



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

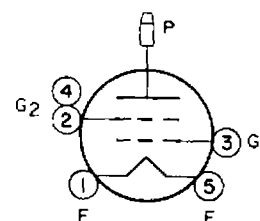
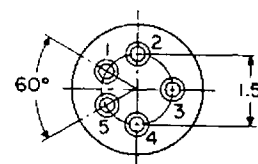
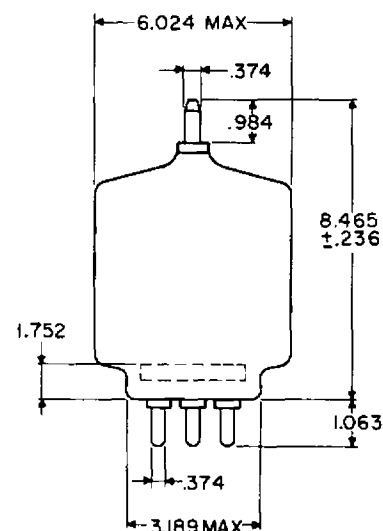
Net Weight (Approx.) 1 lb 6 oz

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

Current¹ 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 μ 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 AB₁ 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 %

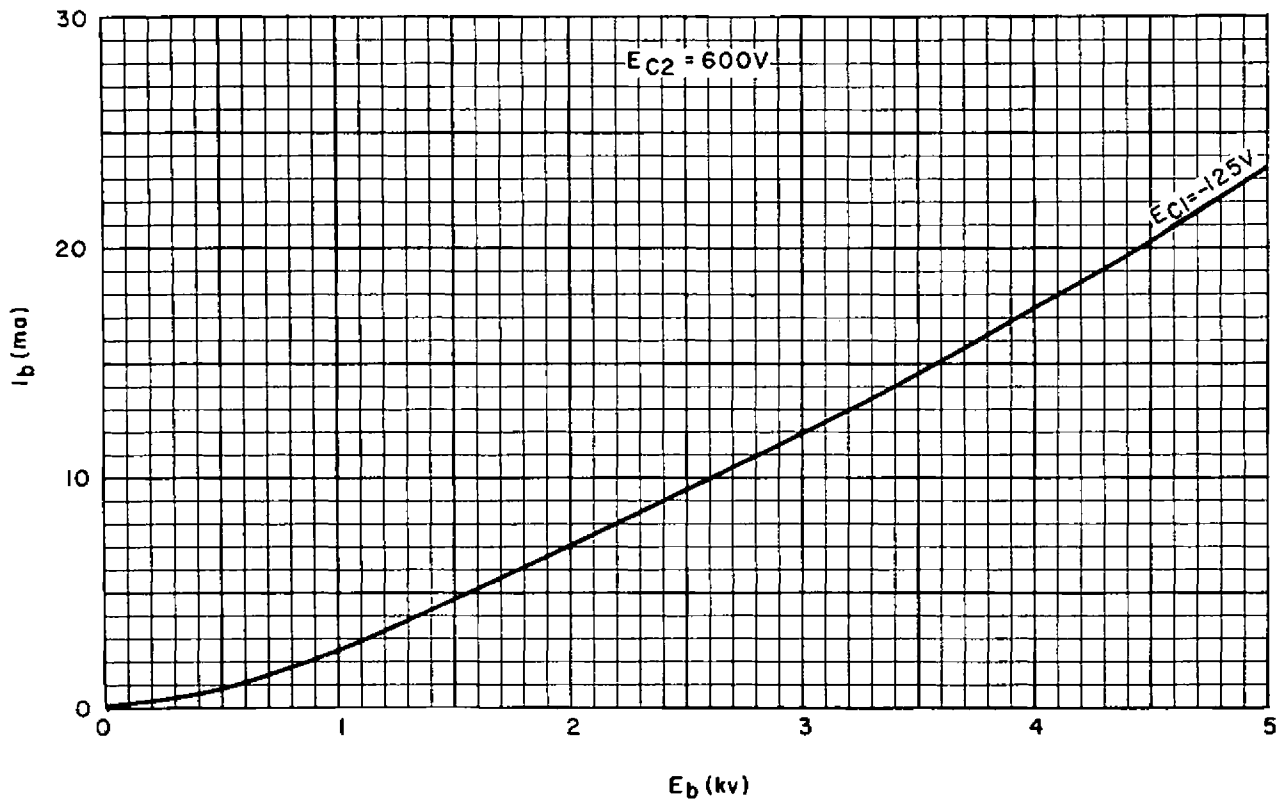


PLATE CHARACTERISTICS

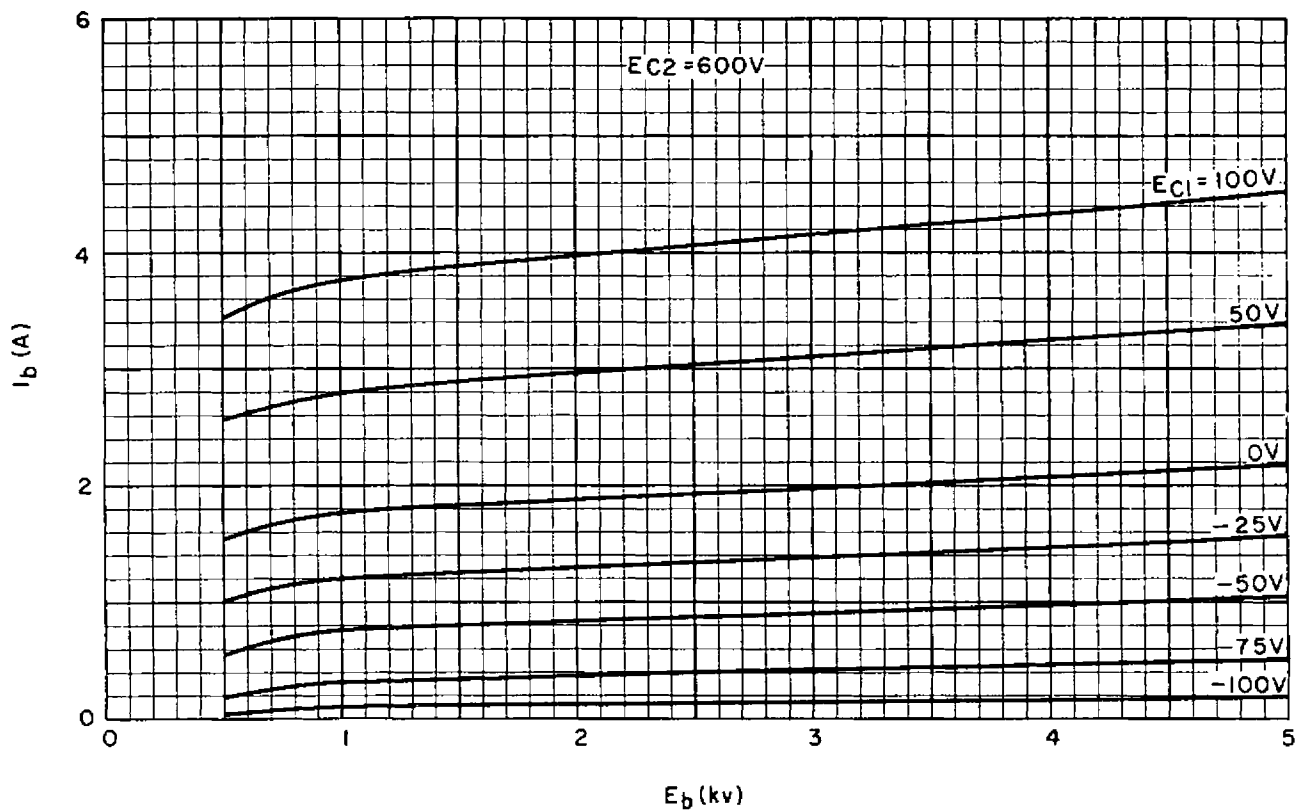
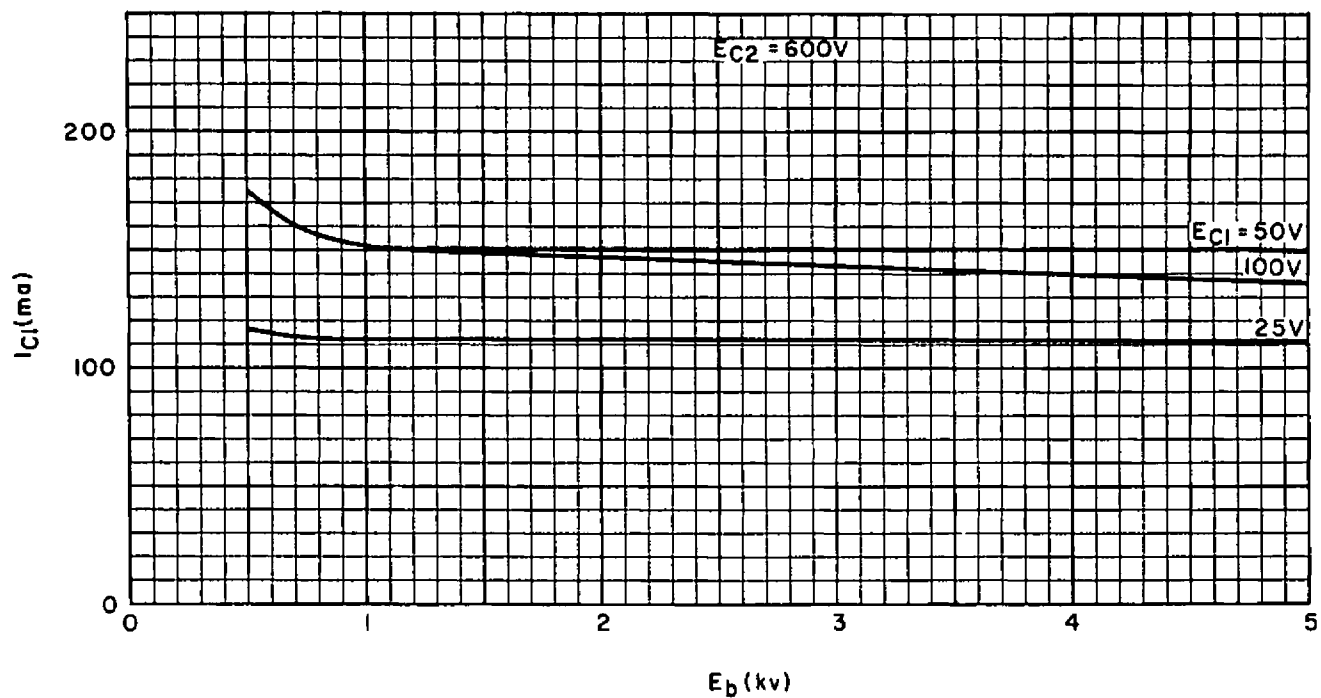
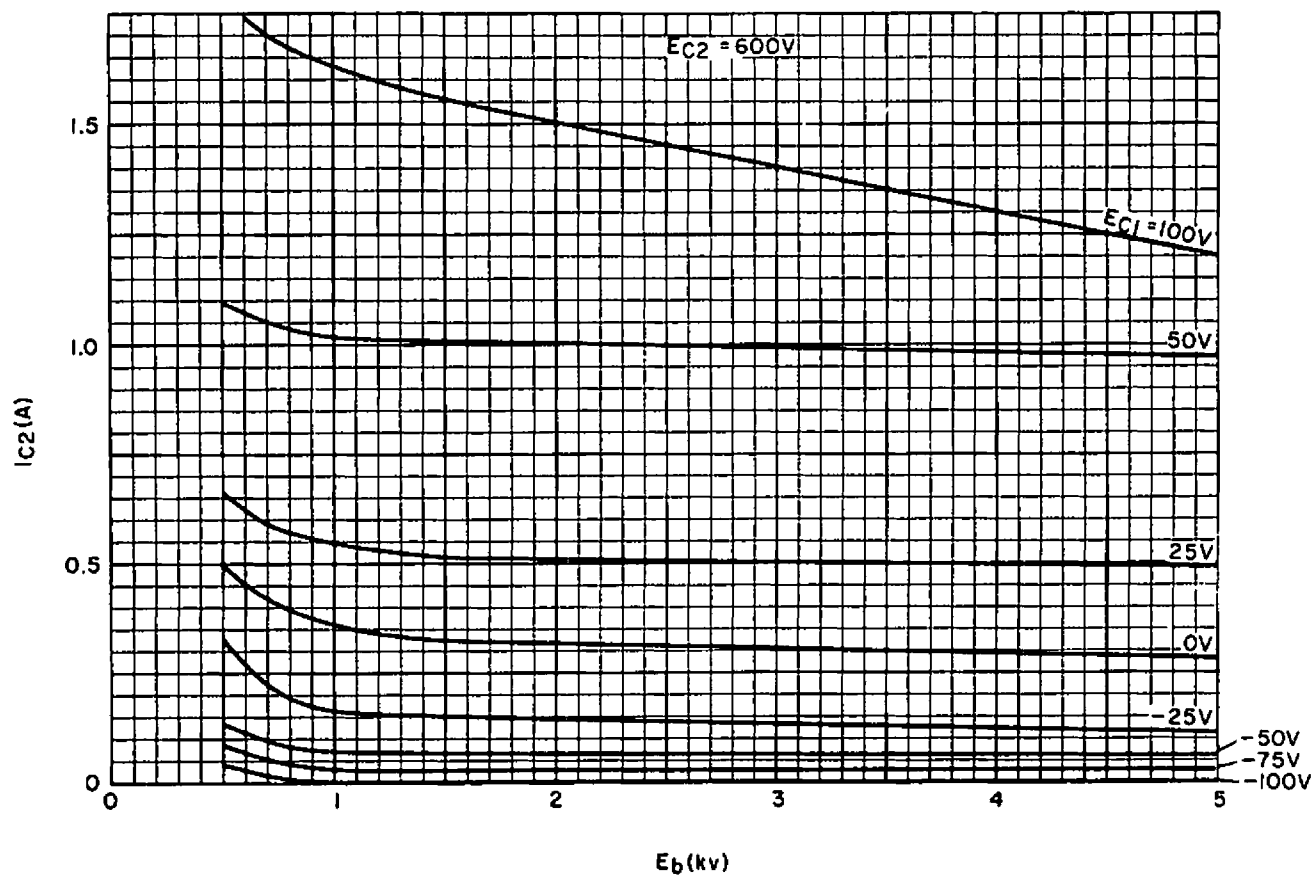


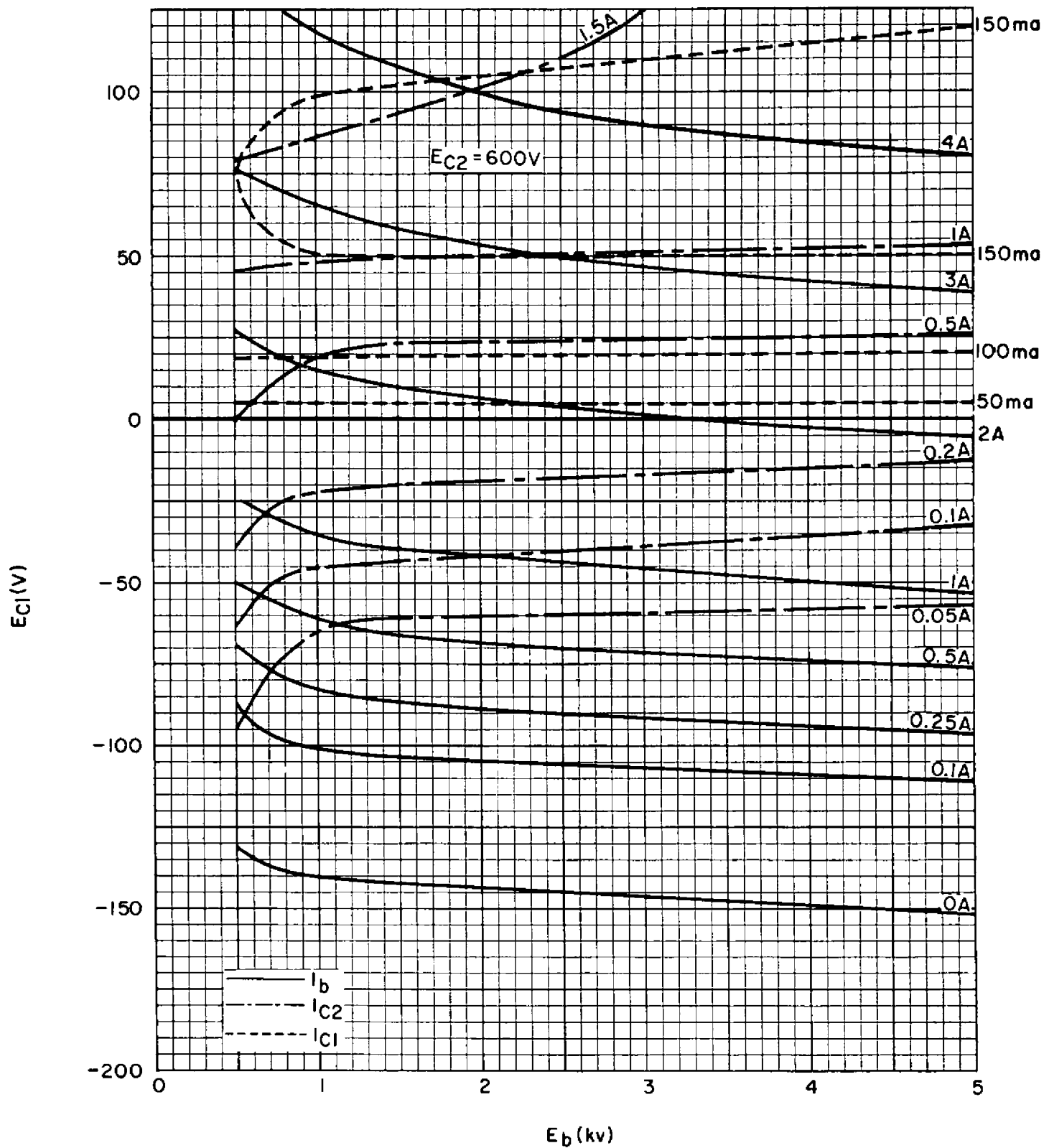
PLATE CHARACTERISTICS



TRANSFER CHARACTERISTICS



TRANSFER CHARACTERISTICS



CONSTANT CURRENT CHARACTERISTICS