

PNP general purpose transistors

BC856; BC857; BC858

FEATURES

- Low current (max. 100 mA)
- Low voltage (max. 65 V).

APPLICATIONS

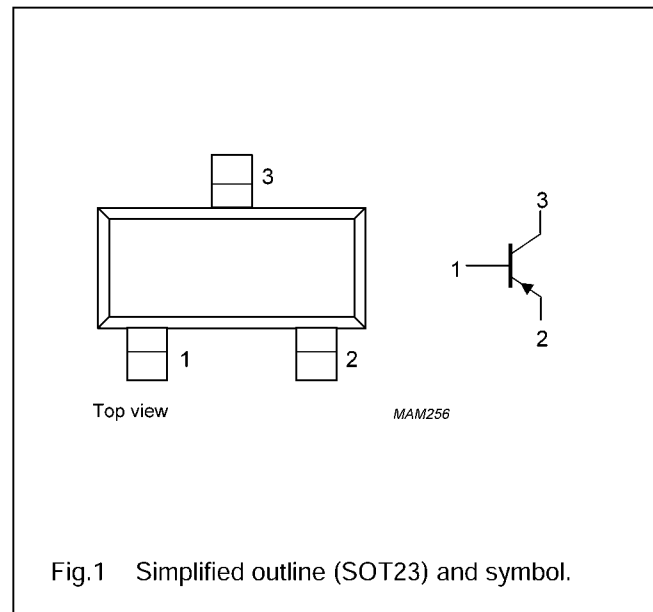
- General purpose switching and amplification.

DESCRIPTION

PNP transistor in a SOT23 plastic package.
NPN complements: BC846, BC847 and BC848.

PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector



LIMITING VALUES

In accordance with the Absolute Maximum System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V _{CBO}	collector-base voltage	open emitter			
	BC856		–	–80	V
	BC857		–	–50	V
	BC858	–	–30	V	
V _{CEO}	collector-emitter voltage	open base			
	BC856		–	–65	V
	BC857		–	–45	V
	BC858	–	–30	V	
V _{EBO}	emitter-base voltage	open collector	–	–5	V
I _C	collector current (DC)		–	–100	mA
I _{CM}	peak collector current		–	–200	mA
I _{BM}	peak base current		–	–200	mA
P _{tot}	total power dissipation	T _{amb} ≤ 25 °C; note 1	–	250	mW
T _{stg}	storage temperature		–65	+150	°C
T _j	junction temperature		–	150	°C
T _{amb}	operating ambient temperature		–65	+150	°C

Note

1. Transistor mounted on an FR4 printed-circuit board, standard footprint.

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R _{thj-a}	thermal resistance from junction to ambient	in free air; note 1	500	K/W

Note

1. Transistor mounted on an FR4 printed-circuit board, standard footprint.

CHARACTERISTICST_{amb} = 25 °C; unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I _{CBO}	collector-base cut-off current	V _{CB} = -30 V; I _E = 0	-	-1	-15	nA
		V _{CB} = -30 V; I _E = 0; T _J = 150 °C	-	-	-4	μA
I _{EBO}	emitter-base cut-off current	V _{EB} = -5 V; I _C = 0	-	-	-100	nA
h _{FE}	DC current gain BC856 BC857 BC856A; BC857A BC856B; BC857B; BC858B BC857C	I _C = -2 mA; V _{CE} = -5 V				
			125	-	475	
			125	-	800	
			125	-	250	
			220	-	475	
420	-	800				
V _{CEsat}	collector-emitter saturation voltage	I _C = -10 mA; I _B = -0.5 mA	-	-75	-300	mV
		I _C = -100 mA; I _B = -5 mA; note 1	-	-250	-650	mV
V _{BEsat}	base-emitter saturation voltage	I _C = -10 mA; I _B = -0.5 mA	-	-700	-	mV
		I _C = -100 mA; I _B = -5 mA; note 1	-	-850	-	mV
V _{BE}	base-emitter voltage	I _C = -2 mA; V _{CE} = -5 V	-600	-650	-750	mV
		I _C = -10 mA; V _{CE} = -5 V	-	-	-820	mV
C _c	collector capacitance	V _{CB} = -10 V; I _E = I _e = 0; f = 1 MHz	-	4.5	-	pF
f _T	transition frequency	V _{CE} = -5 V; I _C = -10 mA; f = 100 MHz	100	-	-	MHz
F	noise figure	I _C = -200 μA; V _{CE} = -5 V; R _S = 2 kΩ; f = 1 kHz; B = 200 Hz	-	2	10	dB

Note1. Pulse test: t_p ≤ 300 μs; δ ≤ 0.02.