 is a coaxial-type CW traveling-wave amplifier for operation over the frequency range of 1.7 to 2.3 kMc. This tube type has an average small signal gain of 30 db and a saturated output power of about 20 watts. The construction of the tube is of the conventional helical line type employing input and output N type coaxial connections. The LD-637 uses integral periodic permanent magnet focusing, and operates with a depressed collector electrode voltage. The latter feature produces a significant improvement in the operating efficiency. The design, construction and long life expectancy of the tube make it exceptionally well suited for use with transistorized communication equipments.

FEATURES

- o Depressed Collector Operation for Improved Efficiency
- o PPM Focused
- o Long Life

CHARACTERISTICS

ELECTRICAL

PHYSICAL

Maximum Ratings

General

Accelerating Voltage ... 2700V
 Accelerating Anode
 Current 1 mA
 Helix Voltage 3000 V
 Helix Current 3 mA

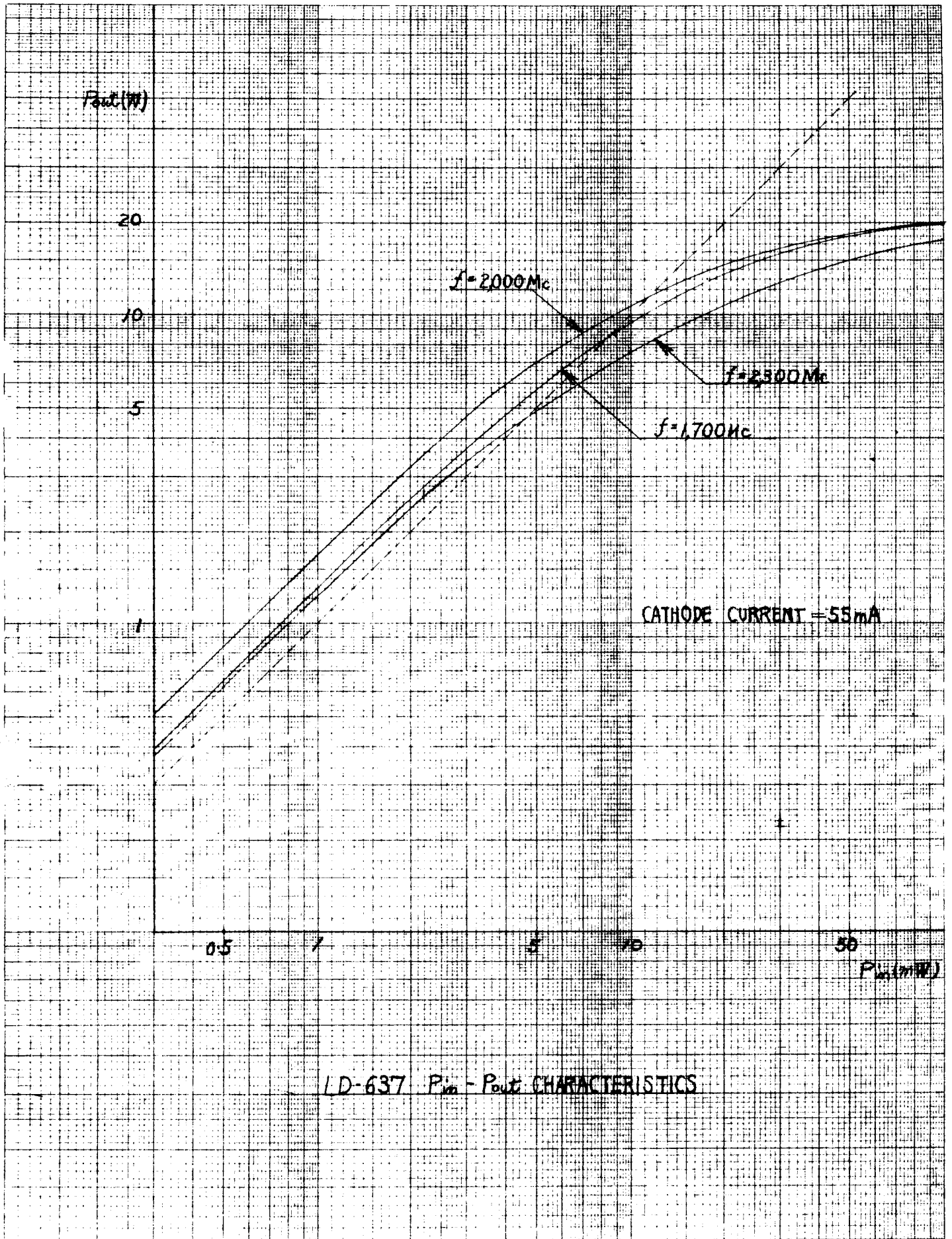
Dimensions See Outline
 Weight 11 lbs
 Mounting
 Position Any

Collector Voltage, min.	1900V	Cathode	Oxide coated, unipotential
Collector Current	60 mA	Connections	
Collector Dissipation	120 W	RF Input and Output ...	Coaxial type N female connectors
Focusing Electrode Voltage ..	-70 V		
Ambient Temperature	55°C	Cooling	
Ambient Temperature, min. ...	-55°C	Forced air (18 CFM)	
Collector Seal Temperature ..	180°C		

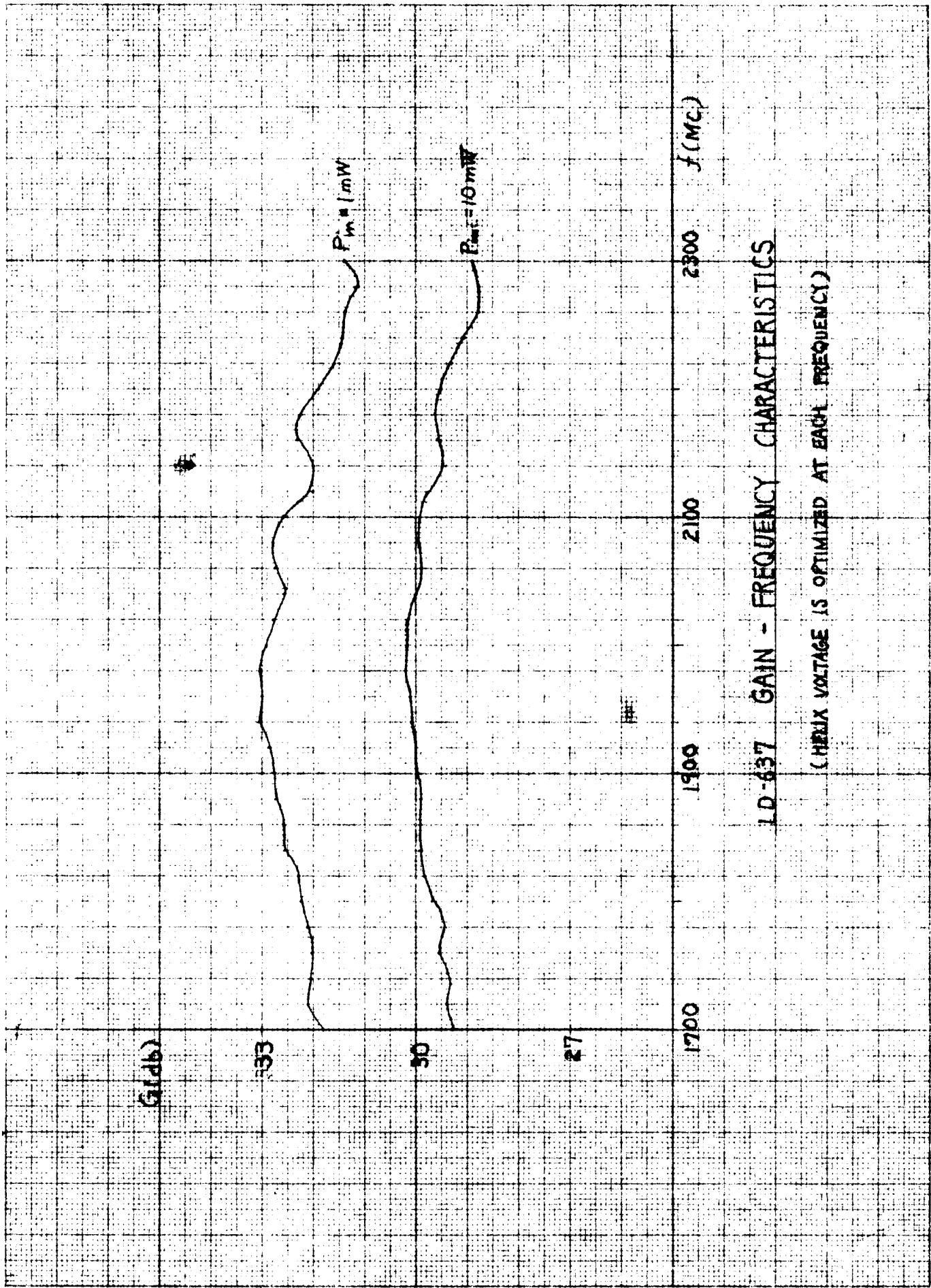
OPERATION

Heater Voltage = 6.3V; Heater Current at 6.3V = 1.0A

Frequency	1.7	2.0	2.3	kMc
Accelerating Anode Voltage	2500	2500	2500	V
Helix Voltage	2700	2550	2400	V
Helix Current	0.5	0.5	0.5	mA
Collector Voltage	2000	2000	2000	V
Collector Current	55	55	55	mA
RF Output (10mW input level)	9.5	10	7.5	W
RF Saturated Output	19.5	20	17.5	W
Noise Figure (small signal)	27	27	27	db
Small Signal Gain	31	32	31	db

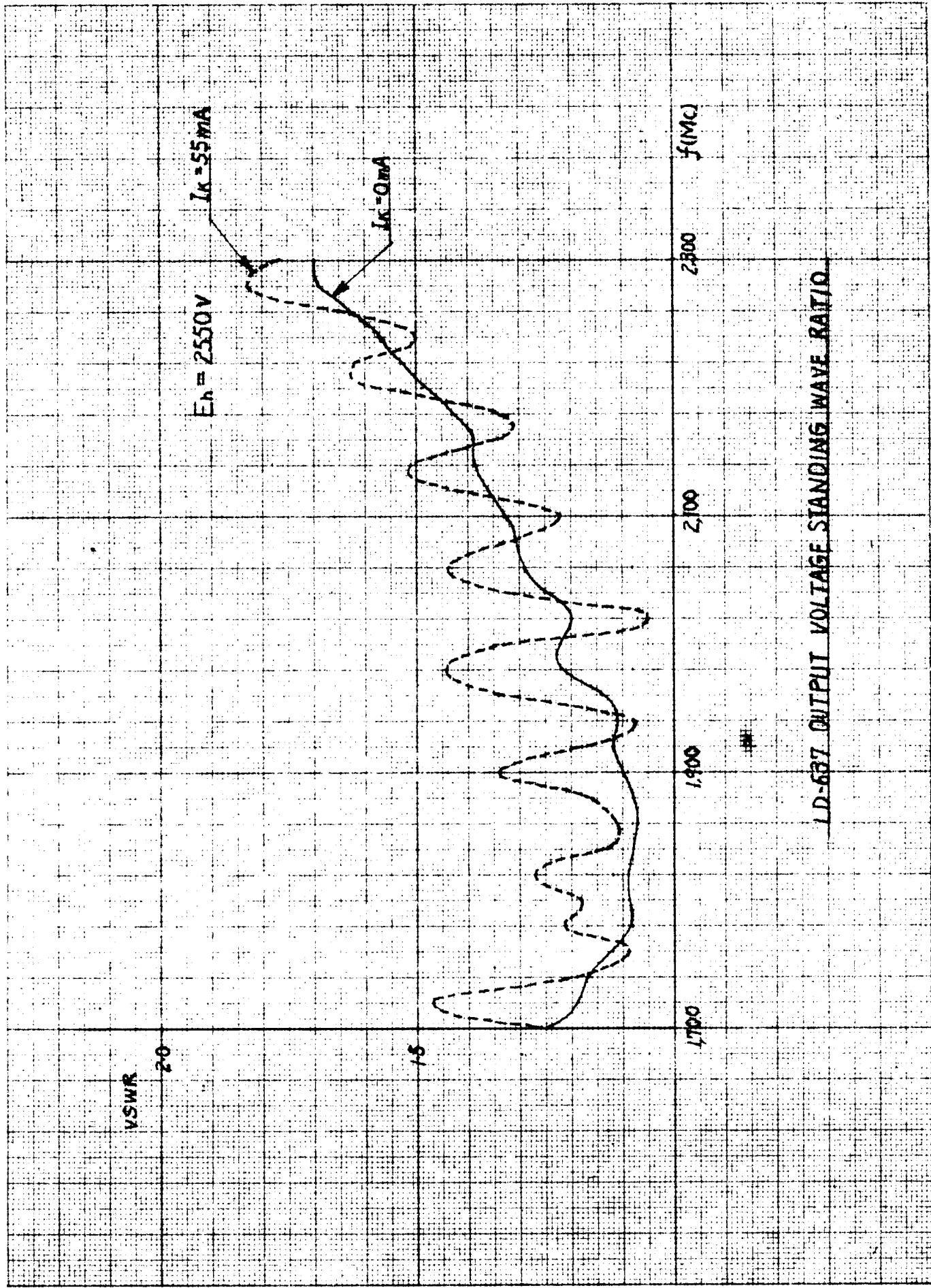


LD-637 $P_{in} - P_{out}$ CHARACTERISTICS

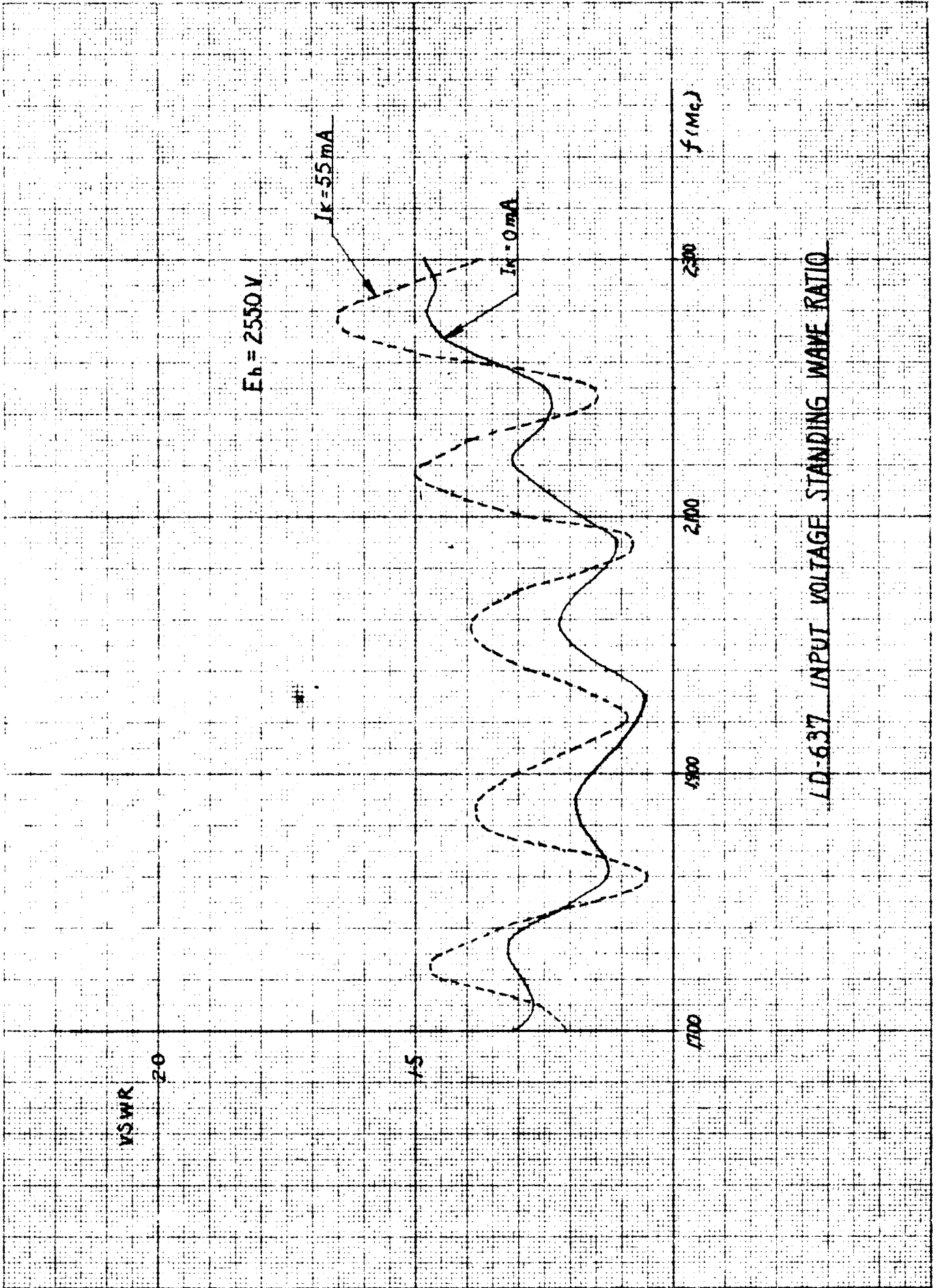


LD-637 GAIN - FREQUENCY CHARACTERISTICS

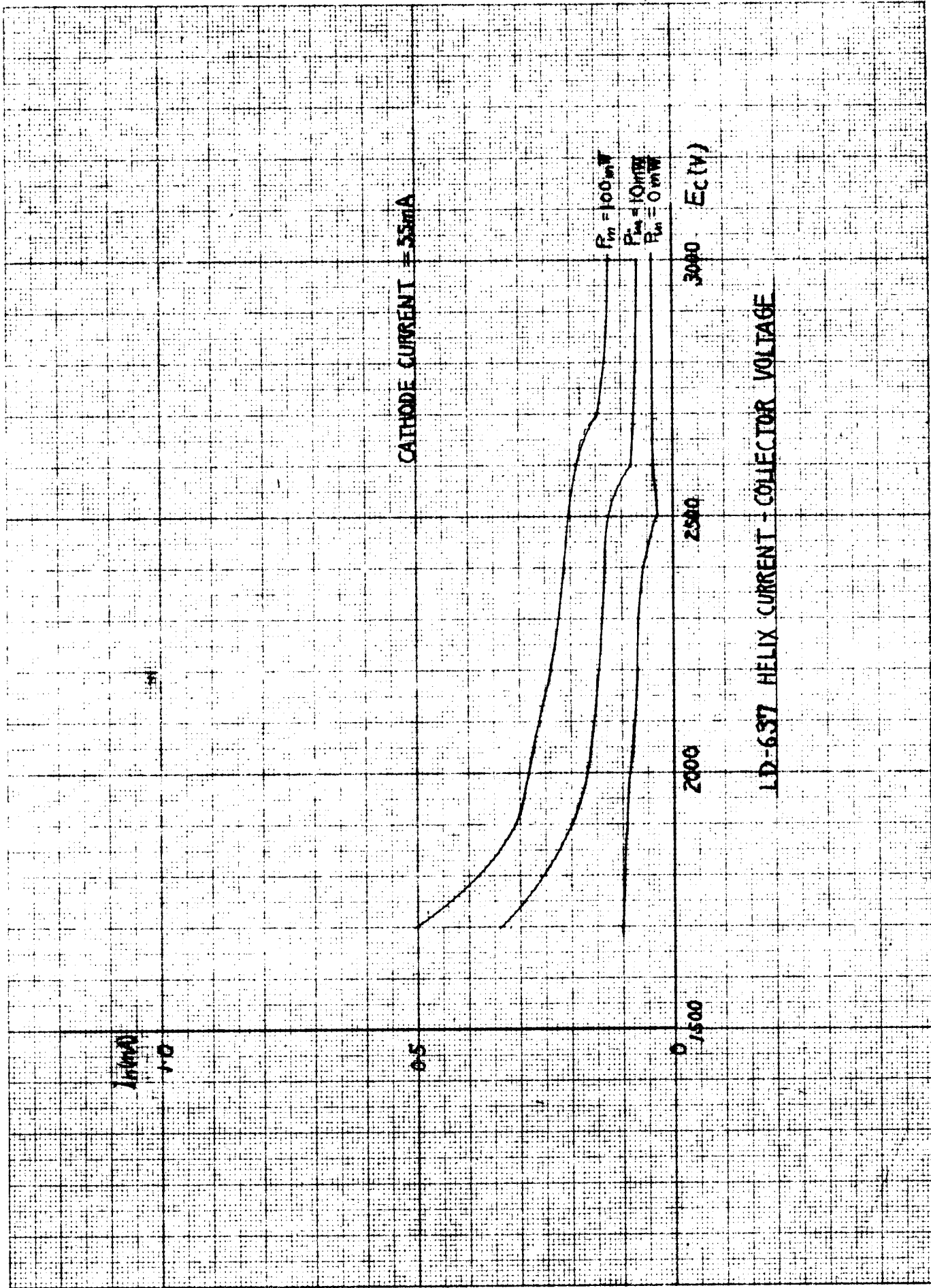
(HELIX VOLTAGE IS OPTIMIZED AT EACH FREQUENCY)



1 D-637 OUTPUT VOLTAGE STANDING WAVE RATIO



LD-637 INPUT VOLTAGE STANDING WAVE RATIO



CATHODE CURRENT = 55mA

$P_m = 100 \text{ mW}$
 $P_m = 0 \text{ mW}$

3000 E_c (V)

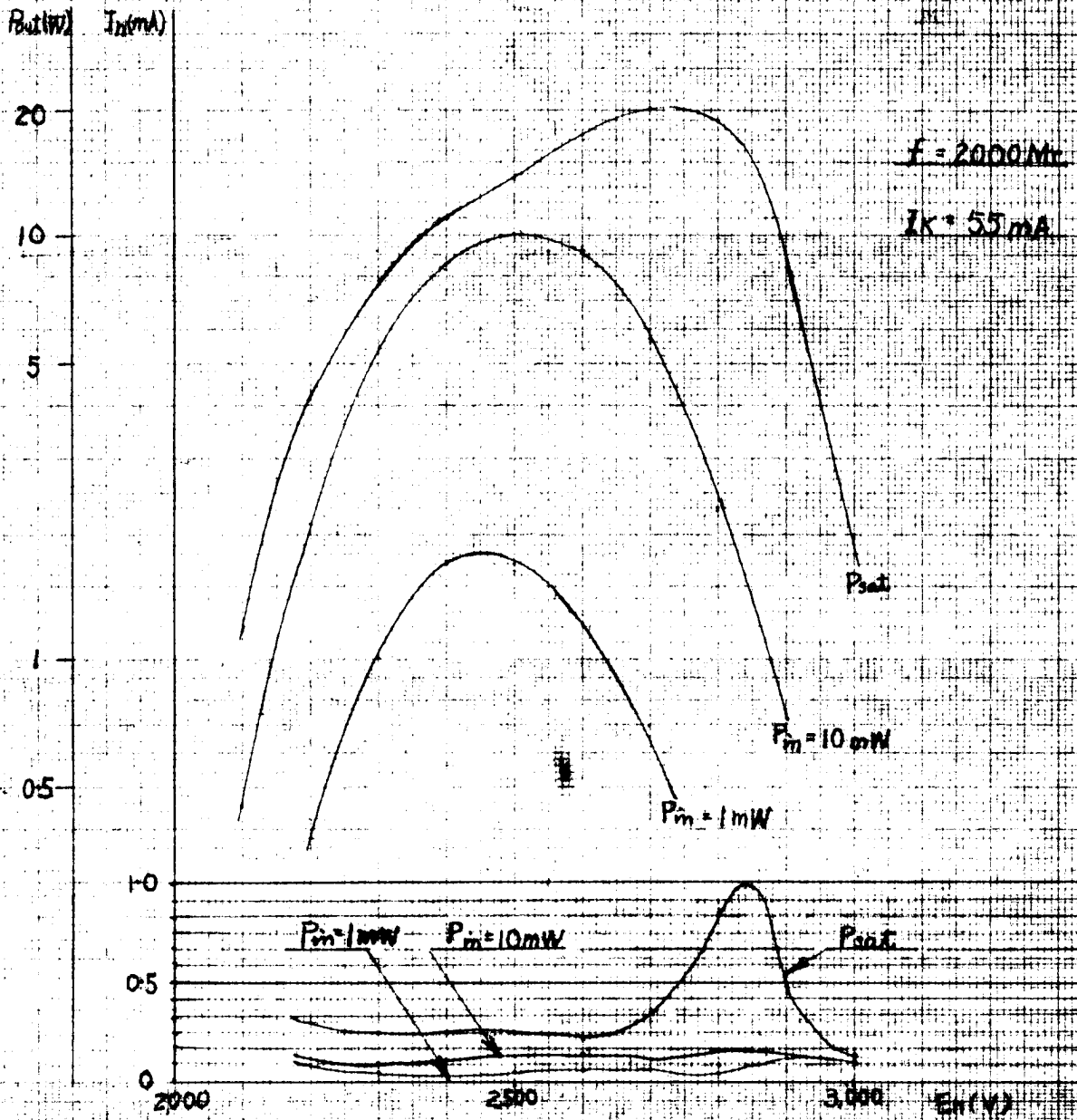
2500

2000

1500

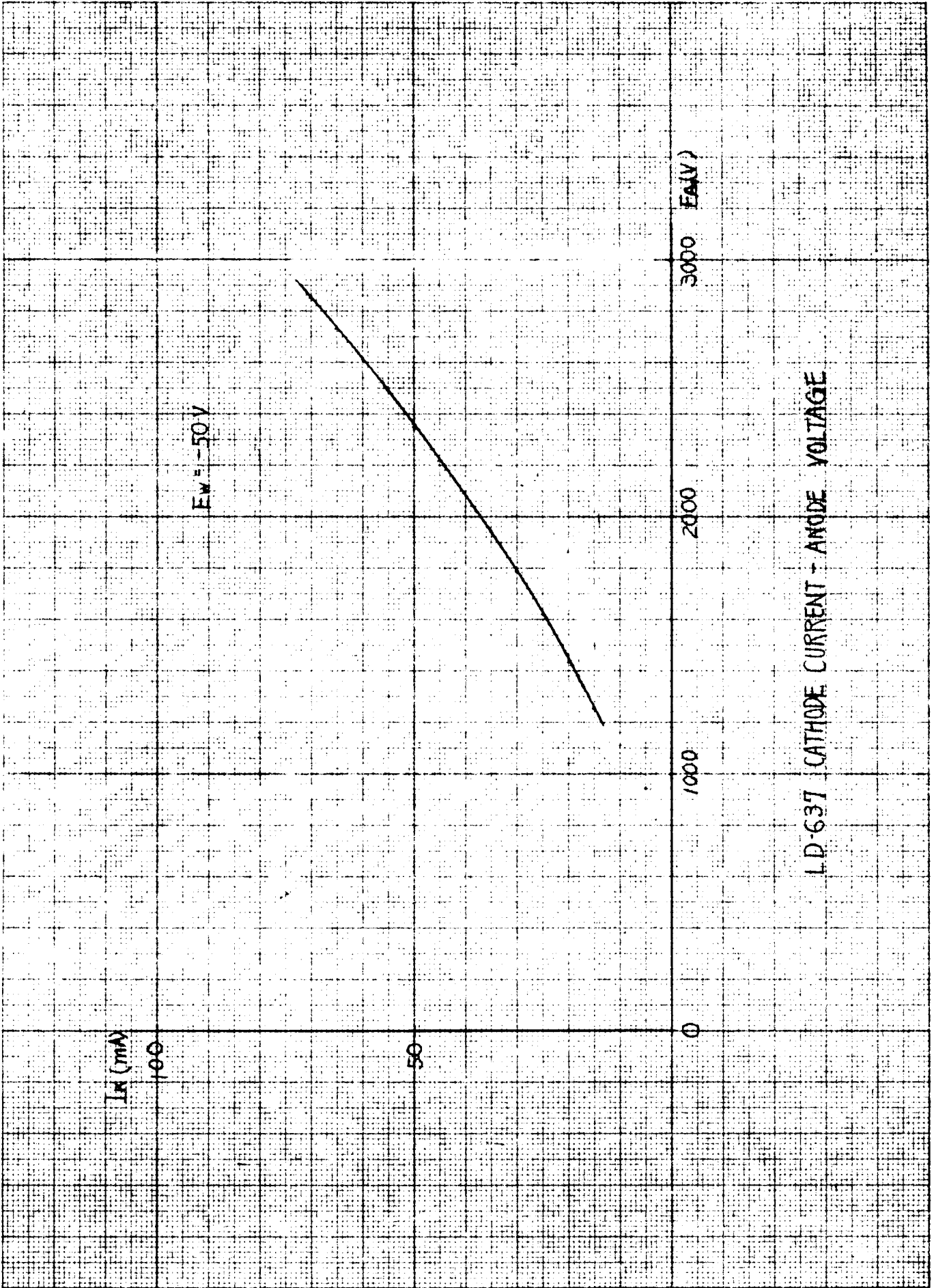
0

LD-637 HELIX CURRENT - COLLECTOR VOLTAGE

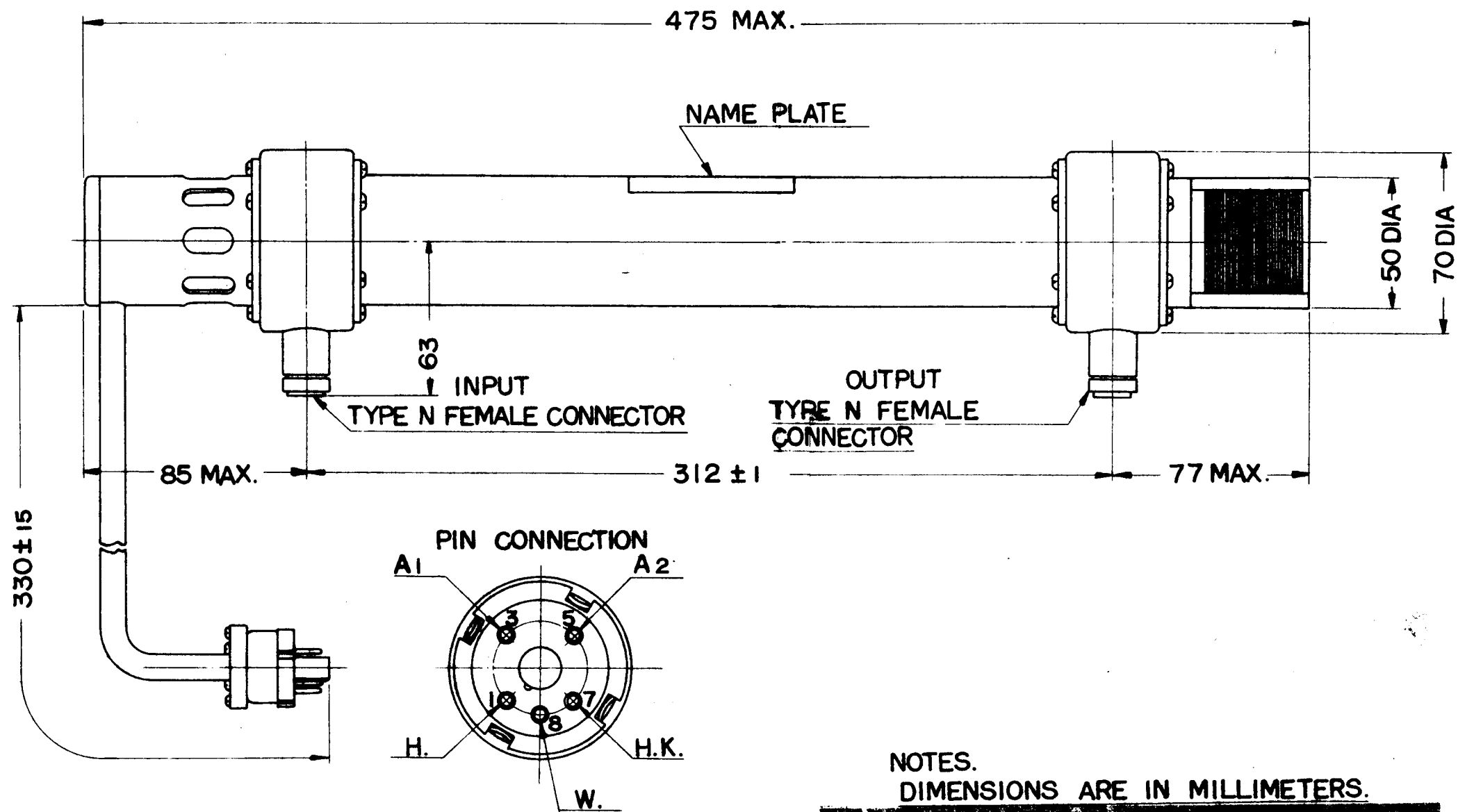


1D-637 OUTPUT POWER - HELIX VOLTAGE

HELIX CURRENT - HELIX VOLTAGE



LD-637 CATHODE CURRENT - ANODE VOLTAGE



NOTES.
DIMENSIONS ARE IN MILLIMETERS.

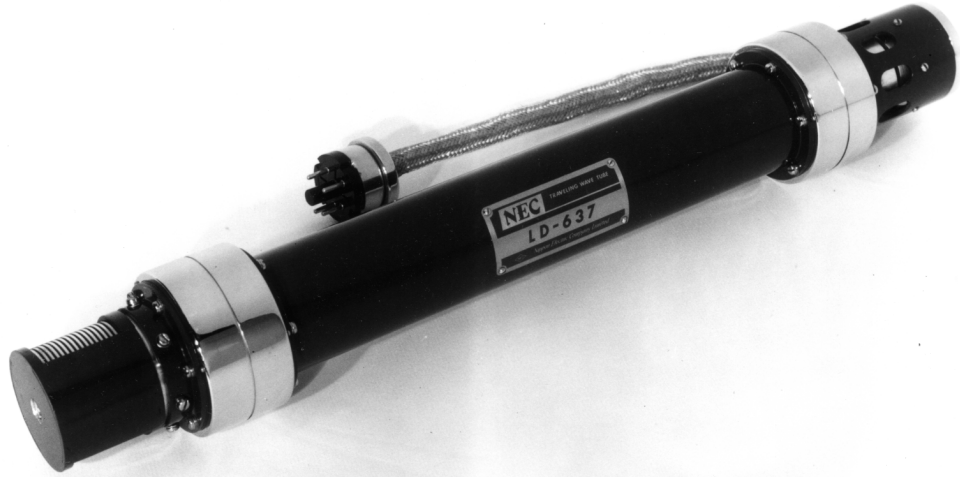
Collector is internally connected to outer conductor of the RF connectors. Never apply high voltage to the accelerating electrode before applying earth potential to the connector.

特に指定なきは 尺度 /
普通公差とす カ三角法

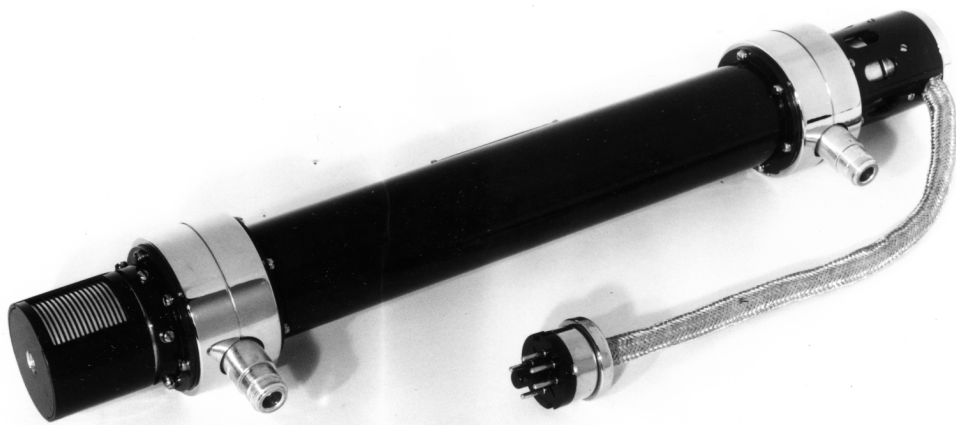
素材名		所要寸度		仕上および処理	
技術担当	技術承認	設計	製図	査	関承認
4	8				
LD-637					
OUTLINE DRAWING					

部品表
仕様書番号
組立図番

SB-67480



TP-40565



TP-40564