

NPN medium frequency transistor

BFS19

FEATURES

- Low current (max. 30 mA)
- Low voltage (max. 20 V).

APPLICATIONS

- Medium frequency applications in thick and thin-film circuits.

DESCRIPTION

NPN medium frequency transistor in a SOT23 plastic package.

MARKING

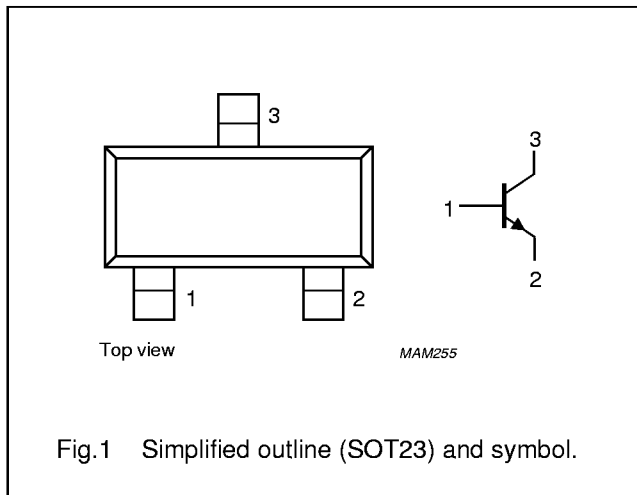
TYPE NUMBER	MARKING CODE ⁽¹⁾
BFS19	F2*

Note

- * = p : Made in Hong Kong.
* = t : Made in Malaysia.

PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V _{CBO}	collector-base voltage	open emitter	–	30	V
V _{CEO}	collector-emitter voltage	open base	–	20	V
V _{EBO}	emitter-base voltage	open collector	–	5	V
I _C	collector current (DC)		–	30	mA
I _{CM}	peak collector current		–	30	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.

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THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	500	K/W

Note

1. Transistor mounted on an FR4 printed-circuit board.

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I_{CBO}	collector cut-off current	$I_E = 0; V_{CB} = 20\text{ V}$	–	–	100	nA
		$I_E = 0; V_{CB} = 20\text{ V}; T_j = 100\text{ °C}$	–	–	10	μA
I_{EBO}	emitter cut-off current	$I_C = 0; V_{EB} = 5\text{ V}$	–	–	100	nA
h_{FE}	DC current gain	$I_C = 1\text{ mA}; V_{CE} = 10\text{ V}$	65	–	225	
V_{BE}	base-emitter voltage	$I_C = 1\text{ mA}; V_{CE} = 10\text{ V}$	650	–	740	mV
C_c	collector capacitance	$I_E = 0; V_{CB} = 10\text{ V}; f = 1\text{ MHz}$	–	1	–	pF
C_{re}	feedback capacitance	$I_C = 0\text{ mA}; V_{CB} = 10\text{ V}; f = 1\text{ MHz}$	–	0.85	–	pF
f_T	transition frequency	$I_C = 1\text{ mA}; V_{CE} = 10\text{ V}; f = 100\text{ MHz}$	–	260	–	MHz

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PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT23

