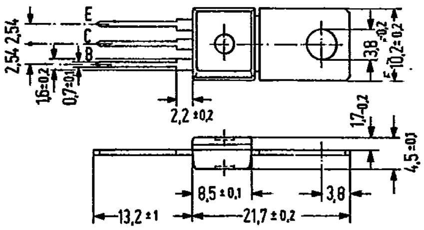
T-33-05

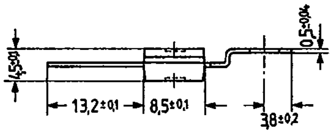
NPN Silicon Planar Transistor

BD 429

BD 429 is an epitaxial NPN silicon planar transistor in a plastic package similar to TO 202. Together with its complementary transistor BD 430 it is particularly suitable for use in complementary output stages of medium performance (e.g. car radios).

Type	Ordering code
BD 429	Q62702-D1069





Available upon request also with bent fixing plate.

Approx. weight 15 g. Dimensions in mm

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_{case} = 25°C)	P_{tot}	10	W
(T_{amb} = 25°C)	P_{tot}	2	W

Thermal resistance

Junction to ambient air	R_{thJA}	≤62,5	K/W
Junction to mounting area	R_{thJC}	≤12,5	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	130	MHz

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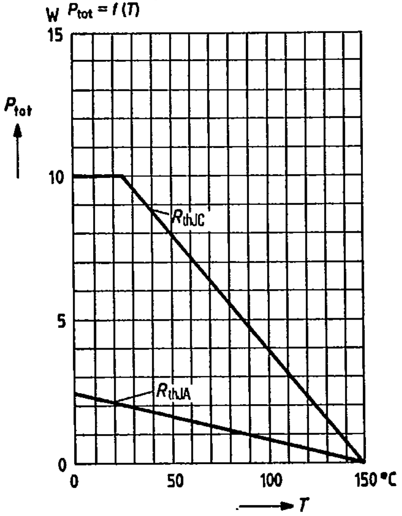
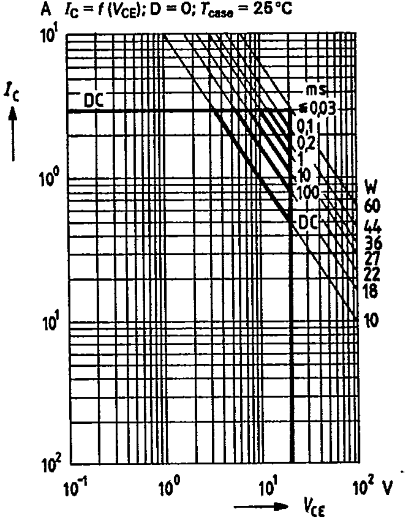
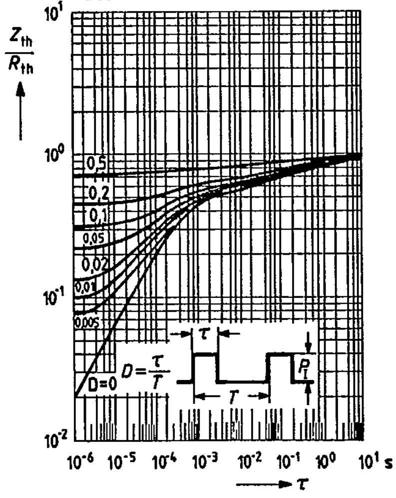
Total perm. power dissipation versus temperature
$P_{tot} = f(T)$



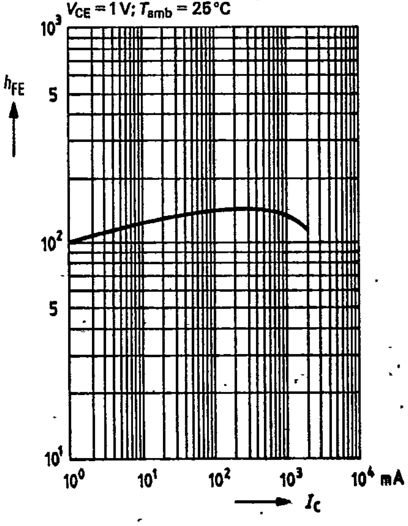
Permissible operating range
$I_C = f(V_{CE})$; D = 0; T_{case} = 25 °C



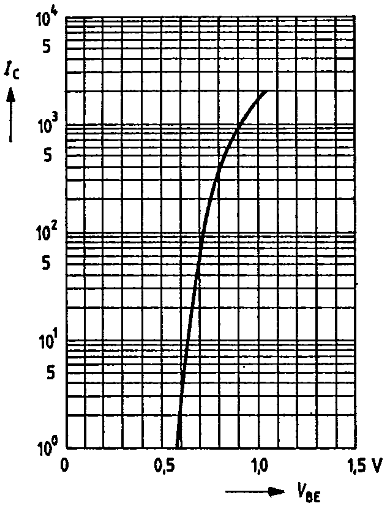
Permissible pulse load
$\frac{Z_{thJC}}{R_{thJC}} = f(\tau)$



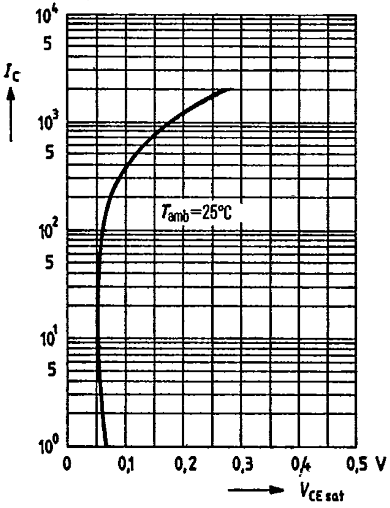
DC current gain $h_{FE} = f(I_C)$
V_{CE} = 1 V; T_{amb} = 25 °C



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



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



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