PNP Silicon Planar Transistor

BD 330

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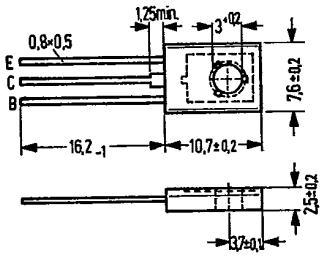
BD 330 is an epitaxial PNP silicon planar transistor in TO 126 plastic package (12 A 3 DIN 41 869, sheet 4). Together with its complementary transistor BD 329 it is particularly suitable for use in complementary output stages of medium performance (e.g. car radios).

Type	Ordering code
BD 330	Q62702-D395
BD 330/BD 329 paired	Q62702-D401
Spring washer A 3 DIN 137	Q62902-B63



Approx. weight 0.5 g

Turning torque of the M3 screw used for mounting: 0,8 Nm,
washer or spring washer should be used.

Maximum ratings

Collector-emitter voltage	$-V_{CES}$	32	V
Collector-emitter voltage	$-V_{CEO}$	20	V
Emitter-base voltage	$-V_{EBO}$	5	V
Collector current	$-I_C$	3	A
Emitter current	$-I_E$	3	A
Base current	$-I_B$	1	A
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	−55 to +150	°C
Total power dissipation (T_{amb} = 25 °C)	P_{tot}	15	W

Thermal resistance

Junction to ambient air	R_{thJA}	≤100	K/W
Junction to mounting area	R_{thJC}	≤7	K/W

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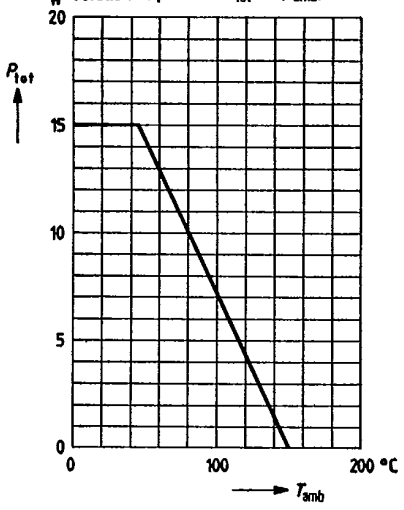
Static characteristics (T_{amb} = 25 °C)

Collector-emitter saturation voltage ($-I_C$ = 2 A; $-I_B$ = 200 mA)	$-V_{CEsat}$	≤0.5	V
Collector cutoff current ($-V_{CB}$ = 32 V)	$-I_{CBO}$	≤10	µA
Collector cutoff current ($-V_{CB}$ = 32 V; T_j = 150 °C)	$-I_{CBO}$	≤1	mA
Emitter cutoff current ($-V_{EB}$ = 5 V)	$-I_{EBO}$	≤10	µA
Base-emitter voltage ($-V_{CE}$ = 10 V; $-I_C$ = 5 mA)	$-V_{BE}$	0.6	V
($-V_{CE}$ = 1 V; $-I_C$ = 2 A)	$-V_{BE}$	≤1.2	V
DC current gain $-V_{CE}$ = 10 V; $-I_C$ = 5 mA	h_{FE}	>50	–
$-V_{CE}$ = 1 V; $-I_C$ = 0.5 A	h_{FE}	85 to 375	–
$-V_{CE}$ = 1 V; $-I_C$ = 2 A	h_{FE}	>40	–

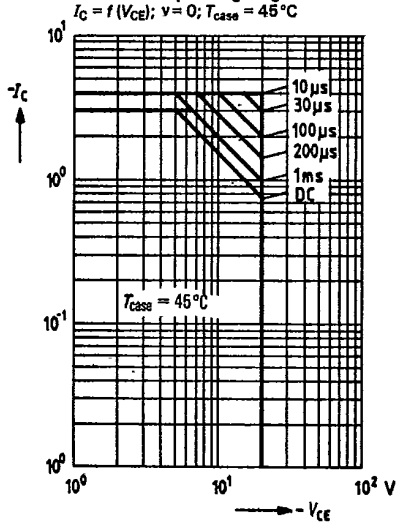
Dynamic characteristics (T_{amb} = 25 °C)

Transition frequency ($-V_{CE}$ = 5 V; $-I_C$ = 50 mA)	f_T	100	MHz

Total perm. power dissipation
versus temperature $P_{tot} = f(T_{amb})$



Permissible operating range
$I_C = f(V_{CE})$; v = 0; T_{case} = 45 °C



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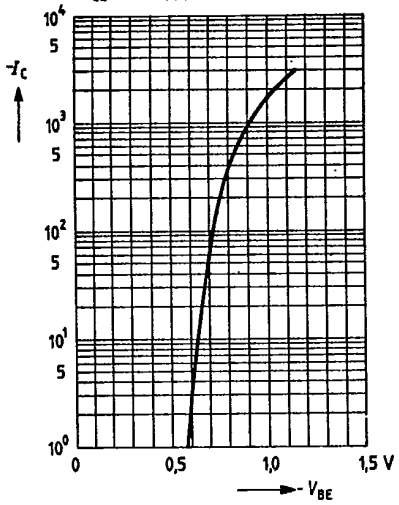
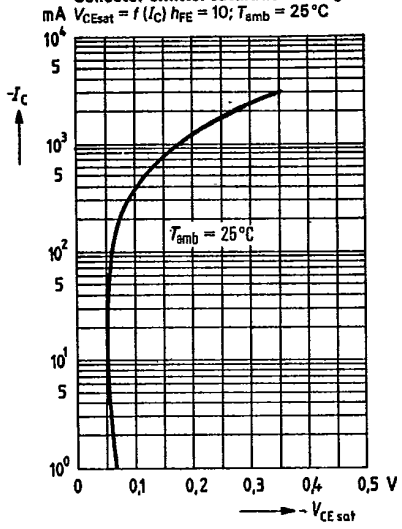
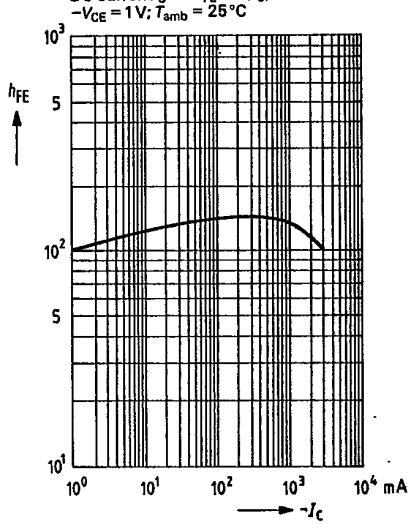
Collector current $I_C = f(V_{BE})$
mA $-V_{CE} = 1\,V$; $T_{amb} = 25\,°C$



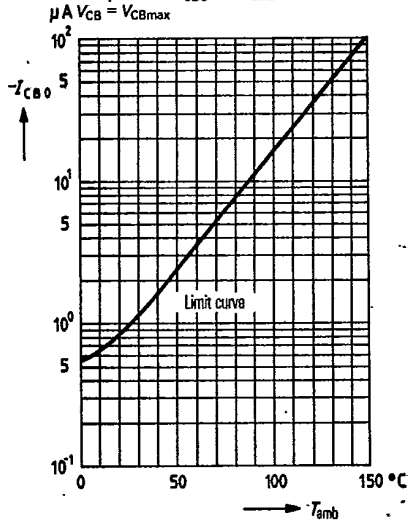
Collector-emitter saturation voltage
mA $V_{CEsat} = f(I_C)$ $h_{FE} = 10$; $T_{amb} = 25\,°C$



DC current gain $h_{FE} = f(I_C)$
$-V_{CE} = 1\,V$; $T_{amb} = 25\,°C$



Collector cutoff current versus temperature $I_{CBO} = f(T_{amb})$
µA $V_{CB} = V_{CBmax}$



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