

FEATURES

- Low distortion
- Gold metallization ensures excellent reliability
- SOT223 plastic envelope
- High output voltage
- Integrated emitter-ballasting resistors

PINNING

PIN	DESCRIPTION
1	emitter
2	base
3	emitter
4	collector

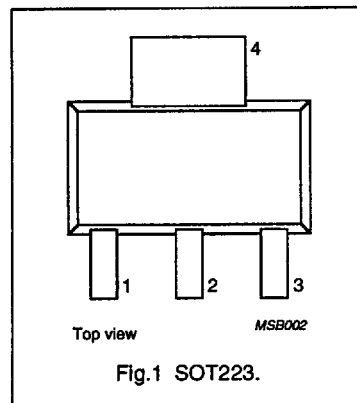


Fig.1 SOT223.

DESCRIPTION

The BFG741 is an NPN silicon planar epitaxial transistor, primarily intended for use as a power amplifier in RF communications subscriber equipment and MATV/CATV amplifiers.

The transistor is mounted in a plastic SOT223 envelope.

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V_{CBO}	collector-base voltage	open emitter	-	-	25	V
V_{CEO}	collector-emitter voltage	open base	-	-	15	V
I_C	DC collector current		-	-	300	mA
P_{tot}	total power dissipation	up to $T_s = 125^\circ\text{C}$ (note 1)	-	-	2	W
C_{re}	feedback capacitance	$I_C = i_c = 0$; $V_{CE} = 10\text{ V}$; $f = 1\text{ MHz}$	-	1.8	-	pF
h_{FE}	DC current gain	$V_{CE} = 10\text{ V}$; $I_C = 100\text{ mA}$	60	-	-	
f_T	transition frequency	$V_{CE} = 10\text{ V}$; $I_C = 200\text{ mA}$; $f = 500\text{ MHz}$	-	7	-	GHz
G_{UM}	maximum unilateral power gain	$V_{CE} = 10\text{ V}$; $I_C = 130\text{ mA}$; $T_{amb} = 25^\circ\text{C}$; $f = 800\text{ MHz}$	-	13	-	dB
V_O	output voltage	$V_{CE} = 10\text{ V}$; $I_C = 130\text{ mA}$; $R_L = 75\ \Omega$ (note 2)	-	1	-	V
d_2	second order intermodulation distortion	$V_{CE} = 10\text{ V}$; $I_C = 130\text{ mA}$; $T_{amb} = 25^\circ\text{C}$; $V_O = 54\text{ dBmV}$ (0.5 V); $f_{(p+q)}$ = 810 MHz	-	-60	-	dB
T_j	junction temperature		-	-	175	$^\circ\text{C}$

THERMAL RESISTANCE

SYMBOL	PARAMETER	THERMAL RESISTANCE
$R_{th(j-s)}$	from junction to soldering point (note 1)	25 K/W

Notes

1. T_s is the temperature at the soldering point of the collector tab.
2. $d_{im} = -60\text{ dB}$ (3-tone); $V_p = V_o$; $V_q = V_r = V_o - 6\text{ dB}$; $f_p = 795.25\text{ MHz}$; $f_q = 803.25\text{ MHz}$; $f_r = 805.25\text{ MHz}$; measured at $f_{(p+q)} = 793.25\text{ MHz}$.