

帶阻三極管  
 Resistive Transistors

Resistive Transistors 帶阻三極管

NPN Silicon (FHRC101~FHRC109)

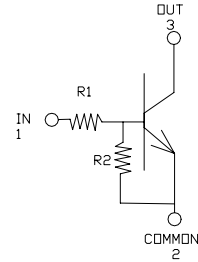
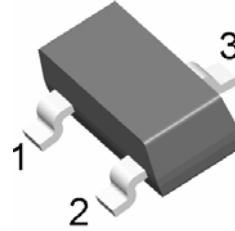
DESCRIPTION & FEATURES 概述及特點

With Built-in Bias Resistors 內部基極帶阻  
 Simplify Circuit Design 簡單的回路設計  
 Reduce a Quantity of Parts and Manufacturing Process  
 簡化了外部元件及貼片過程

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	
IN	1	Input
COMMON	2	Common
OUT	3	Output



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
Output Voltage 輸出電壓		V <sub>O</sub>	50	V
Input Voltage 輸入電壓	FHRC101	V <sub>I</sub>	20~-10	V
	FHRC102		30~-10	
	FHRC103		40~-10	
	FHRC104		40~-10	
	FHRC105		12~-5	
	FHRC106		20~-5	
	FHRC107		30~-6	
	FHRC108		40~-7	
	FHRC109		40~-15	
Output Current 輸出電流		I <sub>O</sub>	100	mA
Power Dissipation 耗散功率		P <sub>D</sub>	200	mW
Junction Temperature 結溫		T <sub>J</sub>	150	°C
Storage Temperature Range 儲存溫度		T <sub>STG</sub>	-55~150	°C

DEVICE MARKING 打標

TYPE 型號	FHRC101	FHRC102	FHRC103	FHRC104	FHRC105
MARK 打標	NA	NB	NC	ND	NE
TYPE 型號	FHRC106	FHRC107	FHRC108	FHRC109	
MARK 打標	NF	NH	NI	NJ	

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	
Output Cutoff Current 輸出截止電流	I <sub>O(OFF)</sub>	V <sub>O</sub> =50V, V <sub>I</sub> =0	-	-	500	nA	
Transition Frequency 特徵頻率	f <sub>T</sub>	V <sub>O</sub> =5V, I <sub>O</sub> =10mA	-	200	-	MHz	
Output Voltage 輸出電壓	V <sub>O(ON)</sub>	I <sub>O</sub> =10mA I <sub>I</sub> =0.5mA	-	0.1	0.3	V	
Input Voltage (OFF) 輸入電壓(OFF)	FHRC101~104	V <sub>I(OFF)</sub>	V <sub>O</sub> =5V, I <sub>O</sub> =0.1mA	1.0	1.2	-	V
	FHRC105~106			0.5	0.65	-	
	FHRC107			0.5	0.75	-	
	FHRC108			0.6	0.88	-	
	FHRC109			1.5	1.82	-	

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Input Voltage (ON) 輸入電壓(ON)	FHRC101	$V_{I(ON)}$	$V_O=0.2V,$ $I_O=5mA$	-	1.5	2.0	V
	FHRC102			-	1.8	2.4	
	FHRC103			-	2.1	3.0	
	FHRC104			-	2.8	5.0	
	FHRC105			-	0.8	1.1	
	FHRC106			-	0.9	1.3	
	FHRC107			-	1.2	1.8	
	FHRC108			-	1.8	2.6	
	FHRC109			-	3.0	5.8	
Input Current 輸入電流	FHRC101	$I_i$	$V_i=5V$	-	-	1.8	mA
	FHRC102			-	-	0.88	
	FHRC103			-	-	0.36	
	FHRC104			-	-	0.18	
	FHRC105			-	-	3.6	
	FHRC106			-	-	1.8	
	FHRC107			-	-	0.88	
	FHRC108			-	-	0.36	
	FHRC109			-	-	0.16	
DC Current Gain 直流電流增益	FHRC101	$G_i$	$V_o=5V,$ $I_o=10mA$	30	55	-	-
	FHRC102			50	80	-	
	FHRC103			70	120	-	
	FHRC104			80	200	-	
	FHRC105			80	200	-	
	FHRC106			80	200	-	
	FHRC107			80	150	-	
	FHRC108			80	150	-	
	FHRC109			70	140	-	
Input Resistance 輸入電阻	FHRC101	R1		3.29	4.7	6.11	kΩ
	FHRC102			7	10	13	
	FHRC103			15.4	22	28.6	
	FHRC104			32.9	47	61.1	
	FHRC105			1.54	2.2	2.86	
	FHRC106			3.29	4.7	6.11	
	FHRC107			7	10	13	
	FHRC108			15.4	22	28.6	
	FHRC109			32.9	47	61.1	
Resistance Ratio 電阻比	FHRC101~104	R2/R1		0.8	1	1.2	-
	FHRC105			17	21	26	
	FHRC106			8	10	12	
	FHRC107			3.7	4.7	5.7	
	FHRC108			1.7	2.1	2.6	
	FHRC109			0.37	0.47	0.57	