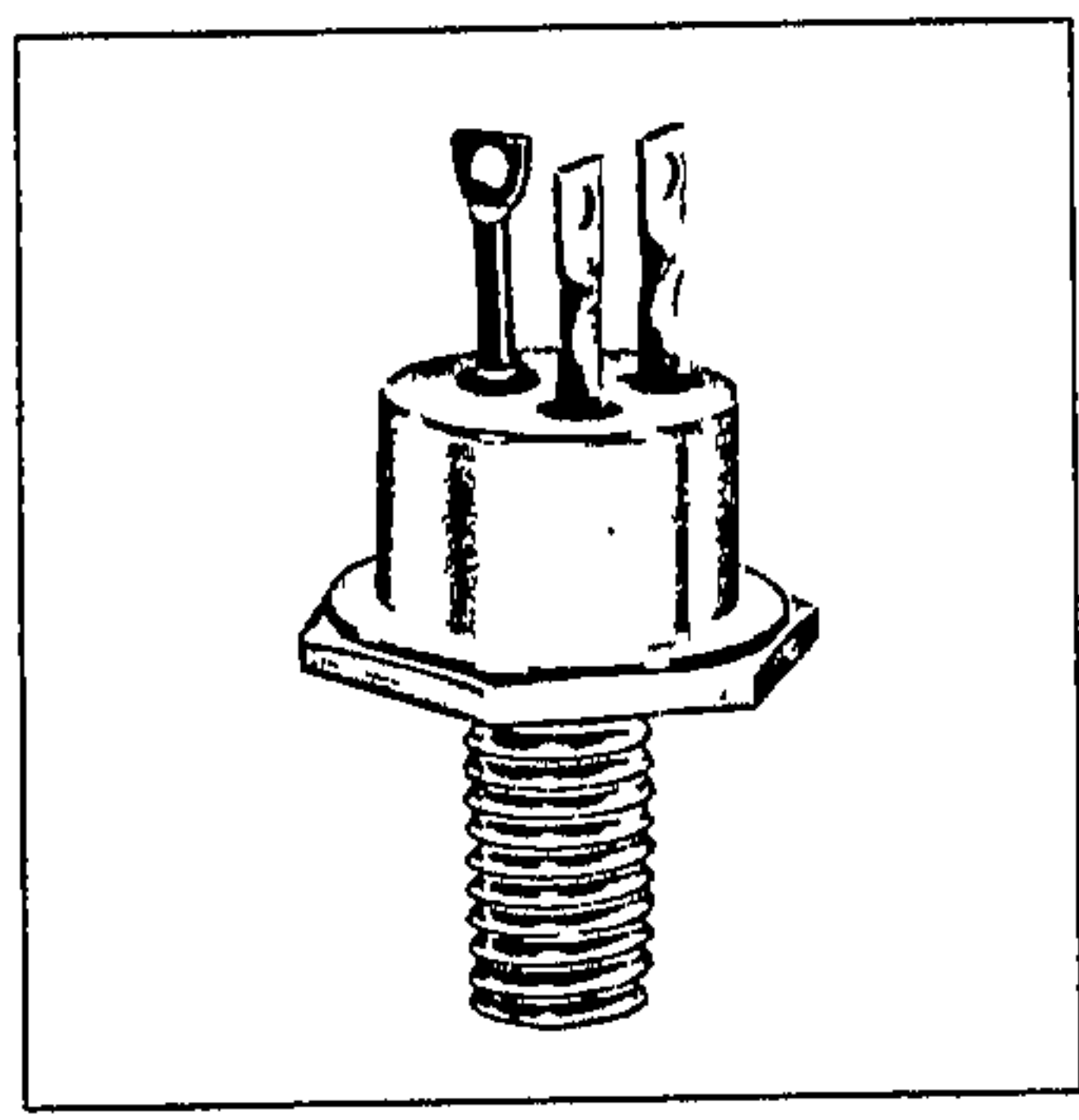


Westinghouse



Typical Applications

- | | |
|---------------------|------------------|
| Amplifiers | Inverters |
| Switching Circuits | Ignition Systems |
| Industrial Controls | Modulators |
| Regulators | Servo Systems |
| Power Supplies | Sweep Circuits |
| Pulse Generators | Logic Circuits |
| Oscillators | Active Filters |

Application

Westinghouse types 153 and 154 NPN silicon power transistors are a series of low-cost units designed expressly to meet the needs of Original Equipment Manufacturers of commercial electronic and control apparatus. Their low saturation resistance, high collector voltage and high temperature characteristics make them ideally suited for use in regulator, amplifier and switching circuits. In many applications, one of these units can replace two or more germanium power transistors.

**"O.E.M. Line"
Silicon Power Transistors
Westinghouse Type 153
Type 154**

7.5 Amperes, 200 Watts
Collector Voltages 40 to 300 Volts

Maximum Ratings

Voltage		V _{CB0}	V _{CE}	V _{EB0}
Type	Type			
153-04	154-04	65	40	25
153-06	154-06	85	60	25
153-08	154-08	105	80	25
153-10	154-10	125	100	25
153-12	154-12	145	120	25
153-14	154-14	165	140	25
153-16	154-16	185	160	25
153-18	154-18	205	180	25
153-20	154-20	225	200	25
153-22	154-22	245	220	25
153-24	154-24	265	240	25
153-26	154-26	285	260	25
153-28	154-28	305	280	25
153-30	154-30	325	300	25

Current

Collector current, I_C, Adc.....7.5
Base current, I_B, Adc.....3.0

Power

Power dissipation, P_T @ T_C=25°C,
watts, max.....200
Linear derating factor from 25°C..1.33W/°C

Temperature

Storage and operating temperature,
T_{stg}, T_J.....-65 to +175°C

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40C 00604 D T-33-15

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40C 00605

D 7-33-15

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DATA SHEETS



Electrical Characteristics
 $T_C=25^\circ\text{C}$ unless otherwise specified

	Symbol	Type 153			Type 154		
		Min.	Typ.	Max.	Min.	Typ.	Max.
Collector cut-off current at $V_{CEX}=\text{max. rating}$, $V_{BE}=-1.5\text{ Vdc}$, $I_C=0$, $T_C=175^\circ\text{C}$, $I_B=0$, $I_E=0$, I_{CEX}	I_{CEX}	..	..	10	..	..	10
Collector cut-off current at $V_{CEX}=\text{max. rating}$, $T_C=175^\circ\text{C}$, $V_{BE}=-1.5\text{ Vdc}$, $I_C=0$, $I_B=0$, $I_E=0$, I_{CEX}	I_{CEX}	..	..	20	..	..	20
Emitter cut-off current at $V_{EB}=25\text{ Vdc}$, $I_C=0$, $T_C=175^\circ\text{C}$, $I_B=0$, $I_E=0$, I_{EBO}	I_{EBO}	..	..	20	..	..	20
Turn-on time at $V_{CE}=12\text{ Vdc}$, $I_C=1.5\text{A}$, $I_B=0.3\text{A}$, microseconds	t_{on}	..	3	..	..	3	..
Turn-off time at $V_{CE}=12\text{ Vdc}$, $V_{BE}=-15\text{ Vdc}$, $I_C=1.5\text{A}$, $I_B=-0.3\text{A}$, microseconds	t_{off}	..	6	..	..	6	..
Collector-emitter saturation voltage at $I_C=1.5\text{ Adc}$, $I_B=0.25\text{ Adc}$, V_{CE} , $V_{CE(sat)}$	$V_{CE(sat)}$	..	..	1.30	..	..	1.25
Base-emitter voltage at $I_C=1.5\text{ Adc}$, $I_B=0.25\text{ Adc}$, V_{CE} , $V_{BE(sat)}$	$V_{BE(sat)}$	..	..	2.5	..	..	2.0
Base-emitter voltage at $I_C=1.5\text{ Adc}$, $V_{CE}=4\text{ Vdc}$, V_{BE}	V_{BE}	..	..	2.2	..	..	1.8
Dc current gain at $V_{CE}=4\text{ Vdc}$, $I_C=1.5\text{ Adc}$, h_{FE}	h_{FE}	15	..	..	25	..	..

Typical Characteristics

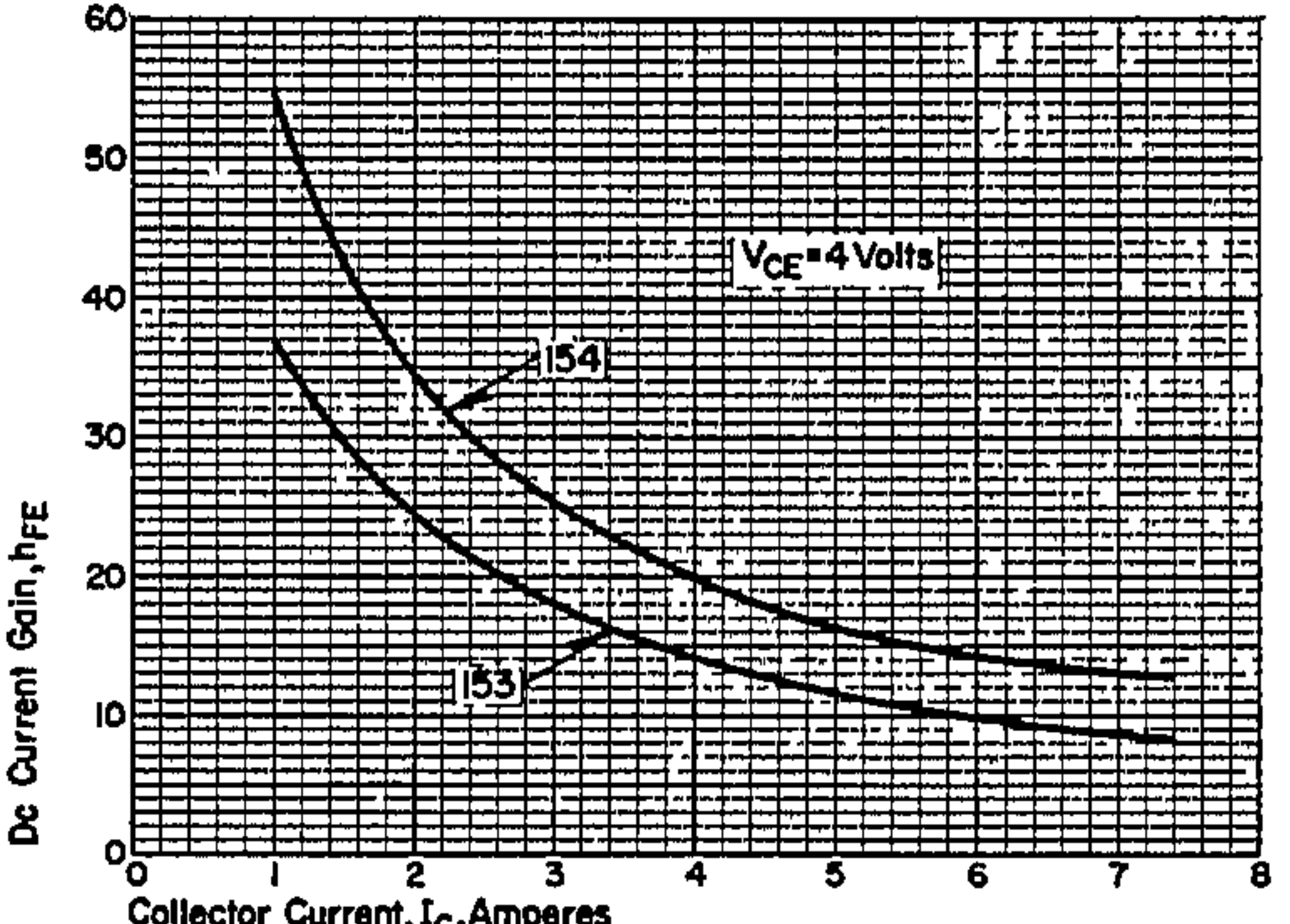


Figure 1. Typical dc gain versus collector current at $T_C=25^\circ\text{C}$.

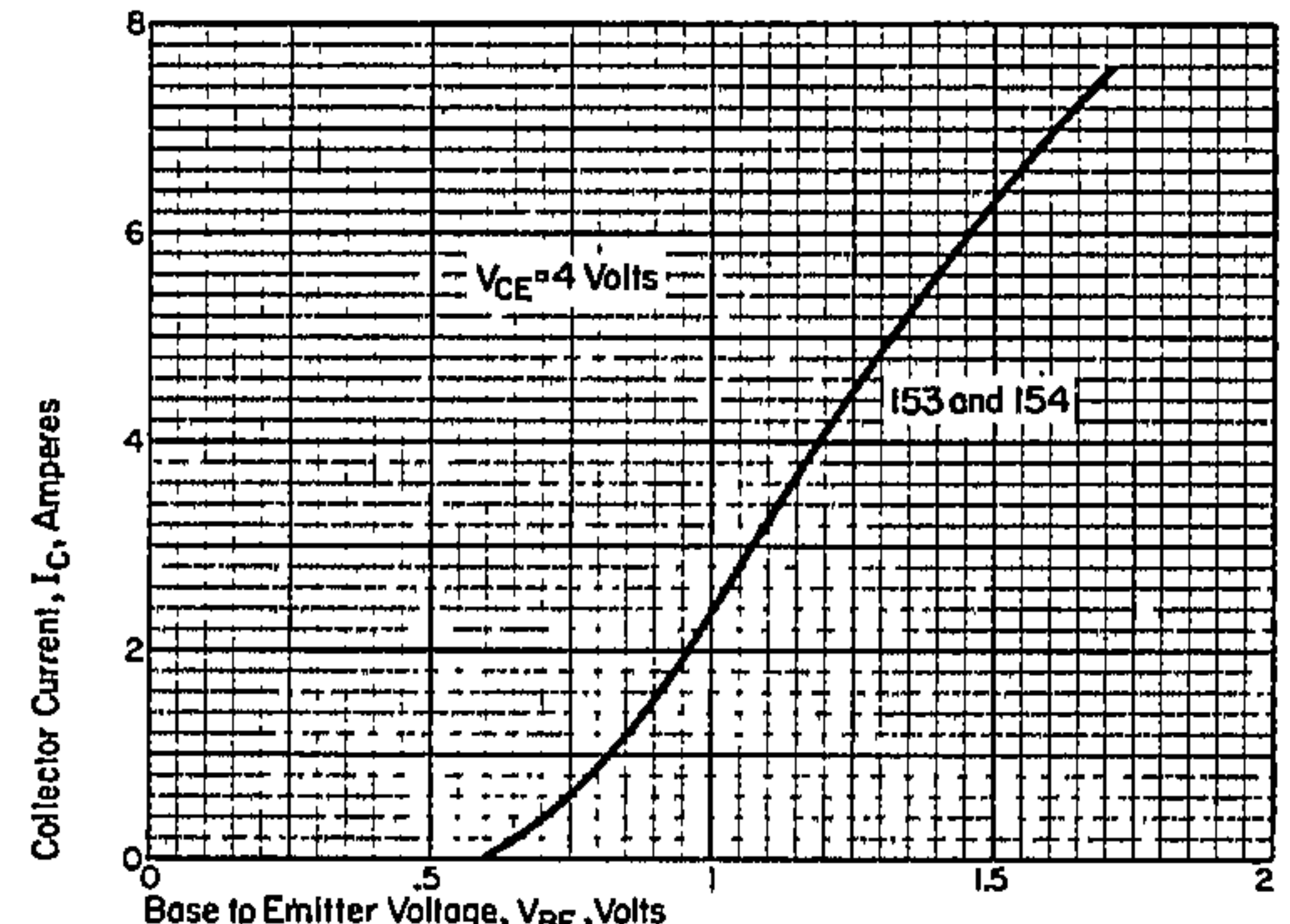


Figure 2. Typical transconductance characteristics at $T_C=25^\circ\text{C}$.

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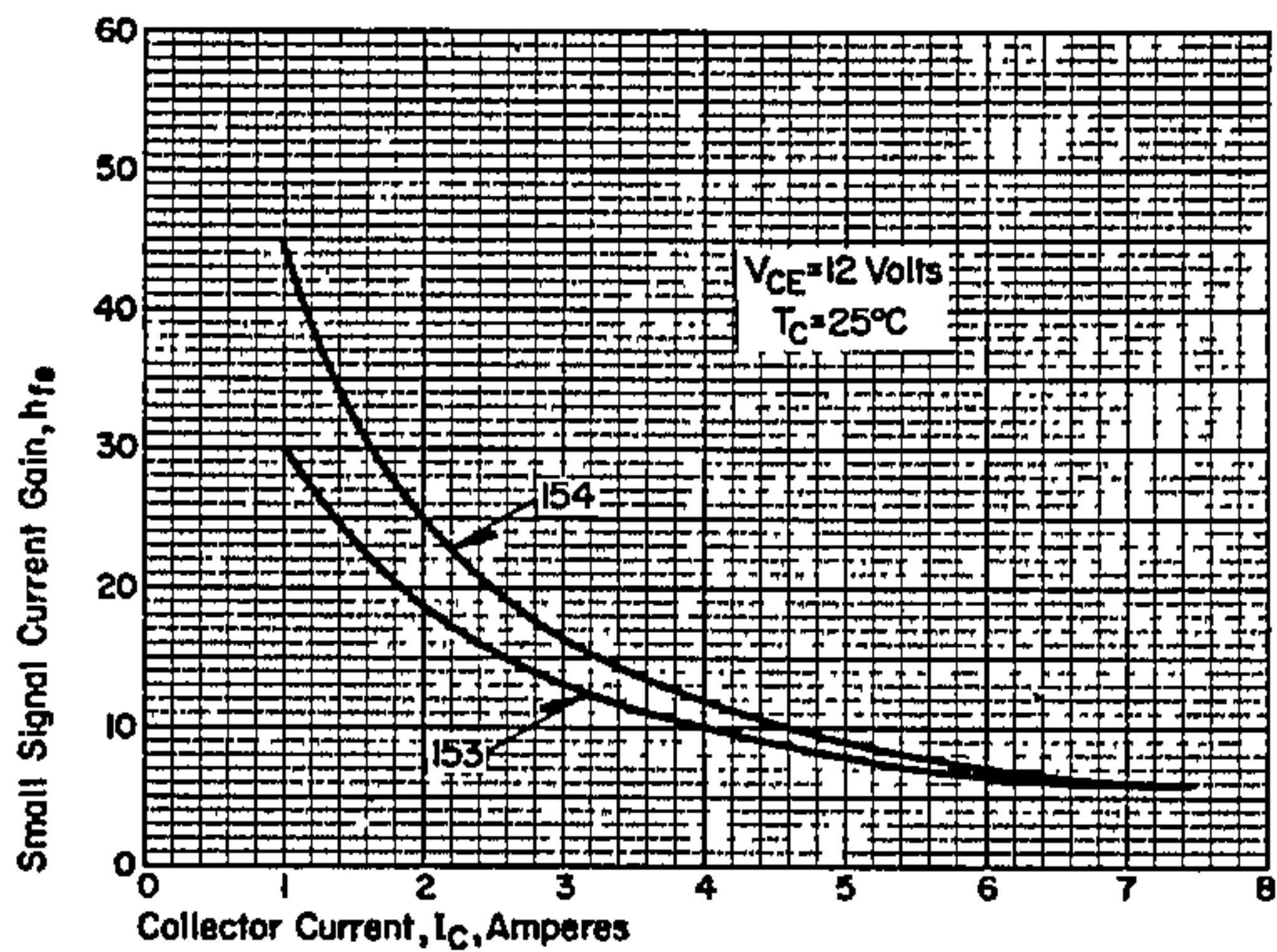


Figure 3. Typical small signal gain versus collector current.

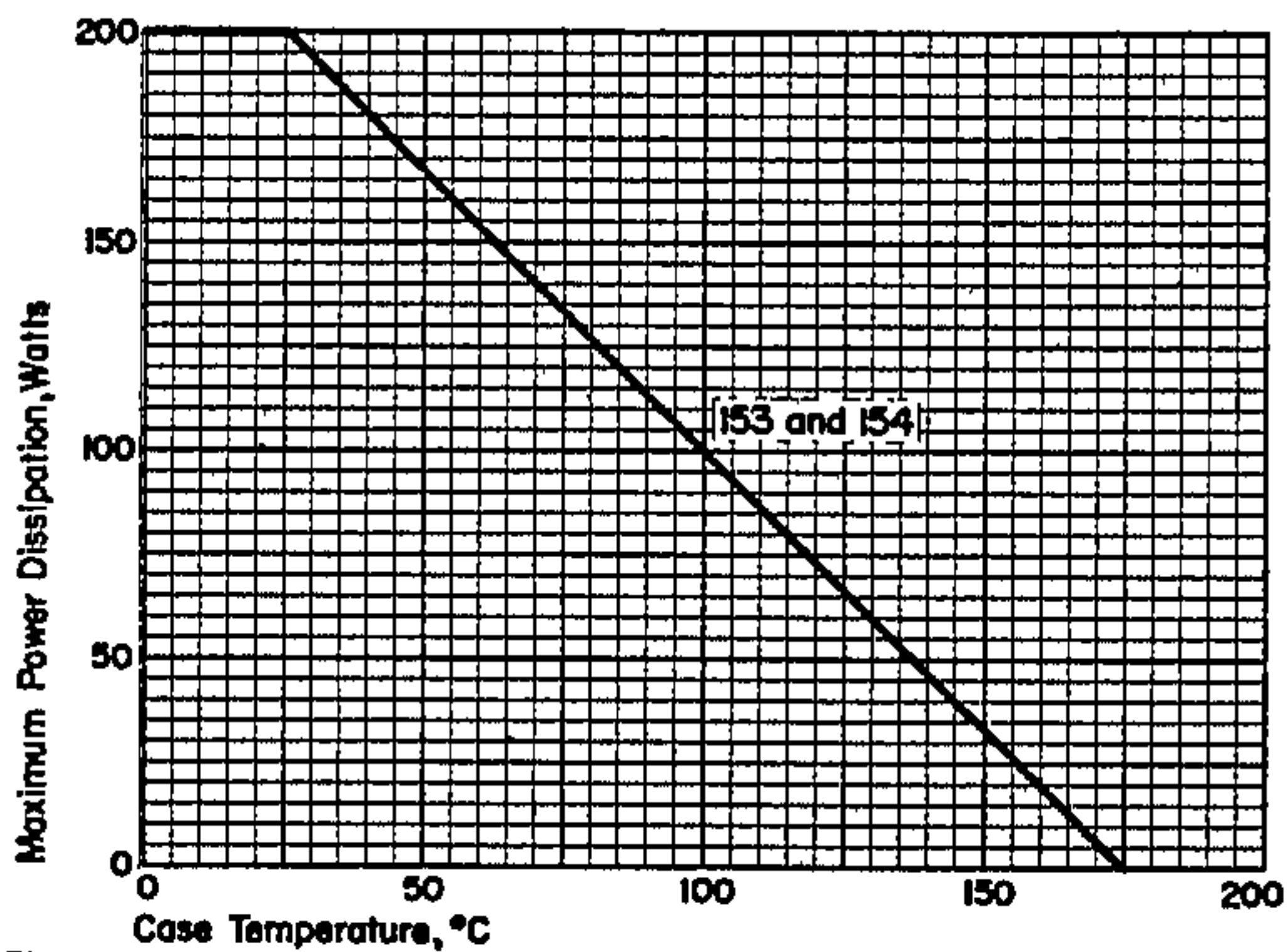
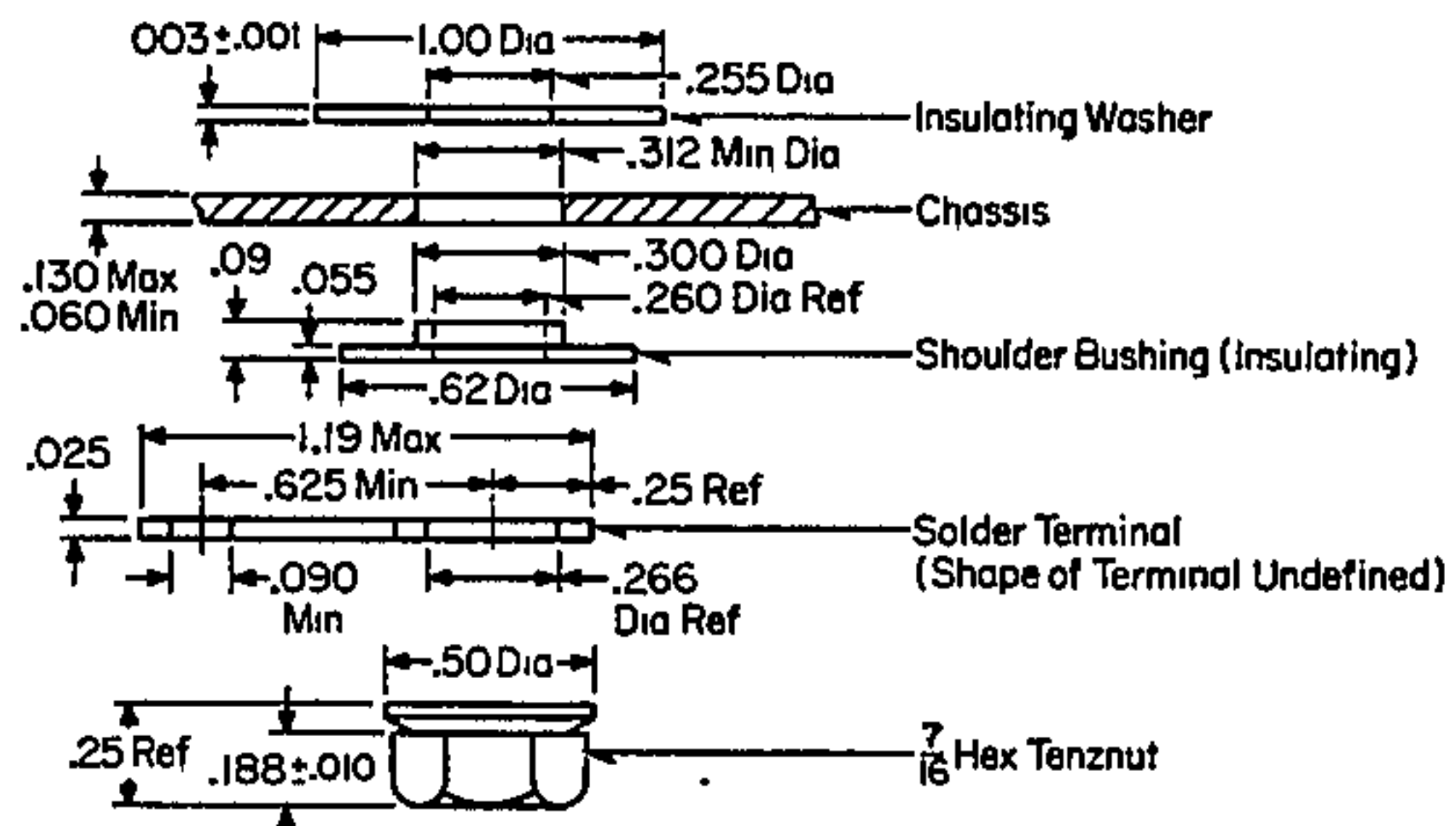
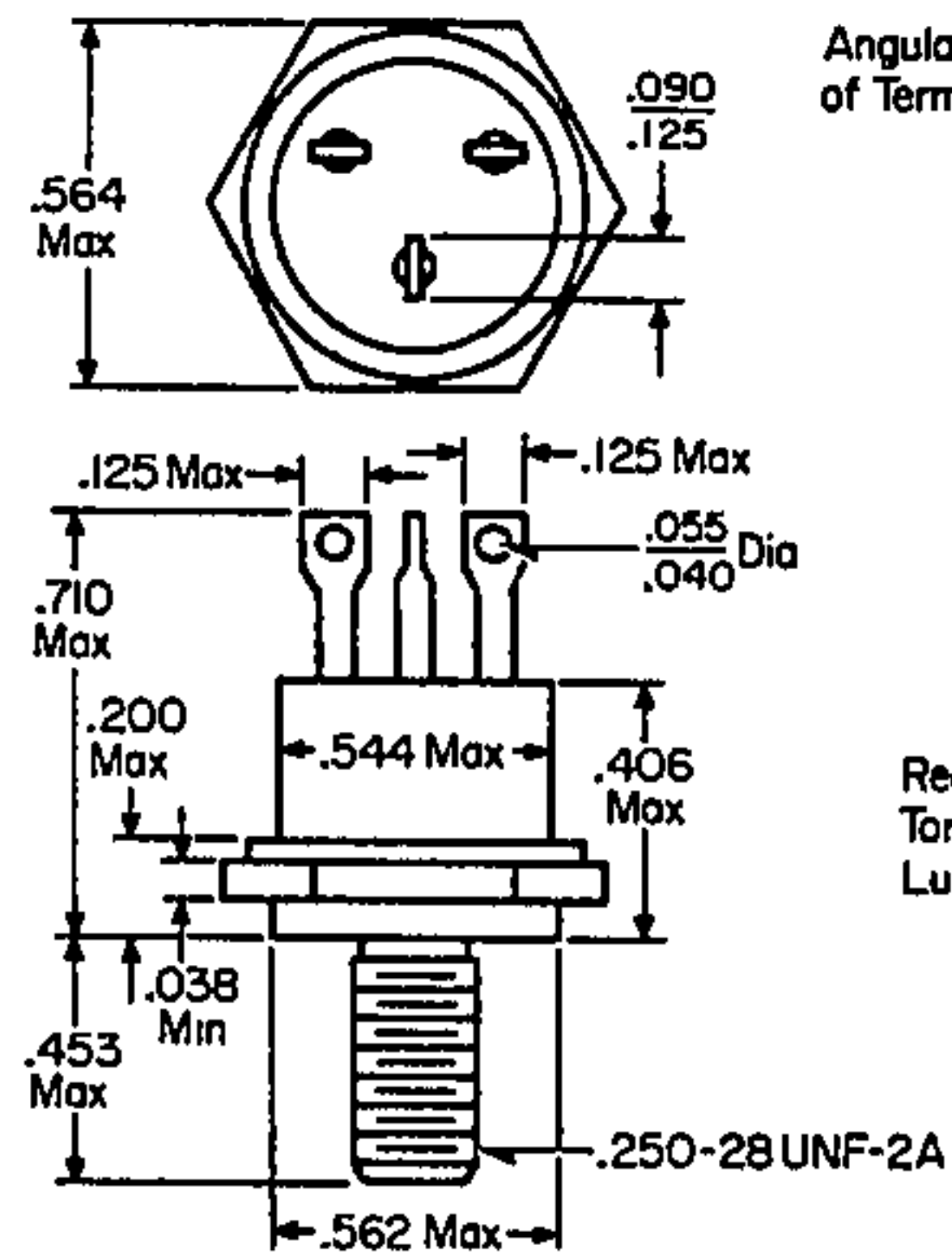


Figure 4. Derating curve.

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Dimensions in Inches



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