PNP power transistors BD826; BD828; BD830

FEATURES

- High current (max. 1 A)
- Low voltage (max. 80 V).

APPLICATIONS

- General purpose
- Driver stages in hi-fi amplifiers and television circuits.

DESCRIPTION

PNP power transistor in a TO-202; SOT128B plastic package. NPN complements: BD825 and BD829.

PINNING

PIN	DESCRIPTION
1	emitter
2	collector, connected to metal part of mounting surface
3	base

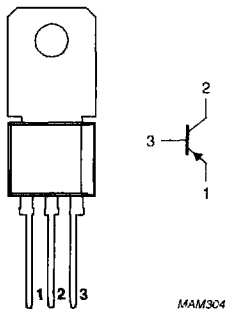

Fig.1 Simplified outline (TO-202; SOT128B) and symbol.

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V_{CBO}	collector-base voltage	open emitter				
	BD826		–	–	–45	V
	BD828		–	–	–60	V
	BD830		–	–	–100	V
V_{CEO}	collector-emitter voltage	open base				
	BD826		–	–	–45	V
	BD828		–	–	–60	V
	BD830		–	–	–80	V
I_{CM}	peak collector current		–	–	–1.5	A
P_{tot}	total power dissipation	$T_{amb} \leq 25$ °C	–	–	2	W
		$T_{mb} \leq 50$ °C	–	–	8	W
h_{FE}	DC current gain	$I_C = -150$ mA; $V_{CE} = -2$ V	40	–	250	
f_T	transition frequency	$I_C = -50$ mA; $V_{CE} = -5$ V; f = 100 MHz	–	75	–	MHz

LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	collector-base voltage	open emitter			
	BD826		–	−45	V
	BD828		–	−60	V
	BD830		–	−100	V
V_{CEO}	collector-emitter voltage	open base			
	BD826		–	−45	V
	BD828		–	−60	V
	BD830		–	−80	V
V_{EBO}	emitter-base voltage	open collector	–	−5	V
I_C	collector current (DC)		–	−1	A
I_{CM}	peak collector current		–	−1.5	A
I_{BM}	peak base current		–	−500	mA
P_{tot}	total power dissipation	$T_{amb} \leq 25$ °C	–	2	W
		$T_{mb} \leq 50$ °C	–	8	W
T_{stg}	storage temperature		−65	+150	°C
T_j	junction temperature		–	150	°C
T_{amb}	operating ambient temperature		−65	+150	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j\text{-}a}$	thermal resistance from junction to ambient	in free air	62.5	K/W
$R_{th\ j\text{-}mb}$	thermal resistance from junction to mounting base		12.5	K/W

CHARACTERISTICS

T_j = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I_{CBO}	collector cut-off current	I_E = 0; V_{CB} = −30 V	–	–	−100	nA
		I_E = 0; V_{CB} = −30 V; T_j = 125 °C	–	–	−10	μA
I_{EBO}	emitter cut-off current	I_C = 0; V_{EB} = −5 V	–	–	−100	nA
h_{FE}	DC current gain	V_{CE} = −2 V; see Fig.2				
		I_C = −5 mA	40	–	–	
		I_C = −150 mA	40	–	250	
		I_C = −500 mA	25	–	–	
h_{FE}	DC current gain	I_C = −150 mA; V_{CE} = −2 V; see Fig.2				
	BD826-10; BD828-10; BD830-10		63	–	160	
	BD826-16; BD828-16; BD830-16		100	–	250	
V_{CEsat}	collector-emitter saturation voltage	I_C = −500 mA; I_B = −50 mA	–	–	−500	mV
V_{BE}	base-emitter voltage	I_C = −500 mA; V_{CE} = −2 V	–	–	−1	V
f_T	transition frequency	I_C = −50 mA; V_{CE} = −5 V; f = 100 MHz	–	75	–	MHz

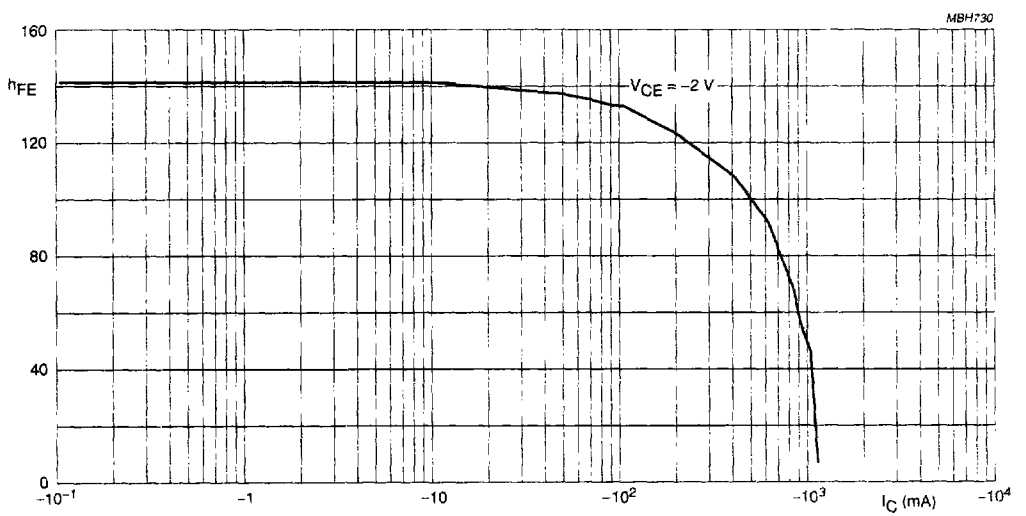

Fig.2 DC current gain; typical values.