

# NPN 2 GHz wideband transistor

# BF763

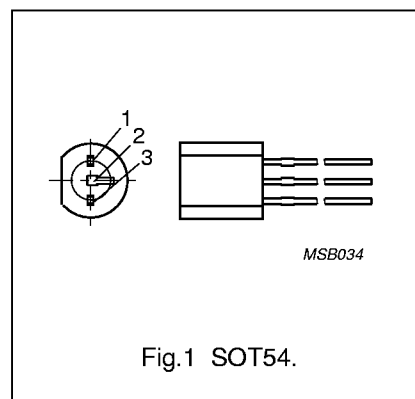
### DESCRIPTION

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

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

### PINNING

PIN	DESCRIPTION
Code: F763	
1	emitter
2	base
3	collector



### 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 $T_{amb} = 60\text{ °C}$	–	–	360	mW
$h_{FE}$	DC current gain	$I_C = 5\text{ mA}; V_{CE} = 10\text{ V}; T_j = 25\text{ °C}$	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 $T_{amb} = 60\text{ °C}$	–	360	mW
$T_{stg}$	storage temperature		–65	150	°C
$T_j$	junction temperature		–	150	°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** $T_j = 25\text{ °C}$  unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$V_{(BR)CEO}$	collector-emitter breakdown voltage	$I_C = 1\text{ mA}; I_B = 0$	15	–	–	V
$V_{(BR)CBO}$	collector-base breakdown voltage	$I_C = 10\text{ }\mu\text{A}; I_E = 0$	25	–	–	V
$V_{CE\text{ sat}}$	collector-emitter saturation voltage	$I_C = 10\text{ mA}; I_B = 1\text{ mA}$	–	–	0.5	V
$I_{CBO}$	collector cut-off current	$I_E = 0; V_{CB} = 10\text{ V}$	–	–	50	nA
$h_{FE}$	DC current gain	$I_C = 5\text{ mA}; V_{CE} = 10\text{ V}$	25	–	250	
$f_T$	transition frequency	$I_C = 5\text{ mA}; V_{CE} = 10\text{ V}; f = 100\text{ MHz}$	–	1.8	–	GHz
F	noise figure	$I_C = 5\text{ mA}; V_{CE} = 10\text{ V}; f = 800\text{ MHz};$ $T_{amb} = 25\text{ °C}; Z_s = 60\text{ }\Omega$	–	5.0	–	dB

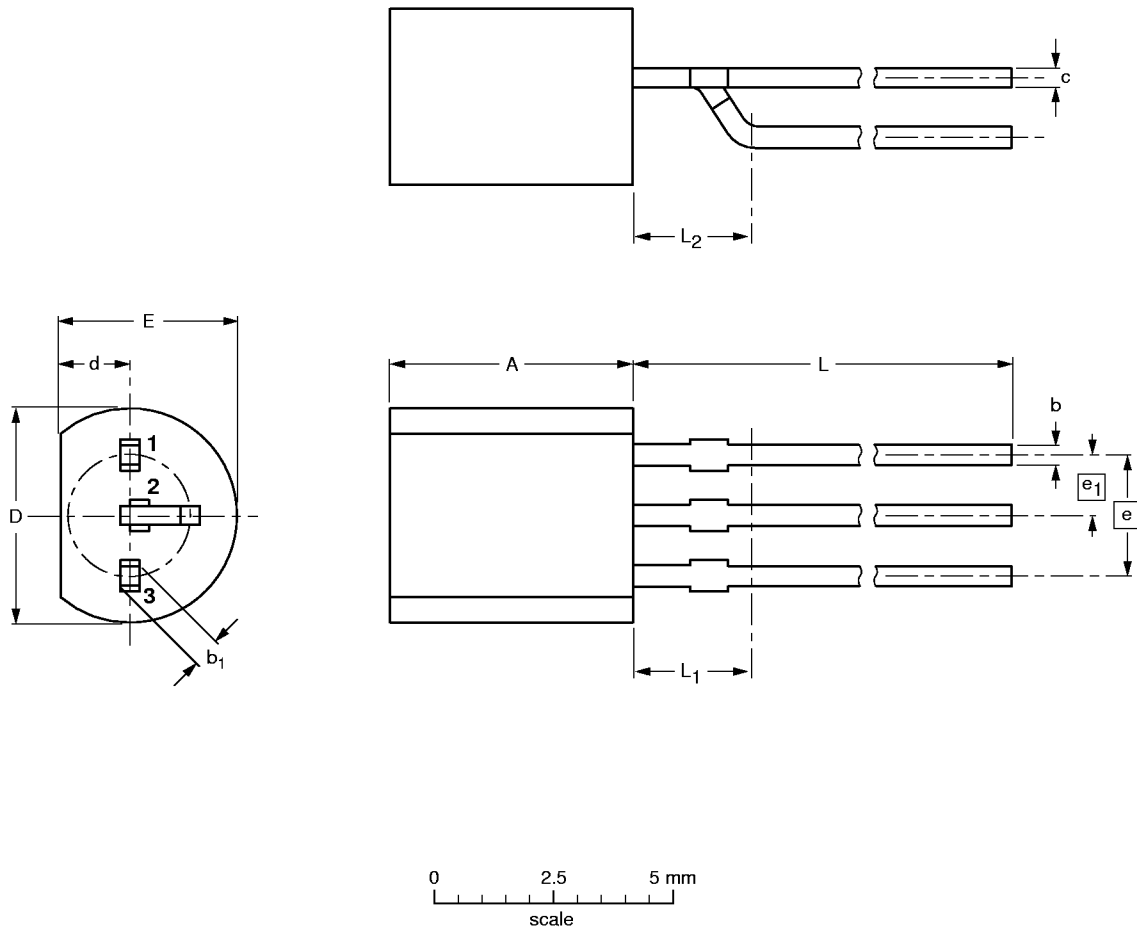
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PACKAGE OUTLINE

Plastic single-ended leaded (through hole) package; 3 leads (on-circle)

SOT54 variant



DIMENSIONS (mm are the original dimensions)

UNIT	A	b	b <sub>1</sub>	c	D	d	E	e	e <sub>1</sub>	L	L <sub>1</sub> <sup>(1)</sup> max	L <sub>2</sub> 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				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT54 variant		TO-92	SC-43			97-04-14