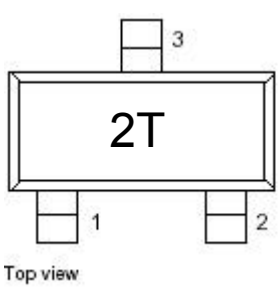
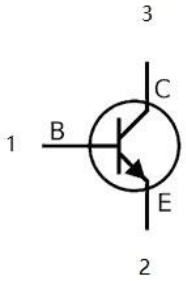
一、Features 产品特性





印字 **marking：2T**

MAXIMUM RATINGS(T_a=25℃) 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}	-40	Vdc
Emitter-Base Voltage 发射极-基极电压	V_{EBO}	-5	Vdc
Collector Current—Continuous 集电极电流-连续	I_C	-600	mAdc

THERMAL CHARACTERISTICS 热特性

CHARACTERISTIC 特性参数	Symbol 符号	Max 最大值	Unit 单位
Total Device Dissipation 总耗散功率 FR-5 Board(1) (T_A=25℃ 环境温度=25℃)	P_D	225	mW
Derate above25℃ 超过 25℃递减		1.8	mW/℃
Thermal Resistance Junction to Ambient 热阻	R_{JA}	556	℃/W
Total Device Dissipation Alumina Substrate,(2) T_A=25℃ 总耗散功率 氧化铝衬底	P_D	300	mW
Derate above25℃ 超过 25℃递减		2.4	mW/℃
Thermal Resistance Junction to Ambient 热阻	R_{JA}	417	℃/W
Junction and Storage Temperature结温和储存温度	T_j, T_{stg}	150, -55 to +150	℃

ELECTRICAL CHARACTERISTICS 电特性

(T_A=25℃ unless otherwise noted 如无特殊说明，温度为 25℃)

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_{CEX}	V_{CE}=-35Vdc, V_{EB}=-0.4Vdc	—	—	-100	nAdc
Base Cutoff Current 基极截止电流	I_{BEX}	V_{CE}=-35Vdc, V_{EB}=-0.4Vdc	—	—	-100	nAdc

Collector-Emitter Breakdown Voltage(3) 集电极-发射极击穿电压	$V_{(BR)CEO}$	I_C=-1.0mAdc, I_B=0	-40	—	—	Vdc
Collector-Base Breakdown Voltage集电极-基极击穿电压	$V_{(BR)CBO}$	I_C=-100μAdc, I_E=0	-40	—	—	Vdc
Emitter-Base Breakdown Voltage 发射极-基极击穿电压	$V_{(BR)EBO}$	I_E=-100μAdc, I_C=0	-5	—	—	Vdc
DC Current Gain 直流电流增益	h_{FE}	I_C=-0.1mAdc, V_{CE}=-1.0Vdc	30	—	—	—
		I_C=-1.0mAdc, V_{CE}=-1.0Vdc	30	—	—	
		I_C=-10mAdc, V_{CE}=-1.0Vdc	100	—	—	
		I_C=-150mAdc, V_{CE}=-2.0Vdc	100	—	300	
		I_C=-500mAdc, V_{CE}=-2.0 mAdc	20	—	—	
Collector-Emitter Saturation Voltage(3)集电极发射极饱和压降	$V_{CE（sat）}$	I_C=-150mAdc, I_B=-15Vdc	—	—	-0.4	Vdc
		I_C=-500mAdc, I_B=-50Vdc	—	—	-0.75	
Base-Emitter Saturation Voltage 基极-发射极极饱和压降	$V_{BE（sat）}$	I_C=-150mAdc, I_B=-15Vdc	-0.75	—	-0.95	Vdc
		I_C=-500mAdc, I_B=-50Vdc		—	-1.3	
Current-Gain-Bandwidth Product 电流增益-带宽乘积	f_T	I_C=-20mAdc, V_{CE}=-10Vdc f=100MH_Z	200	—	—	MH_Z
Output Capacitance 输出电容	C_{obo}	V_{CB}=-10Vdc,I_E=0, f=1.0MHz	—	—	8.5	pF
Input Capacitance 输入电容	C_{ibo}	V_{EB}=-0.5Vdc,I_C=0, f=1.0MHz	—	—	30	pF
Input Impedance 输入阻抗	h_{ie}	V_{CE}=-10Vdc,I_C=-1.0mAdc,f=1.0KHz	1.0	—	15	kΩ
Voltage Feedback Ratio 电压反馈系数	h_{re}	V_{CE}=-10Vdc,I_C=-1.0mAdc,f=1.0KHz	0.5	—	8.0	$\times10^{-4}$
Small-Signal Current Gain 小信号电流增益	h_{fe}	V_{CE}=-10Vdc,I_C=-1.0mAdc,f=1.0KHz	100	—	500	
Output Admittance 输出导纳	h_{oe}	V_{CE}=-10Vdc,I_C=-1.0mAdc,f=1.0KHz	1.0	—	100	μ mhos

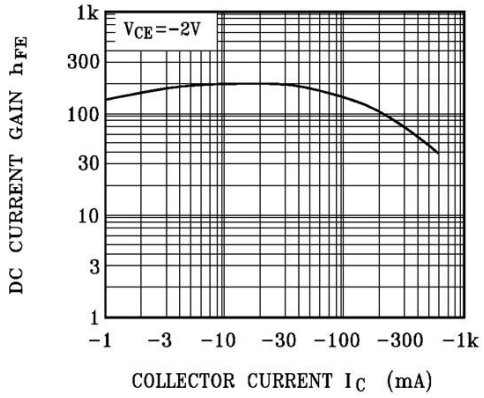
SWITCHING CHARACTERISTICS 开关特性

Delay Time 延迟时间	t_d	V_{CC}=-30Vdc,V_{BE}=-2.0Vdc,	—	—	15	nS
Rise Time 上升时间	t_r	I_C=-150mAdc,I_{B1}=-15mAdc	—	—	20	
Storage Time 储存时间	t_s	V_{CC}=-30Vdc,I_C=-150mAdc,	—	—	225	nS
Fall Time 下降时间	t_f	I_{B1}=I_{B2}=-15mAdc	—	—	30	

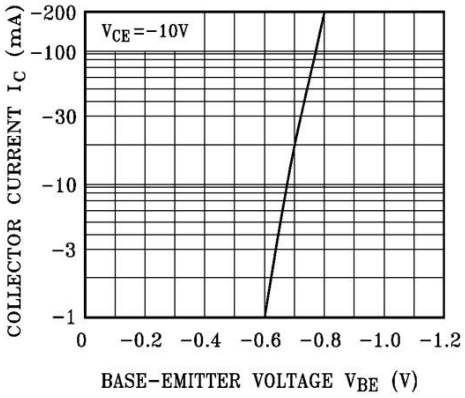
1. FR-5=1.0×0.75×0.062in.
2. Alumina=0.4×0.3×0.024in, 99.5%alumina.
3. Pulse Width≤300μS;Duty Cycle≤2.0%.

Typical Characteristics

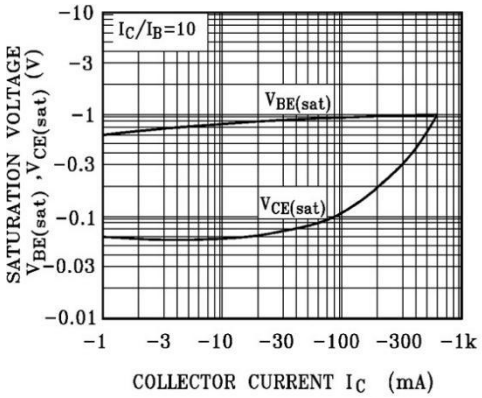
h_{FE} – I_C



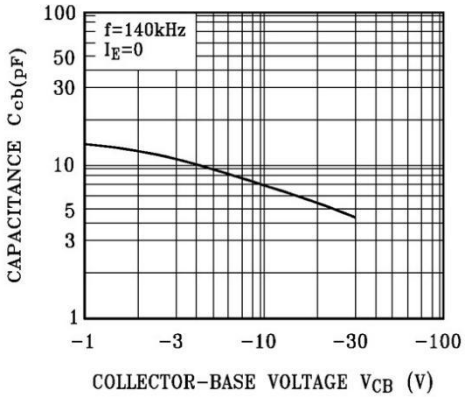
I_C – V_{BE}



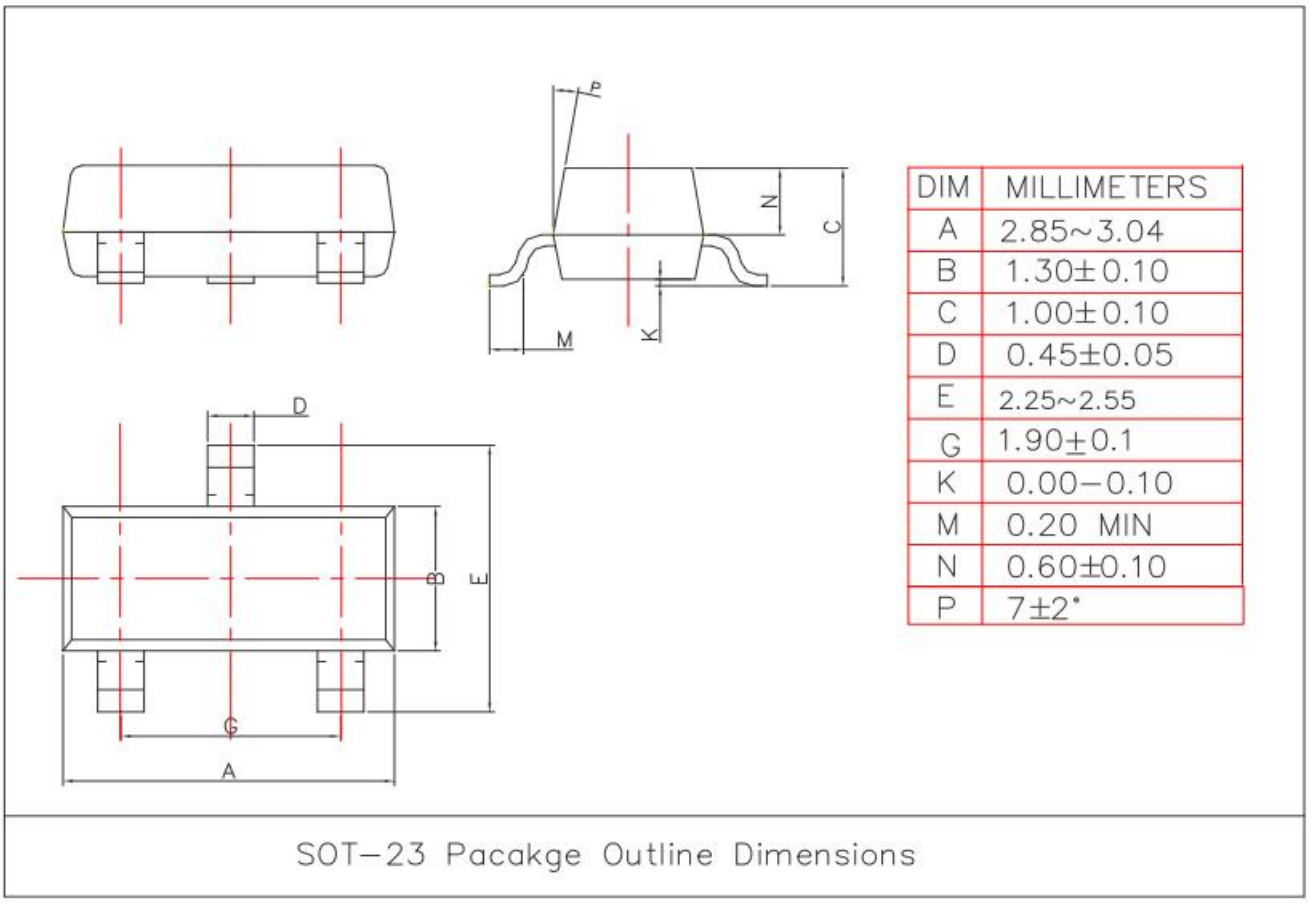
$V_{BE(sat)}$,$V_{CE(sat)}$ – I_C



C_{cb} – V_{CB}



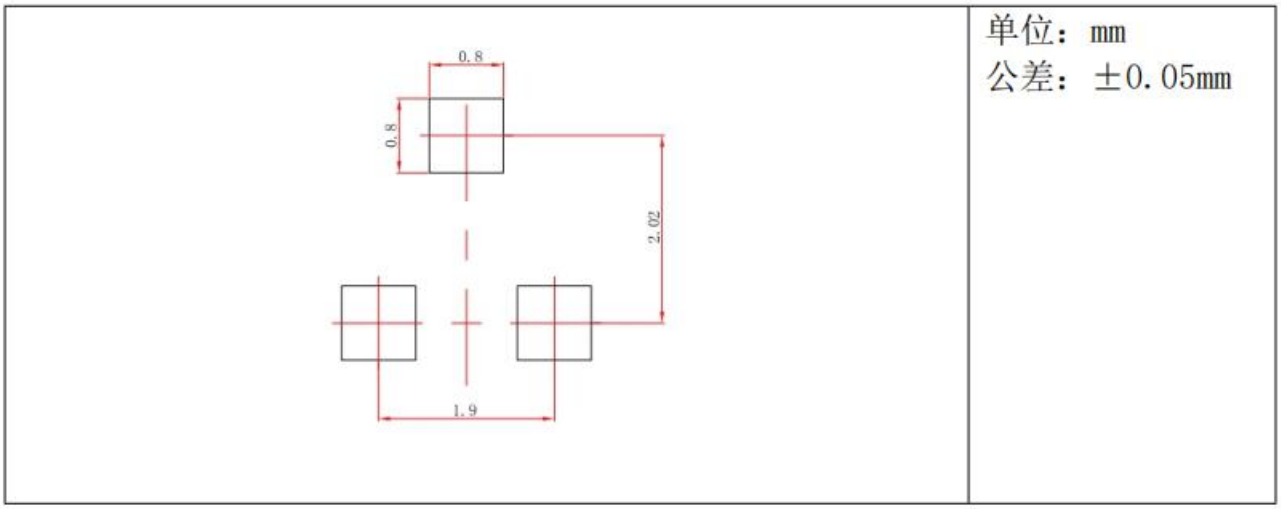
二、SOT-23 外形尺寸（SOT-23 DIMENSION）



DIM	MILLIMETERS
A	2.85~3.04
B	1.30±0.10
C	1.00±0.10
D	0.45±0.05
E	2.25~2.55
G	1.90±0.1
K	0.00−0.10
M	0.20 MIN
N	0.60±0.10
P	7±2°

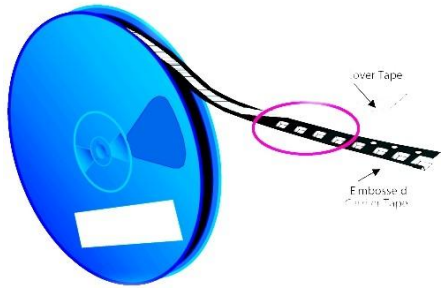
SOT−23 Pacakge Outline Dimensions

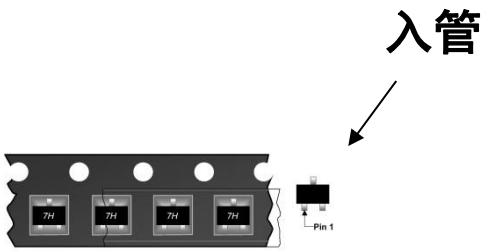
三、焊盘尺寸设计 SOT-23 Suggested Layout



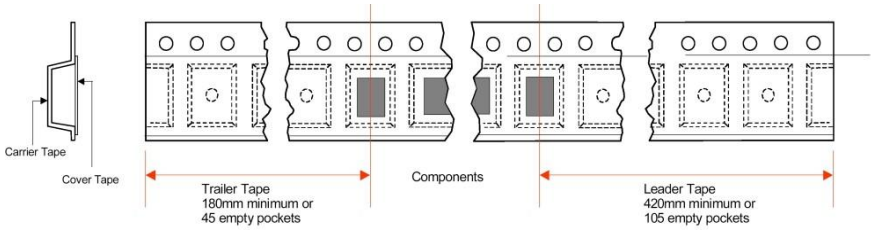
四、包装方式 Packings

封装形式	卷盘尺寸	只/卷	内盒尺寸	卷盘/内盒	只/内盒	外箱尺寸	内盒/外箱	只/外箱
SOT-23	7″	3000	**190X190X135 mm**	**10**	**30000**	**430 X 400 X 215 mm**	**6**	**180K**
			203X203X195 mm	15	45000	440 X 440 X 230 mm	4	180K





SOT-23 产品编带、包装图



SOT-23 带尾、带头空封数