

PNP general purpose transistor

BC807W; BC808W

N AMER PHILIPS/DISCRETE

67E D

FEATURES

- High current
- S- mini package.

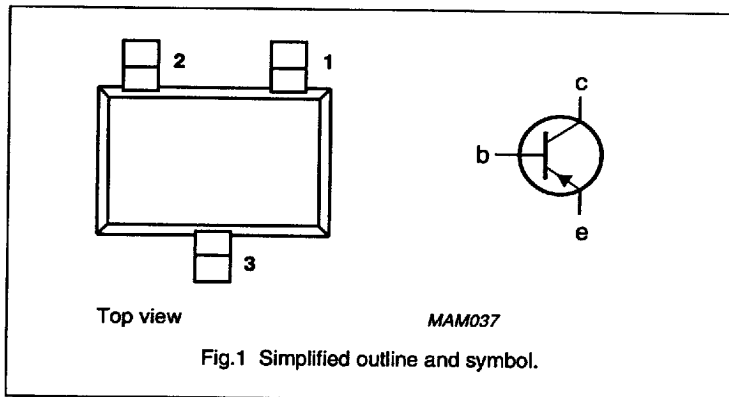
DESCRIPTION

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

PINNING - SOT323

PIN	DESCRIPTION
1	base
2	emitter
3	collector

PIN CONFIGURATION



MARKING CODES

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

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 $T_{amb} = 25\text{ °C}$	—	200	mW
h_{FE}	DC current gain	$I_C = -100\text{ mA}$; $V_{CE} = -1\text{ V}$; $T_{amb} = 25\text{ °C}$	100	600	
f_T	transition frequency	$I_C = -10\text{ mA}$; $V_{CE} = -5\text{ V}$; $T_{amb} = 25\text{ °C}$	80	—	MHz

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LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CES}	collector-emitter voltage	$V_{BE} = 0$	—	-50	V
	BC807W				
	BC808W		—	-30	V
V_{CEO}	collector-emitter voltage	open base; $I_C = -10$ mA	—	-45	V
	BC807W				
	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_{thJA}	thermal resistance from junction to ambient	in free air (note 1)	max. 625 K/W

Note

1. Refer to SOT323 standard mounting conditions.

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CHARACTERISTICS

 $T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector-base cut-off current	$I_E = 0; V_{CB} = -20\text{ V}$	—	-100	nA
		$I_E = 0; V_{CB} = -20\text{ V}; T_J = 150\text{ }^{\circ}\text{C}$	—	-5	μA
I_{EBO}	emitter cut-off current	$I_C = 0; V_{EB} = -5\text{ V}$	—	-100	nA
V_{BE}	base-emitter voltage	$I_C = -500\text{ mA}; V_{CE} = -1\text{ V (note 1)}$	—	-1.2	V
$V_{CE(sat)}$	collector-emitter saturation voltage	$I_C = -500\text{ mA}; I_B = -50\text{ mA (note 1)}$	—	-700	mV
C_c	collector capacitance	$I_E = I_B = 0; V_{CB} = -10\text{ V}; f = 1\text{ MHz}$	—	10	pF
f_T	transition frequency	$I_C = -10\text{ mA}; V_{CE} = -5\text{ V}; f = 100\text{ MHz}$	80	—	MHz
h_{FE}	DC current gain	$I_C = -500\text{ mA}; V_{CE} = -1\text{ V (note 1)}$	40	—	
		$I_C = -100\text{ mA}; V_{CE} = -1\text{ V (note 1)}$			
	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 : $t_p \leq 300\text{ }\mu\text{s}$; $\delta \leq 0.02$

