PNP general purpose transistor BC807W; BC808W

FEATURES

- High current
- S- mini package.

DESCRIPTION

PNP transistor in a plastic SOT323 package, for general switching and amplification.

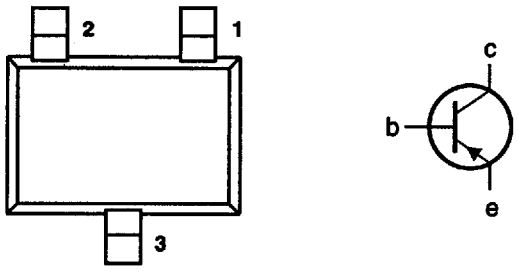
PINNING - SOT323

PIN	DESCRIPTION
1	base
2	emitter
3	collector

MARKING CODES

BC807W:	5D
BC807-16W:	5A
BC807-25W:	5B
BC807-40W:	5C
BC808W:	5H
BC808-16W:	5E
BC808-25W:	5F
BC808-40W:	5G

PIN CONFIGURATION



Top view MAM037

Fig.1 Simplified outline and symbol.

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CES}	collector-emitter voltage	$V_{BE} = 0$			
	BC807W		–	–50	V
	BC808W		–	–30	V
V_{CEO}	collector-emitter voltage	open base			
	BC807W		–	–45	V
	BC808W		–	–25	V
I_{CM}	peak collector current		–	–1	A
P_{tot}	total power dissipation	up to $T_{amb} = 25$ °C	–	200	mW
h_{FE}	DC current gain	$I_C = -100$ mA; $V_{CE} = -1$ V; $T_{amb} = 25$ °C	100	600	
f_T	transition frequency	$I_C = -10$ mA; $V_{CE} = -5$ V; $T_{amb} = 25$ °C	80	–	MHz

LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CES}	collector-emitter voltage	$V_{BE} = 0$			
	BC807W		–	–50	V
	BC808W		–	–30	V
V_{CEO}	collector-emitter voltage	open base; $I_C = -10$ mA			
	BC807W		–	–45	V
	BC808W		–	–25	V
V_{EBO}	emitter-base voltage	open collector	–	–5	V
I_C	DC collector current		–	–500	mA
I_{CM}	peak collector current		–	–1	A
I_{EM}	peak emitter current		–	1	A
I_B	DC base current		–	–100	mA
I_{BM}	peak base current		–	–200	mA
P_{tot}	total power dissipation	up to $T_{amb} = 25$ °C (note 1) see Fig.2	–	200	mW
T_{stg}	storage temperature		–65	150	°C
T_j	junction temperature		–	150	°C
T_{amb}	operating ambient temperature	see Fig.2	–65	150	°C

Note

1. Refer to SOT323 standard mounting conditions.

THERMAL RESISTANCE

SYMBOL	PARAMETER	CONDITIONS	THERMAL RESISTANCE
$R_{th\ j\text{-}a}$	thermal resistance from junction to ambient	in free air (note 1)	max. 625 K/W

Note

1. Refer to SOT323 standard mounting conditions.

CHARACTERISTICS

T_{amb} = 25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector-base cut-off current	$I_E = 0$; $V_{CB} = -20$ V	–	−100	nA
		$I_E = 0$; $V_{CB} = -20$ V; $T_j = 150$ °C	–	−5	μA
I_{EBO}	emitter cut-off current	$I_C = 0$; $V_{EB} = -5$ V	–	−100	nA
V_{BE}	base-emitter voltage	$I_C = -500$ mA; $V_{CE} = -1$ V (note 1)	–	−1.2	V
$V_{CE(sat)}$	collector-emitter saturation voltage	$I_C = -500$ mA; $I_B = -50$ mA (note 1)	–	−700	mV
C_c	collector capacitance	$I_E = I_e = 0$; $V_{CB} = -10$ V; f = 1 MHz	–	10	pF
f_T	transition frequency	$I_C = -10$ mA; $V_{CE} = -5$ V; f = 100 MHz	80	–	MHz
h_{FE}	DC current gain	$I_C = -500$ mA; $V_{CE} = -1$ V (note 1)	40	–	
		$I_C = -100$ mA; $V_{CE} = -1$ V (note 1)			
	BC807W; BC808W		100	600	
	BC807-16W; BC808-16W		100	250	
	BC807-25W; BC808-25W		160	400	
	BC807-40W; BC808-40W		250	600	

Note

1. Pulse test : $t_p \leq 300$ μs; $\delta \leq 0.02$

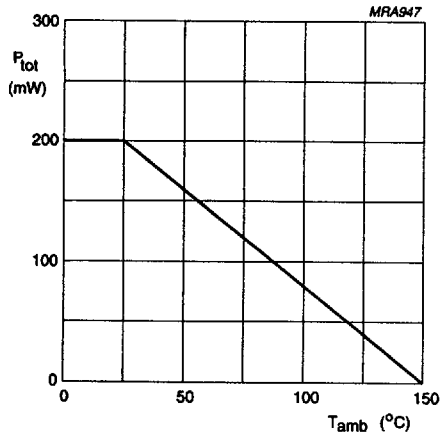


Fig.2 Power derating curve.