

# AMPEREX TUBE TYPE 8179

## TENTATIVE DATA

The 8179 is an air-cooled tetrode designed for use as an AM and SSB amplifier. It has a plate dissipation of 800 watts and a thoriated tungsten filament.

## GENERAL CHARACTERISTICS

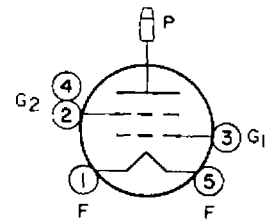
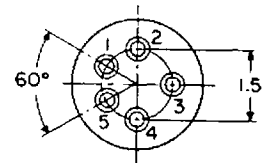
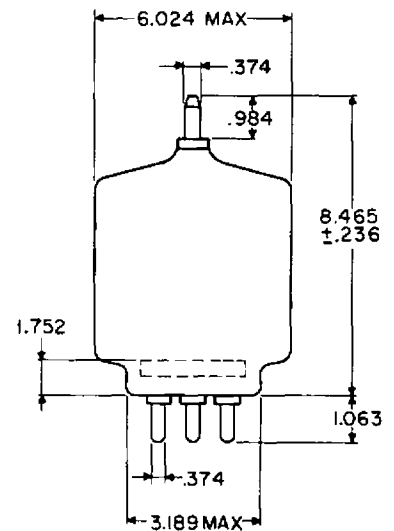
### MECHANICAL

#### Maximum Overall Dimension

Length	9.52
Diameter	6.024
Mounting Position	Vertical
Cooling	Low velocity air
Maximum Operating Temperature	
Anode Seal	220°C
Pin Seals	180°C
Glass Envelope	350°C
Net Weight (Approx.)	1 lb 6 oz
Shipping Weight (Approx.)	5 lbs

### ACCESSORIES

Plate Connector	S - 3702
Socket	S - 3703



#### PIN CONNECTIONS

- 1. FILAMENT
- 2. GRID NO.2
- 3. GRID NO.1
- 4. GRID NO.2
- 5. FILAMENT
- P- PLATE

## ELECTRICAL

### Heater

Voltage 7.5 volts

Current<sup>1</sup> 22.6 amps

Cathode thoriated tungsten

Amplification Factor 5.1

G1 - G2 Mu at  $E_b = 4000$  volts

$E_{c2} = 600$  volts,  $I_b = 200$  ma

Transconductance 10,000  $\mu$ mhos

### Direct Interelectrode Capacitances

Input 47.6 pf

Output 9.5 pf

Plate to Control Grid 0.1 pf

1. The filament current must never exceed a peak value of 45A instantaneously at any time during the energizing schedule.

# CLASS AB<sub>1</sub> GROUNDED CATHODE LINEAR R. F. AMPLIFIER

## SINGLE SIDEBAND SUPPRESSED CARRIER OPERATION

### MAXIMUM RATINGS, ABSOLUTE VALUES (FREQUENCIES UP TO 30 MC)

	CCS
D.C. Plate Voltage	5500 volts max.
D.C. Grid No. 2 Voltage	800 volts max.
D.C. Grid No. 1 Voltage	-500 volts max.
D.C. Plate Current	600 ma max.
Plate Input	2500 watts max.
Plate Dissipation	800 watts max.
Grid No. 2 Dissipation	120 watts max.
Grid Resistor	20,000 ohms max.

### TYPICAL OPERATION

#### SINGLE TONE AND/OR TWO TONE MODULATION

Frequency	7 mc
D.C. Plate Voltage	4000 volts
D.C. Grid No. 2 Voltage	600 volts
D.C. Grid No. 1 Voltage (Approx.)	-105 volts
Zero Signal D.C. Plate Current	150 ma
Zero Signal D. C. Grid No. 2 Current	10 ma
Effective R. F. Load Resistance	4900 ohms

## SINGLE TONE MODULATION

	CCS
Max. Signal D.C. Plate Current	515 ma
Max. Signal D.C. Grid No. 2 Current	115 ma
Max. Signal D.C. Grid No. 1 Current	0 ma
Max. Signal Plate Power Output	1410 watts
Tube Efficiency	68 %

## TWO TONE MODULATION

Average D.C. Plate Current	360 ma
Average D.C. Grid No. 2 Current	60 ma
Average D.C. Grid No. 1 Current	0 ma
Max. Resultant Peak R. F. Grid Voltage	105 volts
Average Plate Power Output	705 watts
Peak Envelope Plate Power Output	1410 watts
3rd Order Intermodulation Distortion	34 db
5th Order Intermodulation Distortion	38 db
Tube Efficiency	49 %

**GROUNDING GRID LINEAR R. F. AMPLIFIER**  
**SINGLE SIDEBAND SUPPRESSED CARRIER OPERATION**  
**TYPICAL OPERATION**  
**SINGLE TONE AND/OR TWO TONE MODULATION**

	CCS
Frequency	7 mc
D.C. Plate Voltage	3000 volts
D.C. Grid No. 2 Voltage	500 volts
D.C. Grid No. 1 Voltage (Approx.)	-84 volts
Zero Signal D.C. Plate Current	160 ma
Zero Signal D.C. Grid No. 2 Current	7 ma
Effective R. F. Load Resistance	4400 ohms

**SINGLE TONE MODULATION**

Max. Signal D.C. Plate Current	470 ma
Max. Signal D.C. Grid No. 2 Current	50 ma
Max. Signal D.C. Grid No. 1 Current	0 ma
Max. Signal Peak R. F. Cathode Voltage	81 volts
Max. Signal Driving Power	31 watts
Max. Signal Plate Power Output	1021 + 26 watts
Max. Signal Driver Feed Thru Power	26 watts
Cathode Impedance	106 ohms
Tube Efficiency	72 %

## TWO TONE MODULATION

Average D.C. Plate Current	330 ma
Average D.C. Grid No. 2 Current	25 ma
Average D.C. Grid No. 1 Current	0 ma
Max. Resultant Peak R.F. Grid Voltage	81 volts
Average Plate Power Output	510 + 13 watts
Peak Envelope Plate Power Output	1020 + 26 watts
Average Driver Feed Thru Power	13 watts
Peak Envelope Driver Feed Thru Power	26 watts
3rd Order Intermodulation Distortion	42 db
5th Order Intermodulation Distortion	45+ db
Tube Efficiency	53 %

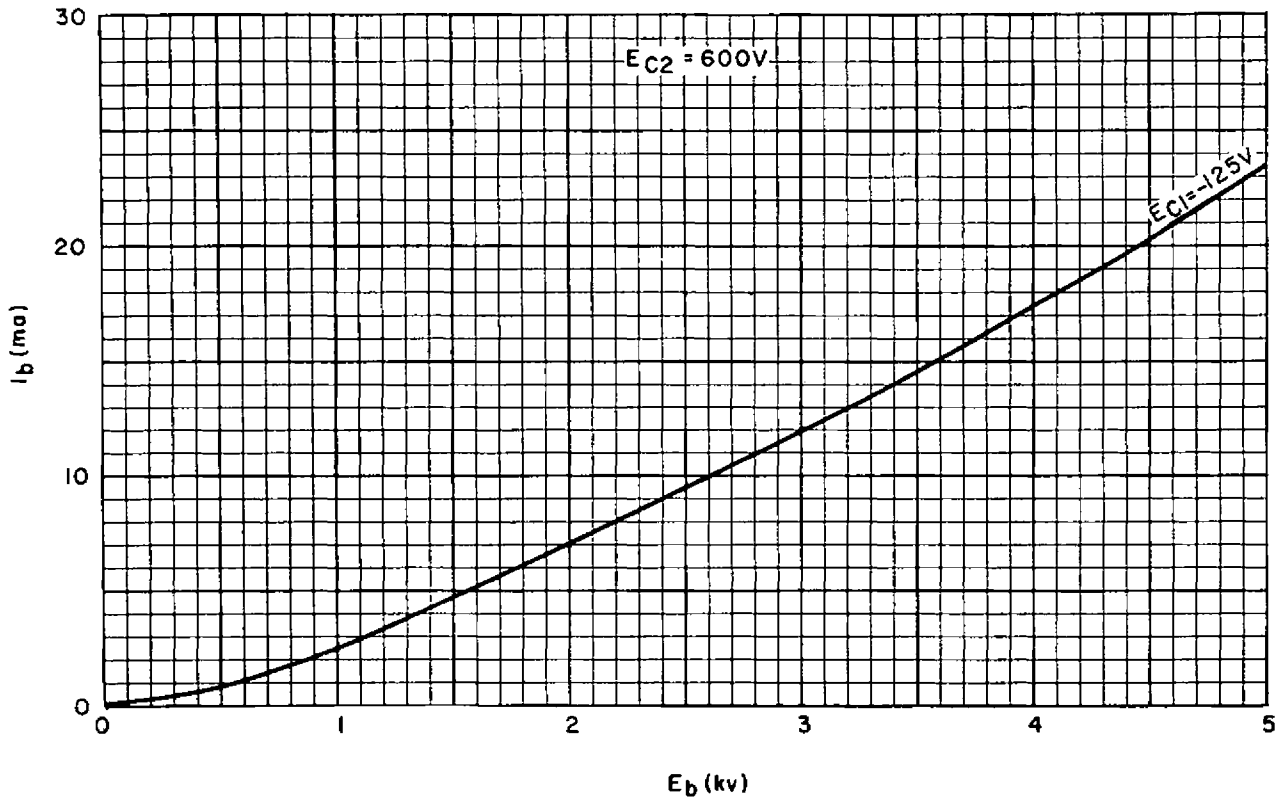


PLATE CHARACTERISTICS

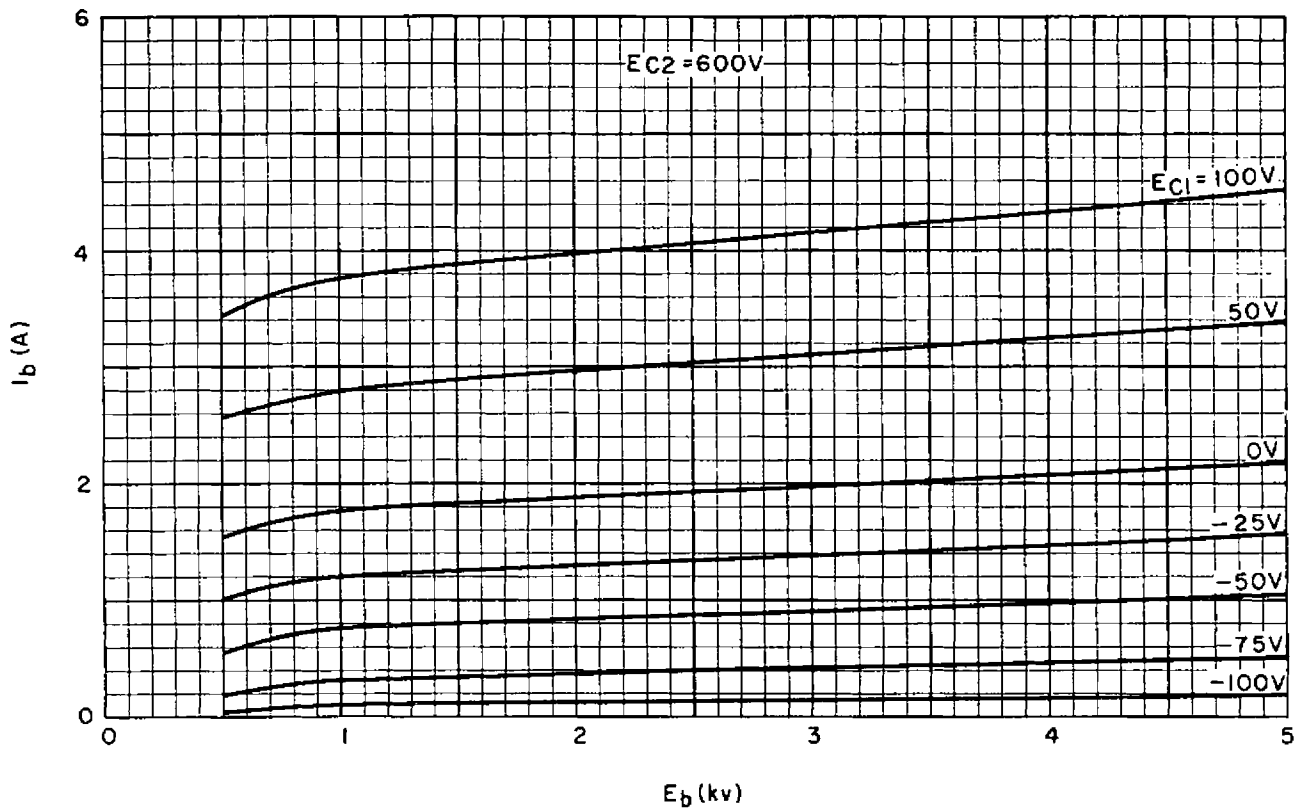
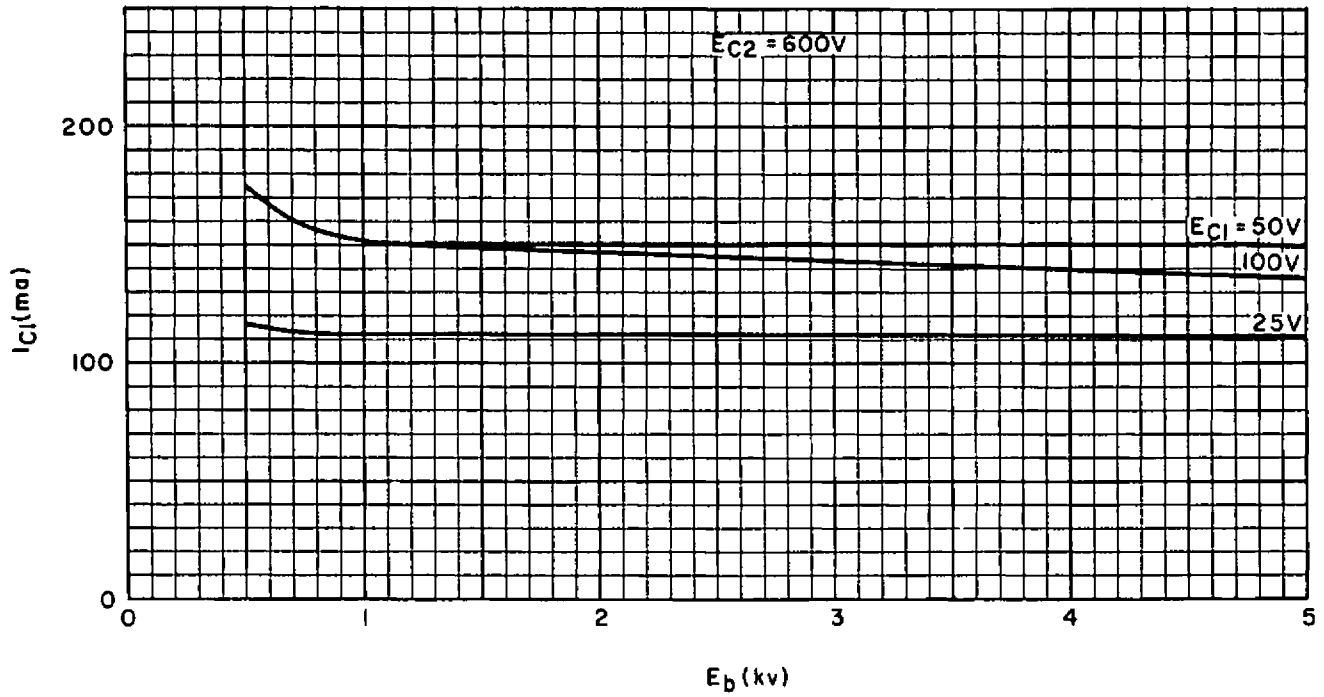
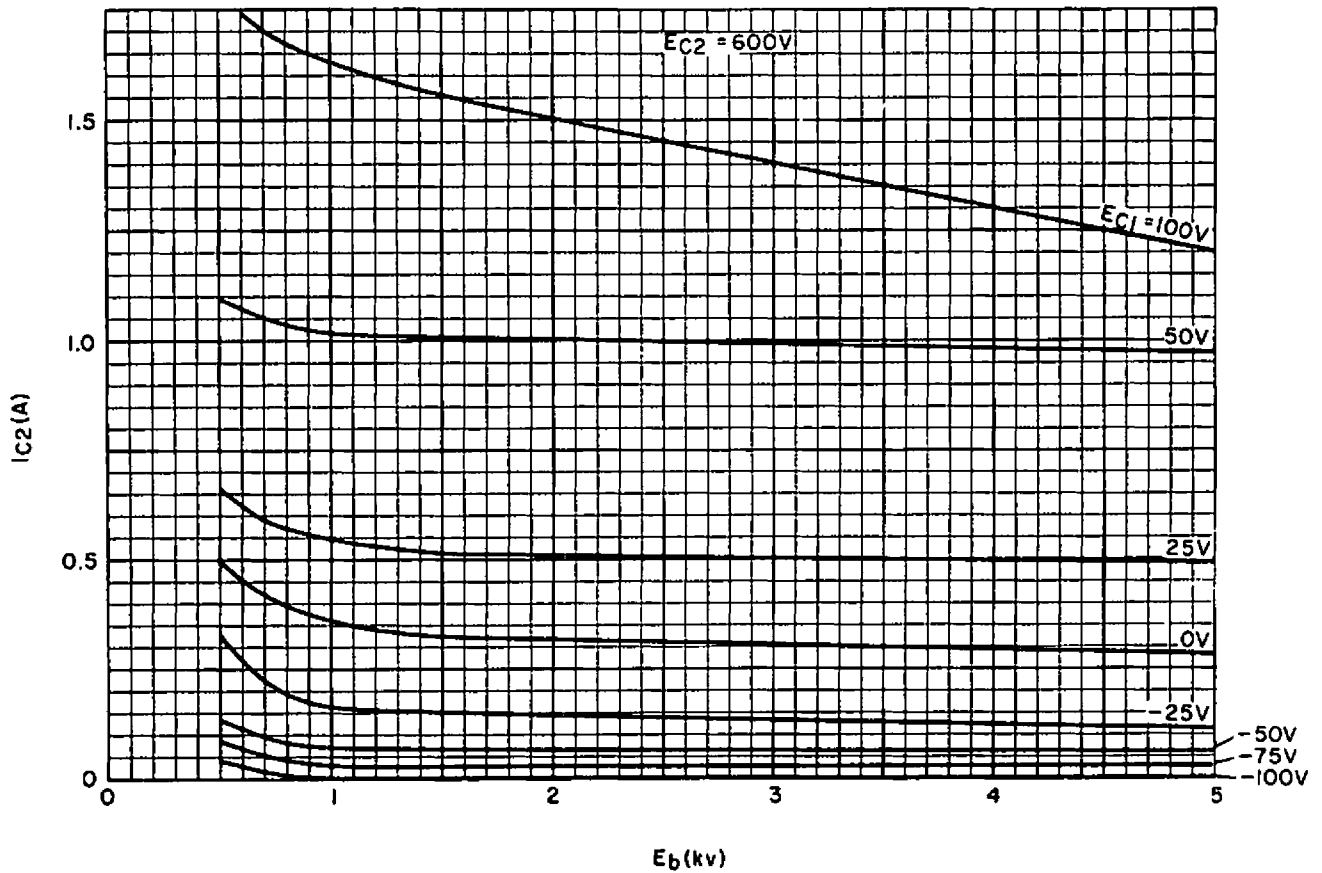


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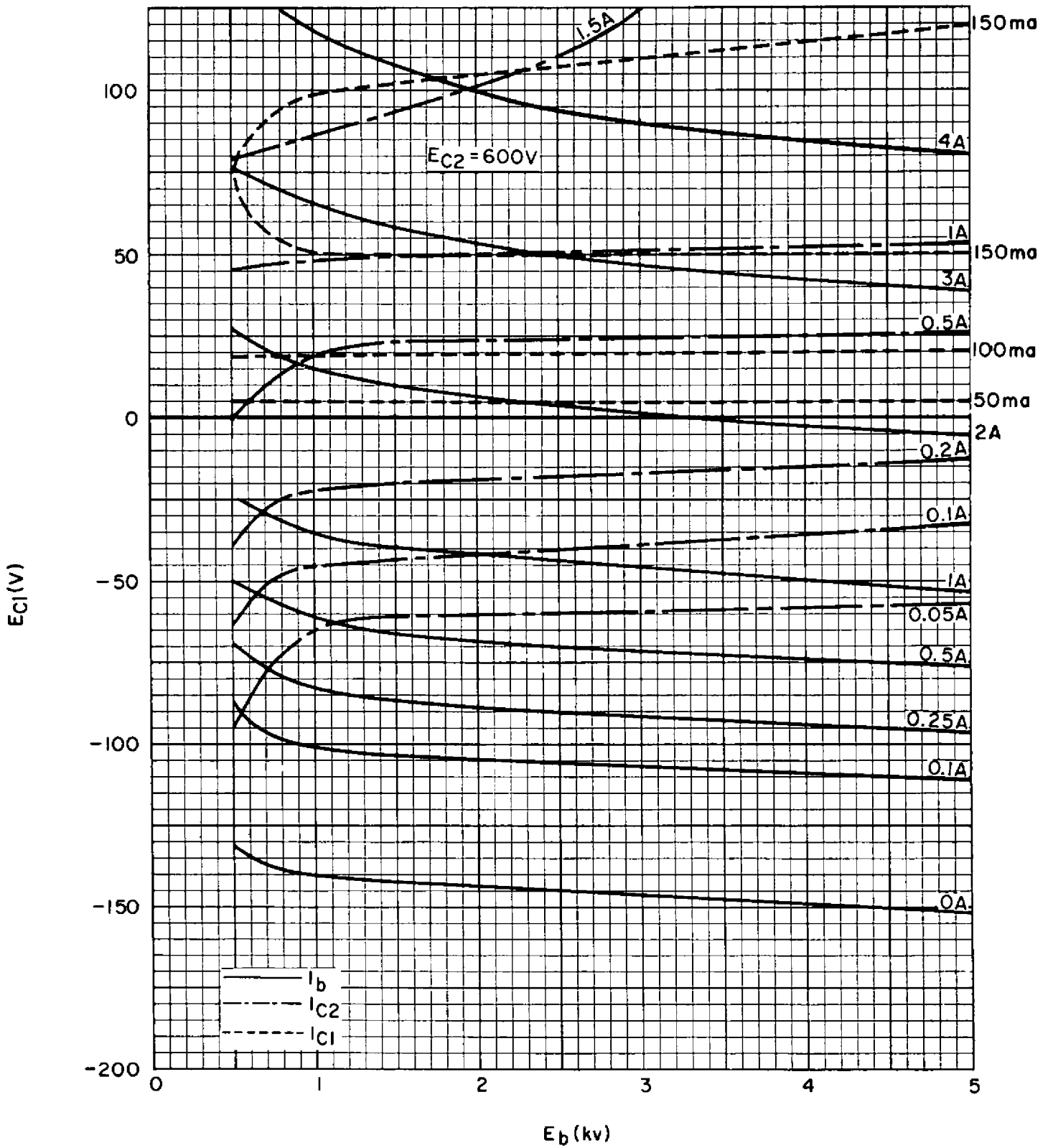


TRANSFER CHARACTERISTICS



TRANSFER CHARACTERISTICS





CONSTANT CURRENT CHARACTERISTICS