

帶阻三極管  
Resistive Transistors

Resistive Transistors 帶阻三極管

PNP Silicon (FHRA241~FHRA246)

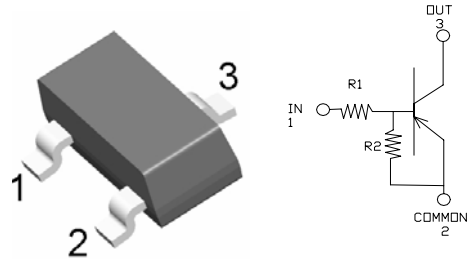
DESCRIPTION & FEATURES 概述及特點

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( $T_a=25^\circ\text{C}$ ) 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	$V_O$	-50	V
Input Voltage 輸入電壓	$V_I$	FHRA241	-10~10
		FHRA242	-12~10
		FHRA243	-20~10
		FHRA244	-30~10
		FHRA245	-10~5
		FHRA246	-12~6
Output Current 輸出電流	$I_O$	-800	mA
Power Dissipation 耗散功率	$P_D$	200	mW
Junction Temperature 結溫	$T_J$	150	$^\circ\text{C}$
Storage Temperature Range 儲存溫度	$T_{STG}$	-55~150	$^\circ\text{C}$

DEVICE MARKING 打標

TYPE 型號	FHRA241	FHRA242	FHRA243	FHRA244	FHRA245	FHRA246
MARK 打標	PQ	PR	PS	PT	PU	PV

ELECTRICAL CHARACTERISTICS 電特性

( $T_a=25^\circ\text{C}$  unless otherwise noted 如無特殊說明，溫度為  $25^\circ\text{C}$ )

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	$I_{O(OFF)}$	$V_O=-30\text{V}, V_I=0$	-	-	-500	nA
Transition Frequency 特徵頻率	$f_T$	$V_O=-10\text{V}, I_O=-5\text{mA}$	-	200	-	MHz
Output Voltage 輸出電壓	$V_{O(ON)}$	$I_O=-50\text{mA}, I_I=-2.5\text{mA}$	-	-	-0.3	V
Input Voltage (OFF) 輸入電壓(OFF)	$V_{I(OFF)}$	$V_O=-5\text{V}, I_O=-0.1\text{mA}$	FHRA241	-	-	-
			FHRA242	-0.5	-	-
			FHRA243	-0.5	-	-
			FHRA244	-0.5	-	-
			FHRA245	-0.3	-	-
			FHRA246	-0.3	-	-
Input Voltage (ON) 輸入電壓(ON)	$V_{I(ON)}$	$V_O=-0.3\text{V}, I_O=-20\text{mA}$	FHRA241	-	-	-3.0
			FHRA242	-	-	-3.0
			FHRA243	-	-	-3.0
			FHRA244	-	-	-3.0
			FHRA245	-	-	-3.0
			FHRA246	-	-	-2.0
Input Current	$I_I$	$V_I=-5\text{V}$	-	-	-7.2	mA

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輸入電流	FHRA242			-	-	-3.8	
	FHRA243			-	-	-1.8	
	FHRA244			-	-	-0.88	
	FHRA245			-	-	-7.2	
	FHRA246			-	-	-3.6	
DC Current Gain 直流電流增益	FHRA241	G <sub>I</sub>	V <sub>o</sub> =-5V , I <sub>o</sub> =-50mA	33	-	-	-
	FHRA242			39	-	-	
	FHRA243			47	-	-	
	FHRA244			56	-	-	
	FHRA245			56	-	-	
Input Resistance 輸入電阻	FHRA241	R <sub>1</sub>		0.7	1	1.3	kΩ
	FHRA242			1.54	2.2	2.86	
	FHRA243			3.29	4.7	6.11	
	FHRA244			7	10	13	
	FHRA245			0.7	1	1.3	
	FHRA246			1.54	2.2	2.86	
Resistance Ratio 電阻比	FHRA241	R <sub>2</sub> /R <sub>1</sub>		0.8	1	1.2	-
	FHRA242			0.8	1	1.2	
	FHRA243			0.8	1	1.2	
	FHRA244			0.8	1	1.2	
	FHRA245			8	10	12	
	FHRA246			3.6	4.5	5.5	