

## 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.

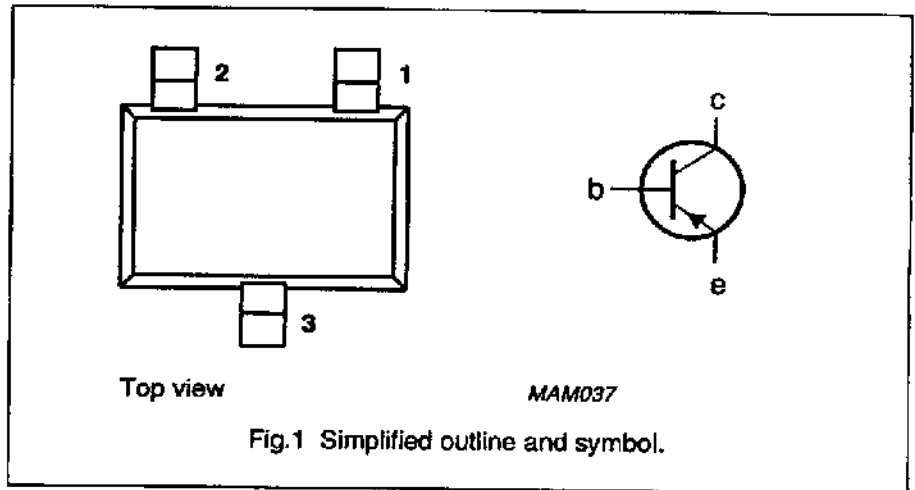
## PINNING - SOT323

PIN	DESCRIPTION
1	base
2	emitter
3	collector

## 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



## QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_{CES}$	collector-emitter voltage	$V_{BE} = 0$	-	-50	V
				-30	V
$V_{CEO}$	collector-emitter voltage	open base	-	-45	V
				-25	V
$I_{CM}$	peak collector current		-	-1	A
$P_{tot}$	total power dissipation	up to $T_{amb} = 25\text{ }^{\circ}\text{C}$	-	200	mW
$h_{FE}$	DC current gain	$I_C = -100\text{ mA}$ ; $V_{CE} = -1\text{ V}$ ; $T_{amb} = 25\text{ }^{\circ}\text{C}$	100	600	
$f_T$	transition frequency	$I_C = -10\text{ mA}$ ; $V_{CE} = -5\text{ V}$ ; $T_{amb} = 25\text{ }^{\circ}\text{C}$	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			-30	V
$V_{CEO}$	collector-emitter voltage	open base; $I_C = -10$ mA	-	-45	V
	BC807W			-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
$R_{th\ j-a}$	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<sub>amb</sub> = 25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$I_{CBO}$	collector-base cut-off current	$I_E = 0; V_{CB} = -20\text{ V}$ $I_E = 0; V_{CB} = -20\text{ V}; T_J = 150\text{ °C}$	-	-100	nA
$I_{EBO}$	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) $I_C = -100\text{ mA}; V_{CE} = -1\text{ V}$ (note 1)	40	-	
	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 :  $t_p \leq 300\text{ }\mu\text{s}; \delta \leq 0.02$

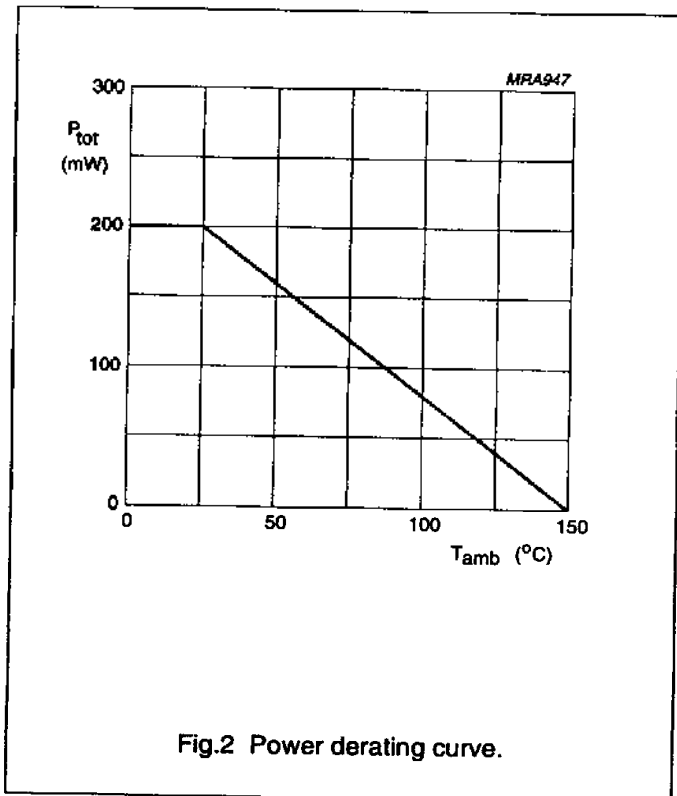


Fig.2 Power derating curve.