

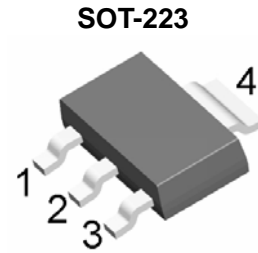
寬帶高頻管
NPN 7 GHz wideband transistor

NPN 7 GHz wideband transistor 寬帶高頻管

FHT591

DESCRIPTION & FEATURES 概述及特點

High power gain 高增益
Low noise figure 低雜訊
High transition frequency 超高頻
Intended for applications in the GHz range such as MATV or CATV amplifiers and RF communications subscriber equipment. MATV,CATV放大或射頻遠端通信設備應用



PIN ASSIGNMENT 引腳說明

PIN NAME 管腳符號	PIN NUMBER 引腳序號	FUNCTION 功能
	SOT-223	
E	1	emitter
B	2	base
E	3	emitter
C	4	collector

MAXIMUM RATINGS(T_a=25°C) 最大額定值

CHARACTERISTIC 特性參數	Symbol 符號	Rating 額定值	Unit 單位
collector-base voltage集電極-基極電壓	V _{CBO}	20	V
collector-emitter voltage集電極-發射極電壓	V _{CEO}	15	V
emitter-base voltage發射極-基極電壓	V _{EBO}	3	V
collector current (DC) 集電極電流	I _C	200	mA
total power dissipation總耗散功率	P _{tot}	2	W
storage temperature儲存溫度	T _{stg}	-65~+150	°C
junction temperature結溫	T _j	150	°C
thermal resistance from junction to soldering point熱阻	R _{th j-s}	35	K/W

1. T_s is the temperature at the soldering point of the collector pin.

DEVICE MARKING 打標

FHT591 (60~250)

ELECTRICAL CHARACTERISTICS 電特性(T_A=25°C unless otherwise noted)

Characteristic 特性參數	Symbol 符號	Test Condition 測試條件	Min 最小值	Type 典型值	Max 最大值	Unit 單位
collector-base breakdown voltage 集電極-基極電壓	V _{(BR)CBO}	I _C = 0.1 mA; I _E =0	-	-	20	V
collector-emitter breakdown voltage 集電極-發射極電壓	V _{(BR)CES}	I _C = 10 mA; I _B =0	-	-	15	V
emitter-base breakdown voltage 發射極-基極電壓	V _{(BR)EBO}	I _E = 0.1 mA; I _C =0	-	-	3	V
collector-base leakage current 集電極-基極電流	I _{CBO}	I _E = 0; V _{CB} =10V	-	-	100	nA
DC current gain直流增益	h _{FE}	I _C = 70 mA; V _{CE} =8V	60	90	250	
feedback capacitance 回饋電容	C _{re}	I _B =I _b =0; V _{CE} =12V; f=1MHz	-	0.7	-	pF
transition frequency 特徵頻率	f _T	I _C =70mA; V _{CE} =12V; f=1GHz	-	7	-	GHz
maximum unilateral power gain; note 1功率增益	G _{UM}	I _C =70mA; V _{CE} =12V; f= 900MHz; T _a =25°C	-	13	-	dB
		I _C =70mA; V _{CE} =12V; f=2GHz; T _a =25°C	-	7.5	-	dB
insertion power gain 傳輸增益	S ₂₁ ²	I _C =70mA; V _{CE} =12V; f=1GHz; T _a =25°C	-	12	-	dB
output voltage	V _o	note 2	-	700	-	mV

Notes : 1、G_{UM} is the maximum unilateral power gain, assuming s12 is zero. G_{UM}=10log|S₂₁|²/((1-|S₁₁|²)(1-|S₂₂|²))dB

2、dim = 60 dB (DIN45004B); V_p = V_o; V_q = V_o -6 dB; V_r = V_o -6 dB;

f_p = 795.25 MHz; f_q = 803.25 MHz; f_r = 803.25 MHz; measured at f(p+q-r) = 793.25 MHz.