

广东协铨微电子科技有限公司

General Purpose Transistors 通用三极管

XCT9013

DESCRIPTION & FEATURES 概述及特点

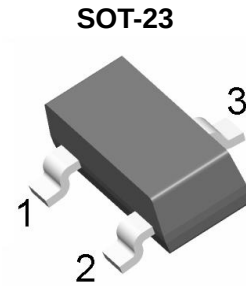
Excellent h_{FE} Linearity h_{FE} 线性特性极好

$h_{FE}(2) = 25$ (Min.) at $V_{CE} = -6V$, $I_C = -400mA$.

Complementary to XCT9012 与 XCT9012 互补

PIN ASSIGNMENT 引脚说明

PIN NAME 管脚符号	PIN NUMBER 引脚序号	FUNCTION 功能
	SOT-23	
B	1	BASE
E	2	EMITTER
C	3	COLLECTOR



MAXIMUM RATINGS($T_a = 25^\circ C$) 最大额定值

CHARACTERISTIC 特性参数	Symbol 符号	Rating 额定值	Unit 单位
Collector-Emitter Voltage 集电极-发射极电压	V_{CEO}	40	Vdc
Collector-Base Voltage 集电极-基极电压	V_{CBO}	30	Vdc
Emitter-Base Voltage 发射极-基极电压	V_{EBO}	5.0	Vdc
Collector Current—Continuous 集电极电流-连续	I_C	500	mAdc
Base Current 基极电流	I_B	50	mAdc

THERMAL CHARACTERISTICS 热特性

CHARACTERISTIC 特性参数	Symbol 符号	Max 最大值	Unit 单位
Collector Power Dissipation 集电极耗散功率	P_c	300	mW
Junction and Storage Temperature 结温和储存温度	T_j , T_{stg}	150, -55 ~ 150	$^\circ C$

DEVICE MARKING 打标

XCT9013=J3

ELECTRICAL CHARACTERISTICS 电特性

($T_A = 25^\circ C$ unless otherwise noted 如无特殊说明, 温度为 $25^\circ C$)

Characteristic 特性参数	Symbol 符号	Test Condition 测试条件	Min 最小值	Type 典型值	Max 最大值	Unit 单位
Collector Cutoff Current 集电极截止电流	I_{CBO}	$V_{CB} = 35V, I_E = 0$	—	—	0.1	μA
Emitter Cutoff Current 发射极截止电流	I_{EBO}	$V_{EB} = 5V, I_C = 0$	—	—	0.1	μA
Collector-Emitter Breakdown Voltage 集电极-发射极击穿电压	$V_{(BR)CEO}$	$I_C = 1.0mA$	30	—	—	V
Collector-Base Breakdown Voltage 集电极-基极击穿电压	$V_{(BR)CBO}$	$I_C = 100\mu A$	40	—	—	V
Emitter-Base Breakdown Voltage 发射极-基极击穿电压	$V_{(BR)EBO}$	$I_E = 100\mu A$	5	—	—	V
DC Current Gain 直流电流增益	$h_{FE}(1)$	$V_{CE} = 1V, I_C = 50mA$	120	—	400	—
	$h_{FE}(2)$	$V_{CE} = 1V, I_C = 500mA$	40	—	—	
Collector-Emitter Saturation Voltage 集电极-发射极饱和压降	$V_{CE(sat)}$	$I_C = 500mA, I_B = 50mA$	—	—	0.6	V
Base-Emitter Voltage 基极-发射极电压	V_{BE}	$V_{CE} = 1V, I_C = 100mA$	—	0.8	1.0	V
Transition Frequency 特征频率	f_T	$V_{CE} = 6V, I_C = 20mA$	150	300	—	MHz
Collector Output Capacitance 输出电容	C_{ob}	$V_{CB} = 6V, I_E = 0$, $f = 1MHz$	—	7.0	10	pF

CLASSIFICATION OF $h_{FE}(1)$

RANK	L	H	J
RANGE	120-200	200-350	300-400