

The 2N319, 2N320, and 2N321 are miniaturized versions of the 2N186A series of G-E transistors. Like the prototype versions, the 2N319, 2N320, and 2N321 are medium power PNP transistors intended for use as audio output amplifiers in radio receivers and quality sound systems. By unique process controls the current gain is maintained at an essentially constant value for collector currents from 1 ma to 200 ma. This linearity of current gain provides low distortion in both Class A and Class B circuits, and permits the use of any two transistors from a particular type without matching in Class B Circuits.

2N319, 2N320, 2N321

Outline Drawing No. 29

SPECIFICATIONS

ABSOLUTE MAXIMUM RATINGS:

Voltages		
Collector to Emitter	V_{CE}	20 volts
Collector to Base	V_{CB}	30 volts
Emitter to Base	V_{EB}	3 volts
Collector Current	I_C	200 ma
Power		
Collector Dissipation	P_{CM}	200 mw
Temperature		
Operating and Storage Range	T_A - T_{STG}	-65 to 100 °C

TYPICAL ELECTRICAL CHARACTERISTICS: (25°C)

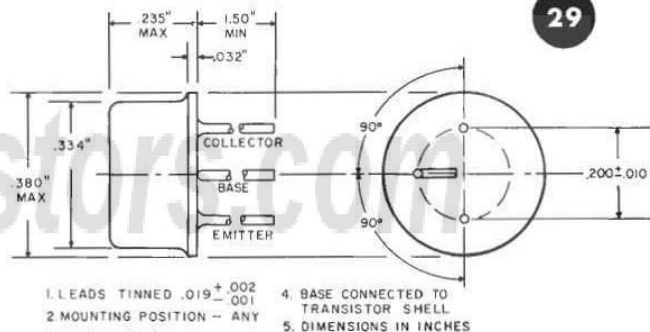
	2N319	2N320	2N321	
D.C. Characteristics				
Base Current Gain ($I_C = 20$ ma; $V_{CE} = -1$ v)	h_{FE}	33	48	80
Base Current Gain ($I_C = 100$ ma; $V_{CE} = -1$ v)	h_{FE}	30	44	70
Collector to Emitter Voltage ($R_{EB} = 10$ K)				
($I_C = .6$ ma)	V_{CEB}	20	20	20 volts
Collector Cutoff Current ($V_{EB} = -25$ v)	I_{CO}	8	8	8 μ a
Maximum Collector Cutoff Current ($V_{EB} = -25$ v)	I_{CO}	16	16	16 μ a
Emitter Cutoff Current ($V_{EB} = 3$ v)	I_{EO}	2	2	2 μ a
Small Signal Characteristics (Common Base)				
($V_{CB} = -5$ v; $I_E = 1$ ma; $f = 270$)				
Frequency Cutoff	f_{cb}	2.5	2.9	3.3 mc
Collector Capacity ($f = 1$ mc)	C_{cb}	24	24	24 μ uf
Noise Figure	NF	6	6	6 db
Input Impedance	h_{ib}	30	30	30 ohms

Thermal Characteristics

Thermal Resistance				
Without Heat Sink (Junction to Air)		.33	.33	.33 °C/mw
With Heat Sink (Junction to Case)		.2	.2	.2 °C/mw

Performance Data (Common Emitter)

Class A Power Gain ($V_{CE} = -9$ v)	G_e	30	31	32 db
Power Output	P_o	50	50	50 mw
Class B Power Gain ($V_{CE} = -9$ v)	G_e	27	29	31 db
Power Output	P_o	100	100	100 mw



29