

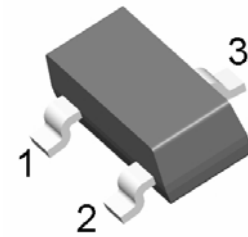
## RF Transistors 高頻三極管

## FHT3837

## DESCRIPTION &amp; FEATURES 概述及特點

High Frequency Low Noise Amplifier  
 高頻低雜訊放大

SOT-23



## PIN ASSIGNMENT 引腳說明

PIN NAME 管腳符號	PIN NUMBER 引腳序號	FUNCTION 功能
	SOT-23	
B	1	BASE
E	2	EMITTER
C	3	COLLECTOR

MAXIMUM RATINGS(T<sub>a</sub>=25°C) 最大額定值

CHARACTERISTIC 特性參數	Symbol 符號	Rating 額定值	Unit 單位
Collector-Emitter Voltage 集電極-發射極電壓	V <sub>CEO</sub>	18	Vdc
Collector-Base Voltage 集電極-基極電壓	V <sub>CBO</sub>	30	Vdc
Emitter-Base Voltage 發射極-基極電壓	V <sub>EBO</sub>	3.0	Vdc
Collector Current—Continuous 集電極電流-連續	I <sub>C</sub>	50	mAdc

## THERMAL CHARACTERISTICS 熱特性

CHARACTERISTIC 特性參數	Symbol 符號	Max 最大值	Unit 單位
Collector Power Dissipation 集電極耗散功率	P <sub>c</sub>	300	mW
Junction and Storage Temperature 結溫和儲存溫度	T <sub>j</sub> , T <sub>stg</sub>	150, -55 ~ 150	°C

## DEVICE MARKING 打標

h<sub>FE</sub> (1) FHT3837N=CN(56~120), FHT3837P=CP(80~180)  
 FHT3837Q=CQ(120~270), FHT3837R=CR(180~390)

## ELECTRICAL CHARACTERISTICS 電特性

(T<sub>A</sub>=25°C unless otherwise noted 如無特殊說明，溫度為 25°C)

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 Cutoff Current 集電極截止電流	I <sub>CBO</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0	—	—	0.5	μA
Emitter Cutoff Current 發射極截止電流	I <sub>EBO</sub>	V <sub>EB</sub> =2V, I <sub>C</sub> =0	—	—	0.5	μA
Collector-Emitter Breakdown Voltage 集電極-發射極擊穿電壓	V <sub>(BR)CEO</sub>	I <sub>C</sub> =1.0mA	18	—	—	V
Collector-Base Breakdown Voltage 集電極-基極擊穿電壓	V <sub>(BR)CBO</sub>	I <sub>C</sub> =10μA	30	—	—	V
Emitter-Base Breakdown Voltage 發射極-基極擊穿電壓	V <sub>(BR)EBO</sub>	I <sub>E</sub> =10μA	3	—	—	V
DC Current Gain 直流電流增益	h <sub>FE</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =10mA	56	—	390	—
Collector-Emitter Saturation Voltage 集電極-發射極飽和壓降	V <sub>CE(sat)</sub>	I <sub>C</sub> =20mA, I <sub>B</sub> =4mA	—	—	0.5	V
Transition Frequency 特徵頻率	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>E</sub> =10mA, f=200MHz	600	1500	—	MHz
Collector Output Capacitance 輸出電容	C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz	—	0.9	1.5	pF
Collector-Base Time Constant 集電極-基極時間常數	rbb'·C <sub>C</sub>	V <sub>CB</sub> =10V, I <sub>C</sub> =10mA, f=31.8MHz	—	6	13	ps
Noise Factor 雜訊係數	NF	V <sub>CE</sub> =12V, I <sub>C</sub> =2mA, f=200MHz, R <sub>g</sub> =50Ω	—	4.5	—	dB