

437-517

BC327
BC327A
BC328

SILICON PLANAR EPITAXIAL TRANSISTORS

P-N-P transistors in plastic TO-92 variant envelopes, primarily intended for use in driver and output stages of audio amplifiers.

The BC327, BC327A, BC328 are complementary to the BC337, BC337A and BC338 respectively.

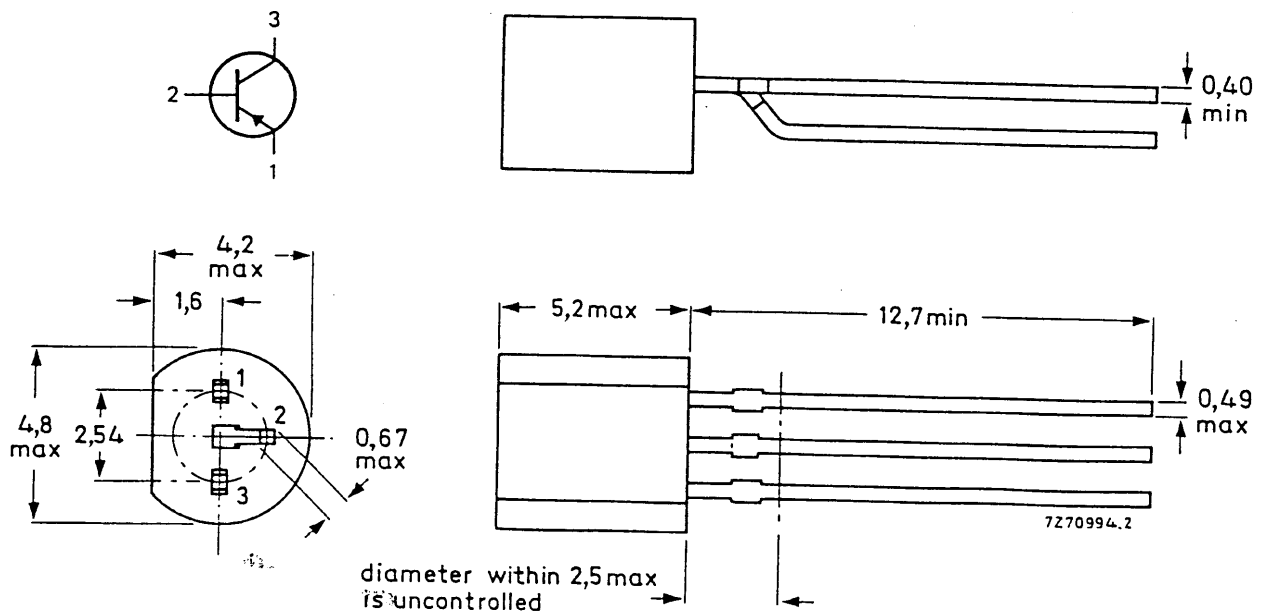
QUICK REFERENCE DATA

		BC327	BC327A	BC328	
Collector-emitter voltage ($V_{BE} = 0$)	$-V_{CES}$ max.	50	60	30	V
Collector-emitter voltage (open base)	$-V_{CEO}$ max.	45	60	25	V
Collector current (peak value)	$-I_{CM}$ max.	1000			mA
Total power dissipation up to $T_{amb} = 25^\circ\text{C}$	P_{tot} max.	800			mW
Junction temperature	T_j max.	150			$^\circ\text{C}$
Transition frequency at $f = 35$ MHz $-I_C = 10$ mA; $-V_{CE} = 5$ V	f_T typ.	100			MHz
D.C. current gain $-I_C = 100$ mA; $-V_{CE} = 1$ V	h_{FE}	100 to 600			

MECHANICAL DATA

Dimensions in mm

Fig. 1 TO-92 variant.



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RATINGS

Limiting values in accordance with the Absolute Maximum System (IEC 134)

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Collector-emitter voltage ($V_{BE} = 0$)	$-V_{CES}$ max.	50	60	30	V
Collector-emitter voltage (open base) $-I_C = 10$ mA	$-V_{CEO}$ max.	45	60	25	V
Emitter-base voltage (open collector)	$-V_{EBO}$ max.	5	5	5	V
Collector current (d.c.)	$-I_C$ max.	500			mA
Collector current (peak value)	$-I_{CM}$ max.	1000			mA
Emitter current (peak value)	I_{EM} max.	1000			mA
Base current (d.c.)	$-I_B$ max.	100			mA
Base current (peak value)	$-I_{BM}$ max.	200			mA
Total power dissipation at $T_{amb} = 25$ °C	P_{tot} max.	625			mW
up to $T_{amb} = 25$ °C	P_{tot} max.	800			mW*
Storage temperature	T_{stg}	-65 to +150			°C
Junction temperature	T_j max.	150			°C
THERMAL RESISTANCE					
From junction to ambient in free air	$R_{th j-a}$ =	0,2			K/mW
From junction to ambient	$R_{th j-a}$ =	0,156			K/mW*

* Transistor mounted on printed circuit board, max. lead length 4 mm, mounting pad for collector lead min. 10 mm x 10 mm.

CHARACTERISTICS

 $T_j = 25\text{ }^\circ\text{C}$ unless otherwise specified

Collector cut-off current

 $I_E = 0; -V_{CB} = 20\text{ V}; T_j = 25\text{ }^\circ\text{C}$ $-I_{CBO} < 100\text{ nA}$ $I_E = 0; -V_{CB} = 20\text{ V}; T_j = 150\text{ }^\circ\text{C}$ $-I_{CBO} < 5\text{ }\mu\text{A}$

Emitter cut-off current

 $I_C = 0; -V_{EB} = 5\text{ V}$ $-I_{EBO} < 10\text{ }\mu\text{A}$

Base emitter voltage*

 $-I_C = 500\text{ mA}; -V_{CE} = 1\text{ V}$ $-V_{BE} < 1,2\text{ V}$

Saturation voltage

 $-I_C = 500\text{ mA}; -I_B = 50\text{ mA}$ $-V_{CEsat} < 700\text{ mV}$

D.C. current gain

 $-I_C = 500\text{ mA}; -V_{CE} = 1\text{ V}$ $h_{FE} > 40$ $-I_C = 100\text{ mA}; -V_{CE} = 1\text{ V}; \text{BC327; BC328}$ $h_{FE} 100\text{ to }600$

BC327A

 $h_{FE} 100\text{ to }400$

BC327-16 }

 $h_{FE} 100\text{ to }250$

BC328-16 }

BC327-25 }

 $h_{FE} 160\text{ to }400$

BC328-25 }

BC327-40 }

 $h_{FE} 250\text{ to }600$

BC328-40 }

Transition frequency at $f = 35\text{ MHz}$ $-I_C = 10\text{ mA}; -V_{CE} = 5\text{ V}$ $f_T \text{ typ. } 100\text{ MHz}$ Collector capacitance at $f = 1\text{ MHz}$ $I_E = I_e = 0; -V_{CB} = 10\text{ V}$ $C_c \text{ typ. } 8\text{ pF}$ * $-V_{BE}$ decreases by about 2 mV/K with increasing temperature.

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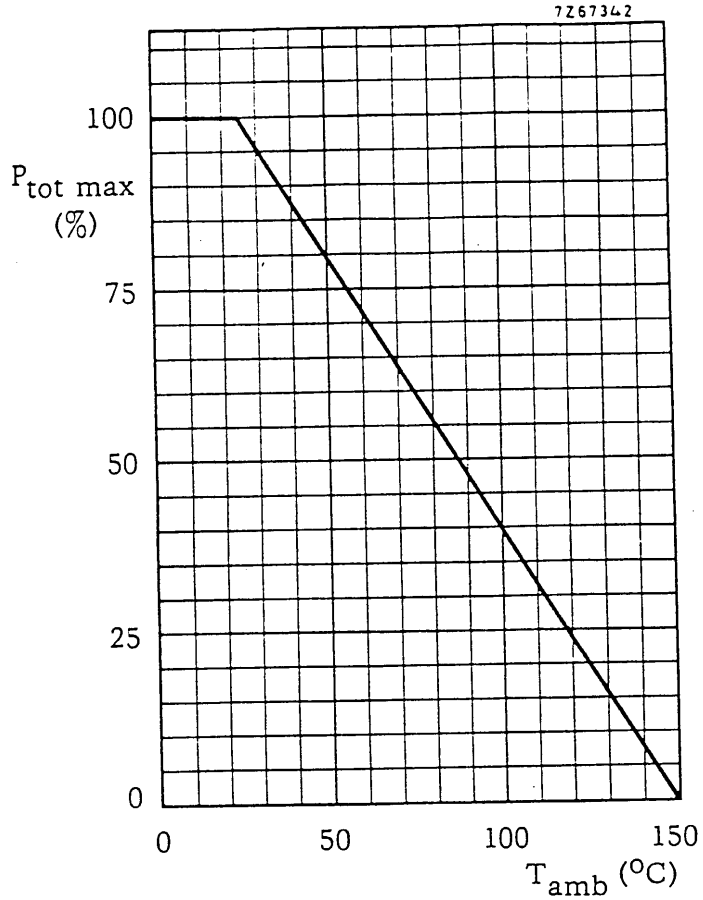


Fig. 2.

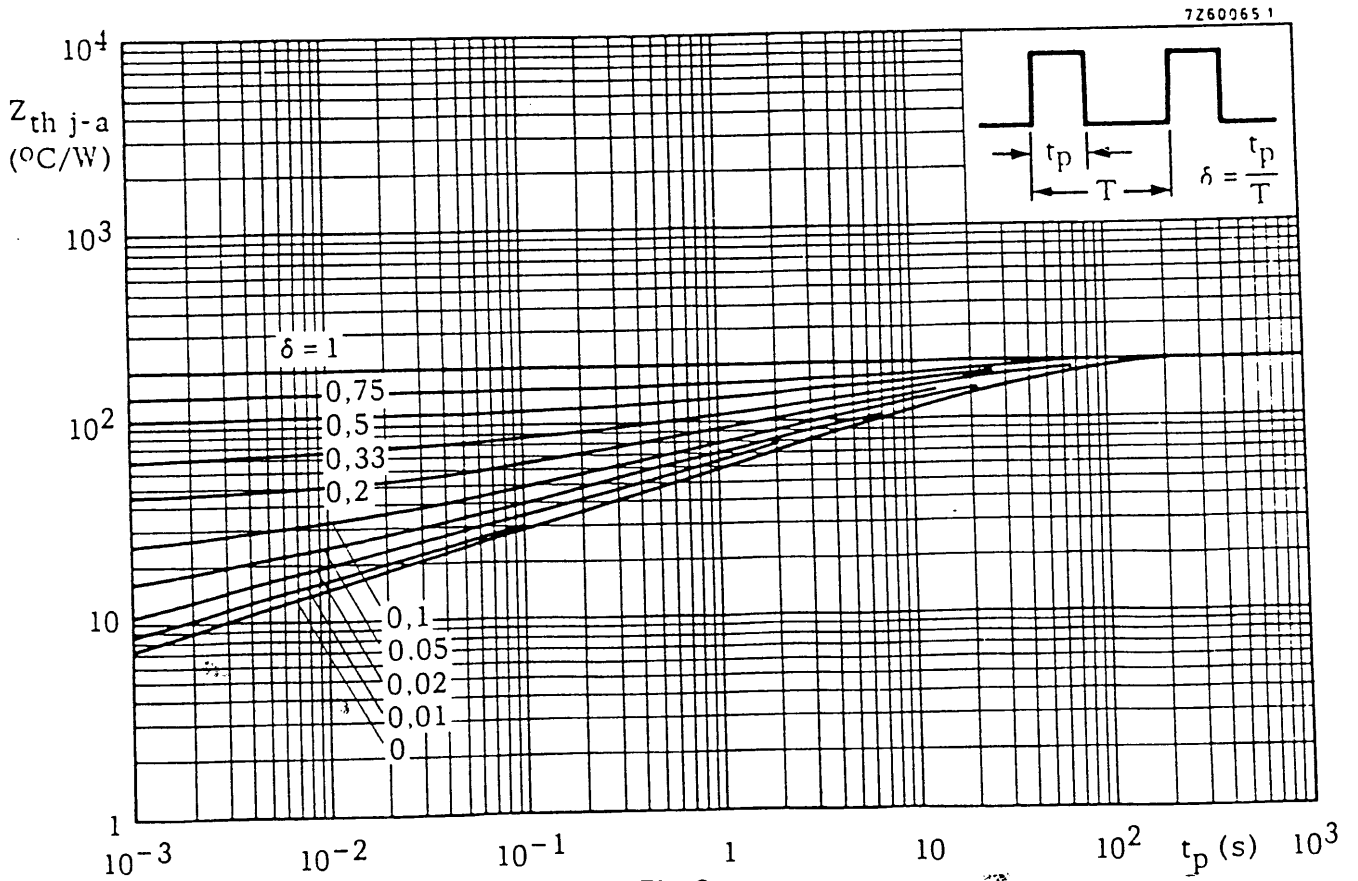


Fig. 3.

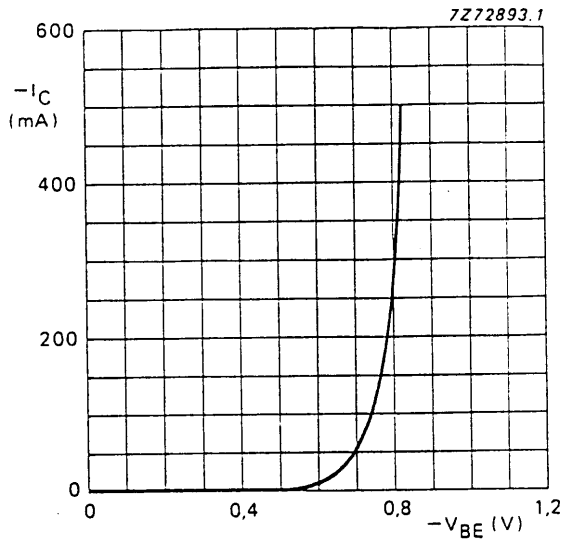


Fig. 4 $-V_{CE} = 1 \text{ V}; T_j = 25 \text{ }^\circ\text{C};$ typical values.

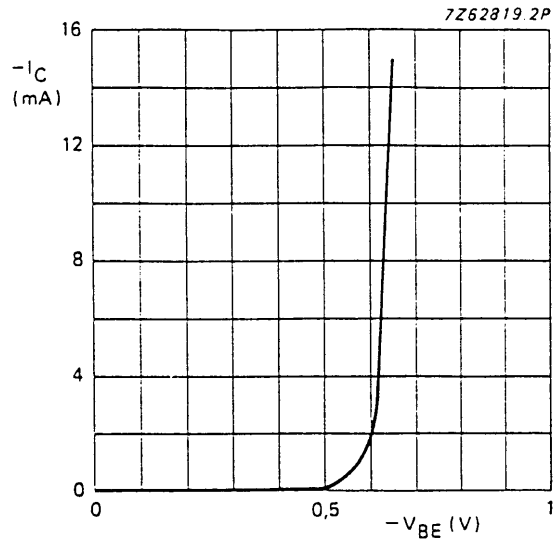


Fig. 5 $-V_{CE} = 5 \text{ V}; T_j = 25 \text{ }^\circ\text{C};$ typical values.

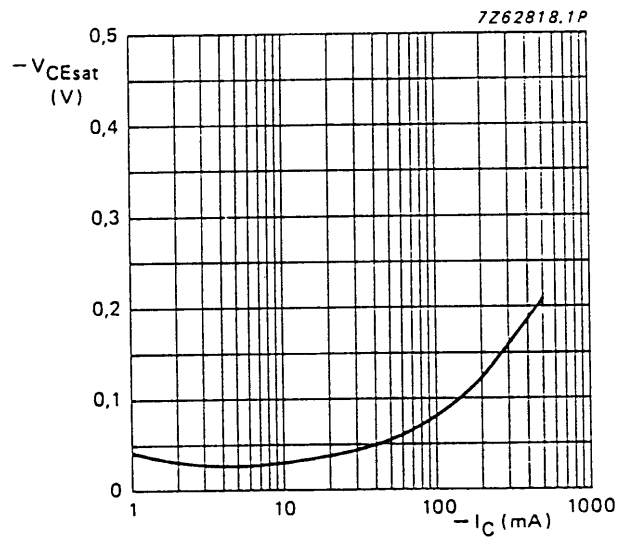


Fig. 6 $I_C/I_B = 10; T_j = 25 \text{ }^\circ\text{C};$ typical values.

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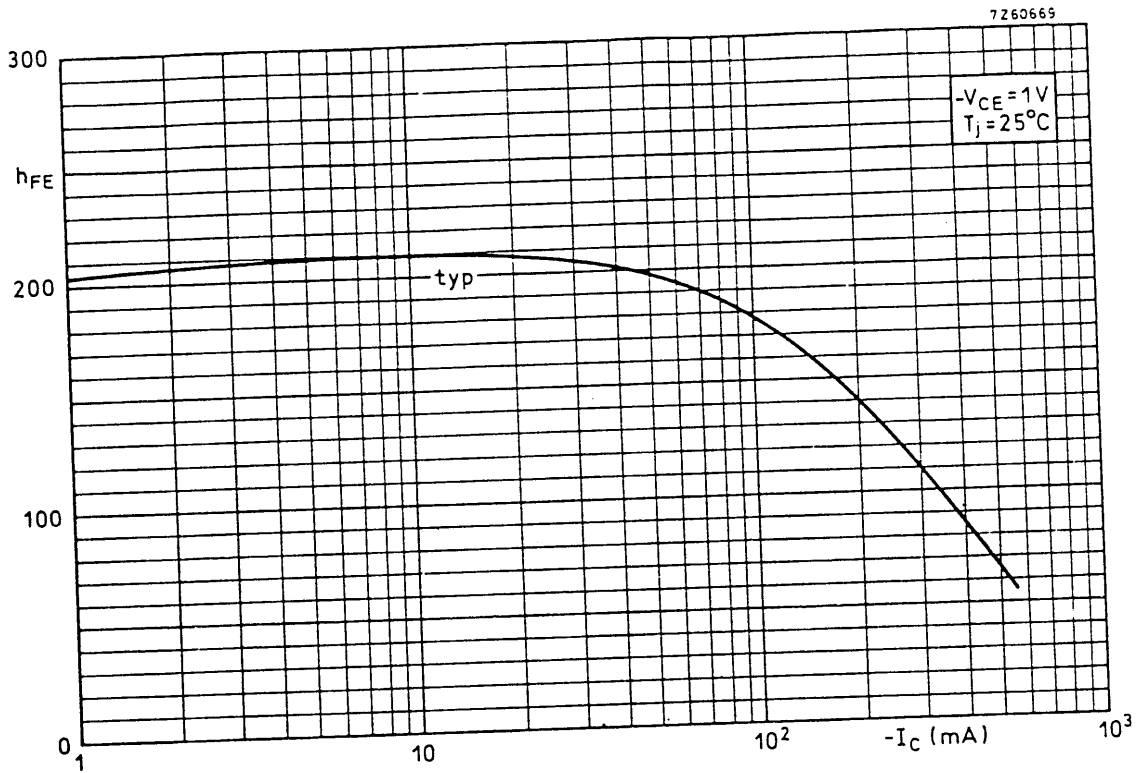


Fig. 7.

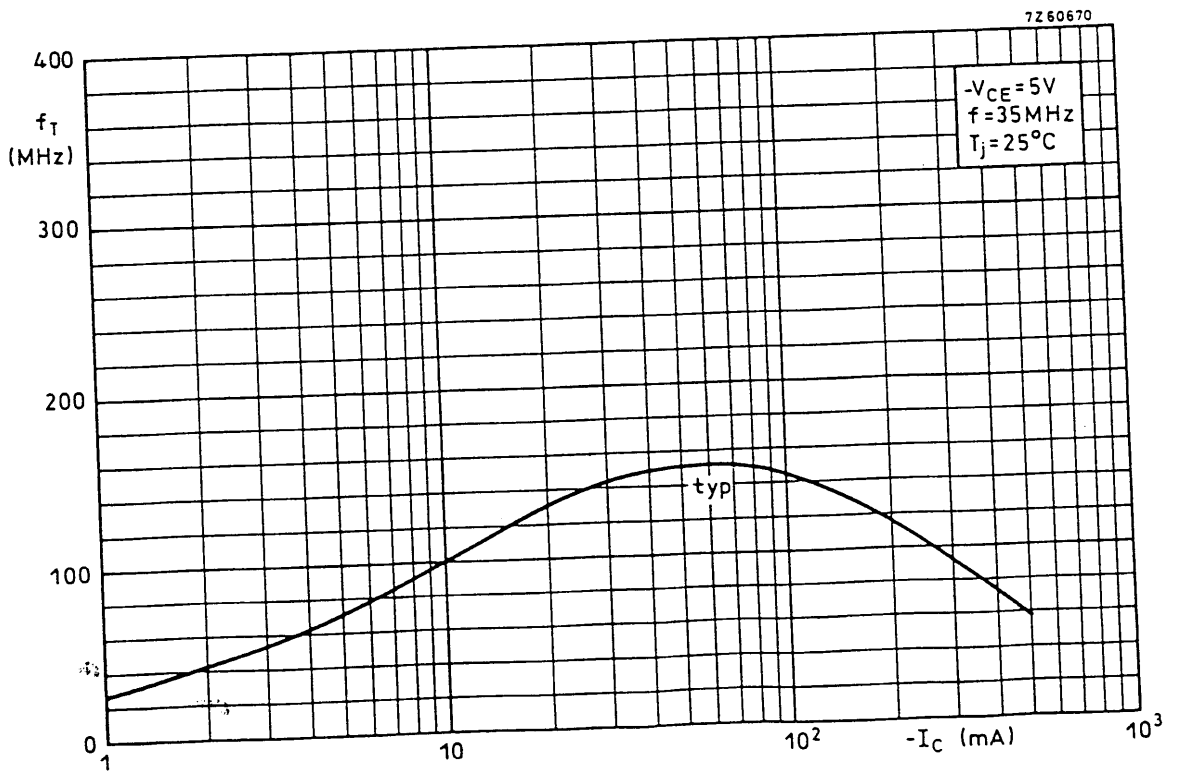


Fig. 8.