

NPN 2 GHz wideband transistor

BF763

DESCRIPTION

NPN transistor in a plastic SOT54 (TO-92 variant) envelope.

It is primarily intended for use in RF amplifiers and oscillators.

PINNING

PIN	DESCRIPTION
1	emitter
2	base
3	collector

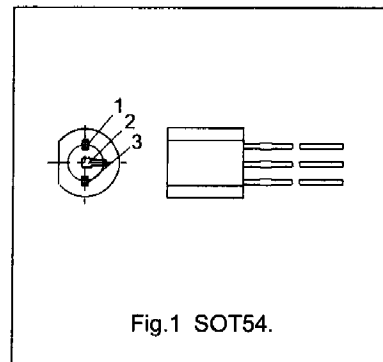


Fig.1 SOT54.

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$V_{(BR)CEO}$	collector-emitter breakdown voltage	open base	15	—	—	V
I_C	DC collector current		—	—	25	mA
P_{tot}	total power dissipation	up to $T_{amb} = 60^\circ\text{C}$	—	—	360	mW
h_{FE}	DC current gain	$I_C = 5\text{ mA}; V_{CE} = 10\text{ V}; T_j = 25^\circ\text{C}$	25	—	250	
f_T	transition frequency	$I_C = 5\text{ mA}; V_{CE} = 10\text{ V}; f = 100\text{ MHz}$	—	1.8	—	GHz

LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	collector-base voltage	open emitter	—	15	V
V_{CEO}	collector-emitter voltage	open base	—	25	V
I_C	DC collector current		—	25	mA
P_{tot}	total power dissipation	up to $T_{amb} = 60^\circ\text{C}$	—	360	mW
T_{stg}	storage temperature		-65	150	$^\circ\text{C}$
T_j	junction temperature		—	150	$^\circ\text{C}$

THERMAL RESISTANCE

SYMBOL	PARAMETER	CONDITIONS	THERMAL RESISTANCE
$R_{th\ j-a}$	thermal resistance from junction to ambient	in free air	250 K/W



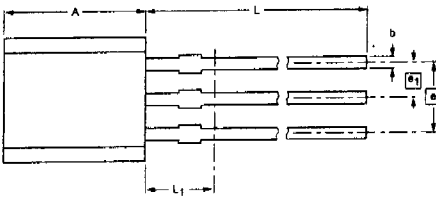
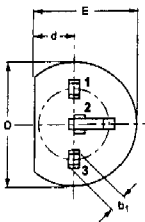
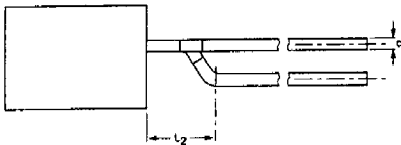
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CHARACTERISTICS

T_j = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V _{(BR)CEO}	collector-emitter breakdown voltage	I _C = 1 mA; I _B = 0	15	–	–	V
V _{(BR)CBO}	collector-base breakdown voltage	I _C = 10 µA; I _E = 0	25	–	–	V
V _{CE sat}	collector-emitter saturation voltage	I _C = 10 mA; I _B = 1 mA	–	–	0.5	V
I _{CBO}	collector cut-off current	I _E = 0; V _{CB} = 10 V	–	–	50	nA
h _{FE}	DC current gain	I _C = 5 mA; V _{CE} = 10 V	25	–	250	
f _T	transition frequency	I _C = 5 mA; V _{CE} = 10 V; f = 100 MHz	–	1.8	–	GHz
F	noise figure	I _C = 5 mA; V _{CE} = 10 V; f = 800 MHz; T _{amb} = 25 °C; Z _s = 60 Ω	–	5.0	–	dB



DIMENSIONS (mm are the original dimensions)

UNIT	A	b	b ₁	c	D	d	E	e	e ₁	L	L ₁ ⁽¹⁾ max	L ₂ max
mm	5.2 5.0	0.48 0.40	0.66 0.56	0.45 0.40	4.8 4.4	1.7 1.4	4.2 3.6	2.54	1.27	14.5 12.7	2.5	2.5

Notes

1. Terminal dimensions within this zone are uncontrolled to allow for flow of plastic and terminal irregularities.

OUTLINE VERSION	REFERENCES		
	IEC	JEDEC	EIAJ
SOT54 variant		TO-92	SC-43