

PNP 4 GHz wideband transistor

BFQ108

DESCRIPTION

The BFQ108 is a high output voltage PNP transistor in a SOT122A envelope, primarily intended for use in instrumentation equipment. All leads are isolated from the stud.

PINNING

PIN	DESCRIPTION
1	collector
2	emitter
3	base
4	emitter

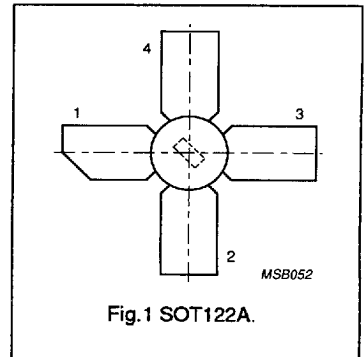


Fig.1 SOT122A.

WARNING

Product and environmental safety - toxic materials

This product contains beryllium oxide. The product is entirely safe provided that the BeO disc is not damaged. All persons who handle, use or dispose of this product should be aware of its nature and of the necessary safety precautions. After use, dispose of as chemical or special waste according to the regulations applying at the location of the user. It must never be thrown out with the general or domestic waste.

LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$-V_{CBO}$	collector-base voltage		-	25	V
$-V_{CEO}$	collector-emitter voltage		-	18	V
$-V_{EBO}$	emitter-base voltage		-	2	V
$-I_C$	DC collector current	continuous	-	300	mA
P_{tot}	total power dissipation	up to $T_e = 120\text{ }^\circ\text{C}$	-	4	W
T_{stg}	storage temperature range		-55	150	$^\circ\text{C}$
T_j	junction temperature		-	150	$^\circ\text{C}$

CHARACTERISTICS

$T_j = 25\text{ }^\circ\text{C}$ unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$-I_{CBO}$	collector cut-off current	$-V_{CB} = 15\text{ V}; I_E = 0$	-	-	100	μA
h_{FE}	DC current gain	$-I_C = 240\text{ mA}; -V_{CE} = 15\text{ V}$	25	-	-	
f_T	transition frequency	$-I_C = 240\text{ mA}; -V_{CE} = 15\text{ V}; f = 500\text{ MHz}$ (note 1)	-	4	-	GHz
C_c	collector capacitance	$I_E = I_e = 0; -V_{CB} = 15\text{ V}; f = 1\text{ MHz}$	-	5	-	pF
C_e	emitter capacitance	$I_C = I_c = 0; -V_{EB} = 0.5\text{ V}; f = 1\text{ MHz}$	-	15	-	pF
C_{re}	feedback capacitance	$I_C = 0; -V_{CE} = 0; f = 1\text{ MHz}$	-	3	-	pF
V_O	output voltage	note 2	-	1.2	-	V

Notes

- Measured under pulse conditions.
- $d_{im} = -60\text{ dB}$ (DIN 45005B); $-V_{CE} = 15\text{ V}; -I_C = 240\text{ mA}; R_L = 75\ \Omega; f_p = 795.25\text{ MHz}; V_p = V_O;$
 $f_q = 803.25\text{ MHz}; V_q = V_O - 6\text{ dB}; f_r = 805.25\text{ MHz}; V_r = V_O - 6\text{ dB};$ measured at $f_{(p+q-r)} = 793.25\text{ MHz}$.