

SILICON PLANAR EPITAXIAL TRANSISTORS

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

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

QUICK REFERENCE DATA

		BC337	BC337A	BC338	
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 $T_{amb} = 25\text{ }^{\circ}\text{C}$	P_{tot} max.	800			mW
Junction temperature	T_j max.	150			$^{\circ}\text{C}$
Transition frequency at $f = 100\text{ MHz}$ $I_C = 10\text{ mA}; V_{CE} = 5\text{ V}$	f_T	> 100			MHz
D.C. current gain $I_C = 100\text{ mA}; V_{CE} = 1\text{ V}$	h_{FE}	100 to 600			

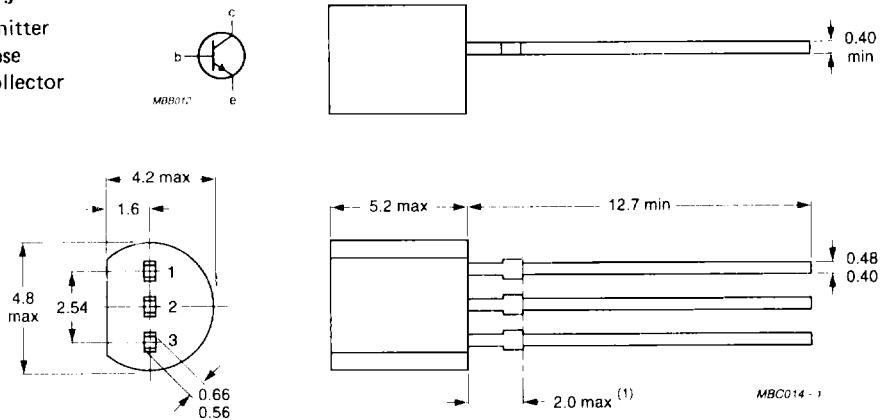
MECHANICAL DATA

Dimensions in mm

Fig. 1 TO-92.

Pinning

- 1 = emitter
- 2 = base
- 3 = collector



Note (1) Terminal dimensions within this zone are uncontrolled to allow for flow of plastic and terminal irregularities.

RATINGS

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

			BC337	BC337A	BC338	
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

 $I_C = 500\text{ mA}; V_{CE} = 1\text{ V}$ $h_{FE} > 40$ $I_C = 100\text{ mA}; V_{CE} = 1\text{ V}; \text{BC337; BC338}$ $h_{FE} 100\text{ to }600$

BC337A

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

BC337-16

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

BC338-16

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

BC337-25

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

BC338-25

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

BC337-40

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

BC338-40

 $h_{FE} 250\text{ to }600$ Transition frequency at $f = 100\text{ MHz}$ $I_C = 10\text{ mA}; V_{CE} = 5\text{ V}$ $f_T > 100\text{ MHz}$ Collector capacitance at $f = 1\text{ MHz}$ $I_E = I_e = 0; V_{CB} = 10\text{ V}$ $C_c \text{ typ. } 5\text{ pF}$ * V_{BE} decreases by about 2 mV/K with increasing temperature.

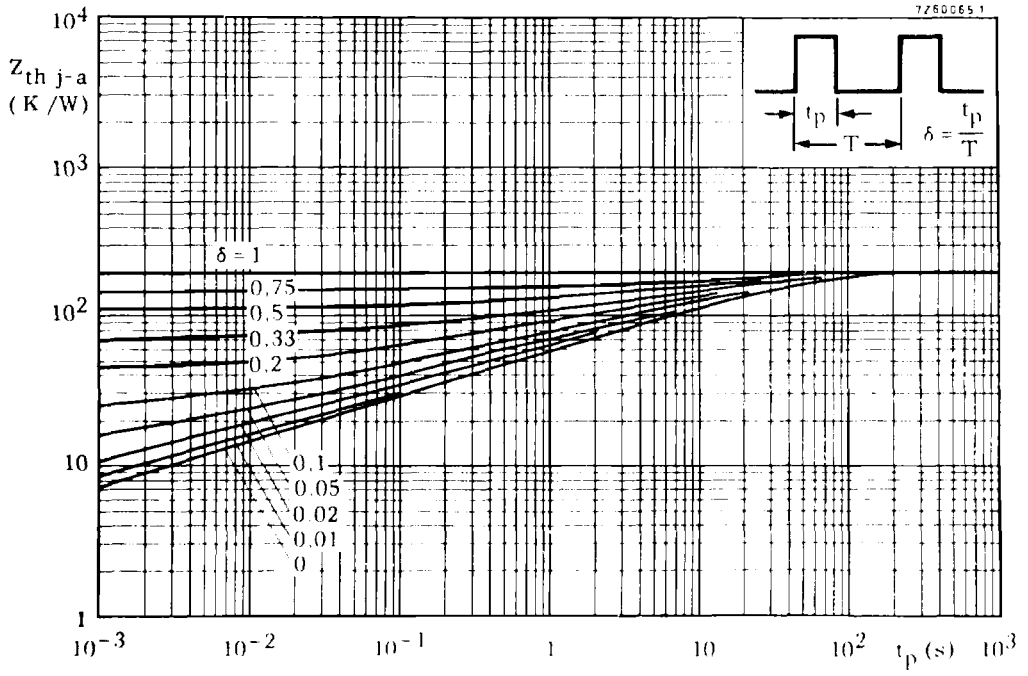


Fig. 2.