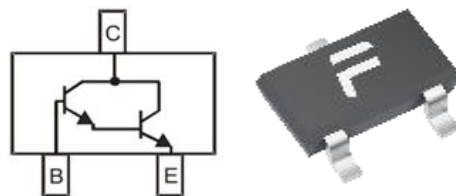


SOT-23 Bipolar Transistor 双极型三极管

■ Features 特点

NPN Darlington Amplifier 达林顿放大



■ Absolute Maximum Ratings 最大额定值

Characteristic 特性参数	Symbol 符号	Rat 额定值	Unit 单位
		MMBTA13/MMBTA14	
Collector-Base Voltage 集电极基极电压	V_{CBO}	30	V
Collector-Emitter Voltage 集电极发射极电压	V_{CEO}	30	V
Emitter-Base Voltage 发射极基极电压	V_{EBO}	10	V
Collector Current 集电极电流	I_C	300	mA
Power dissipation 耗散功率	$P_C(T_a=25^{\circ}C)$	300	mW
Thermal Resistance Junction-Ambient 热阻	$R_{\theta JA}$	417	$^{\circ}C/W$
Junction and Storage Temperature 结温和储藏温度	T_J, T_{stg}	-55to+150 $^{\circ}C$	

■ Device Marking 产品打标

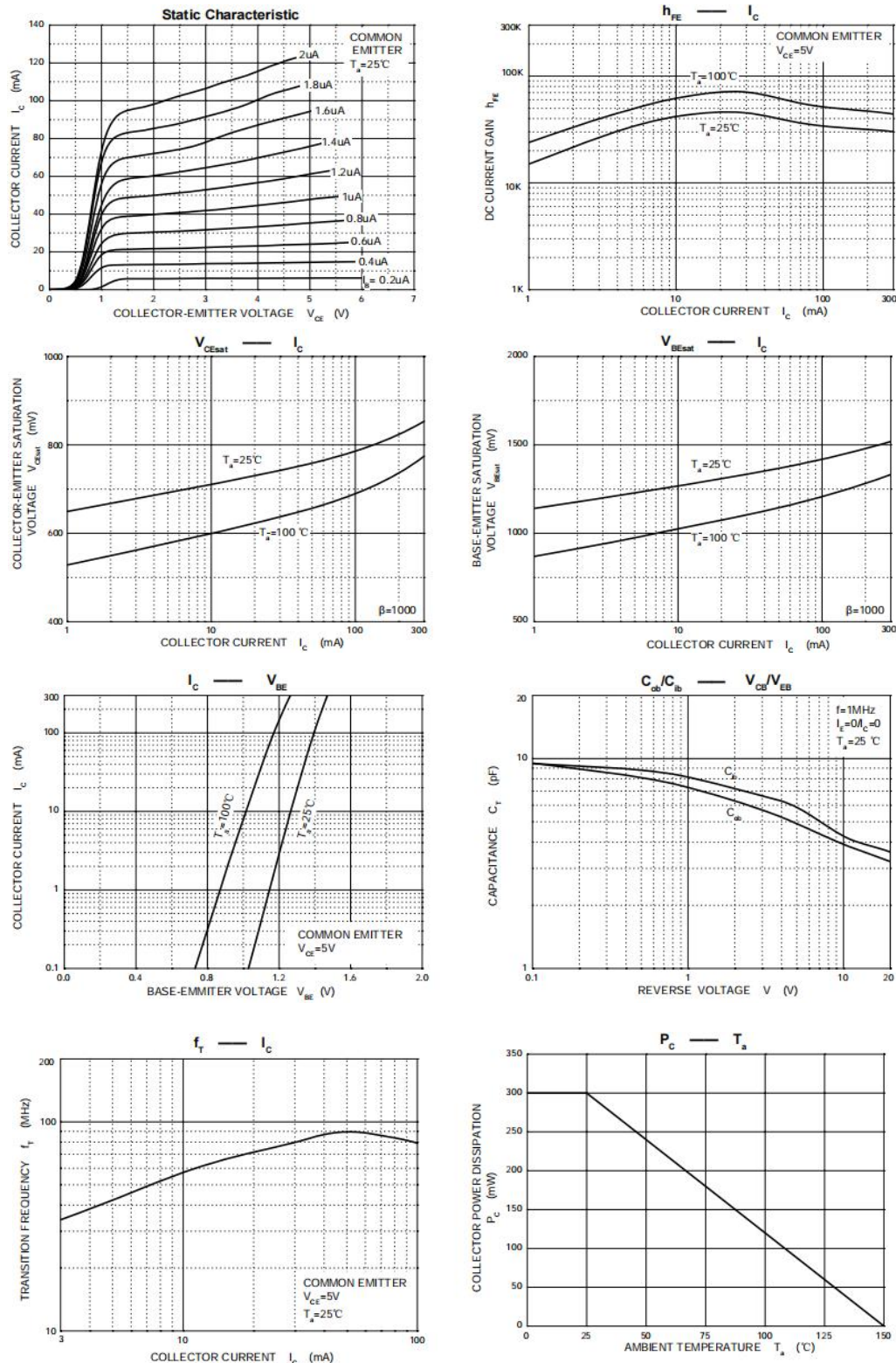
Type	MMBTA13	MMBTA14
Mark	K2D	K3D

■Electrical Characteristics 电特性

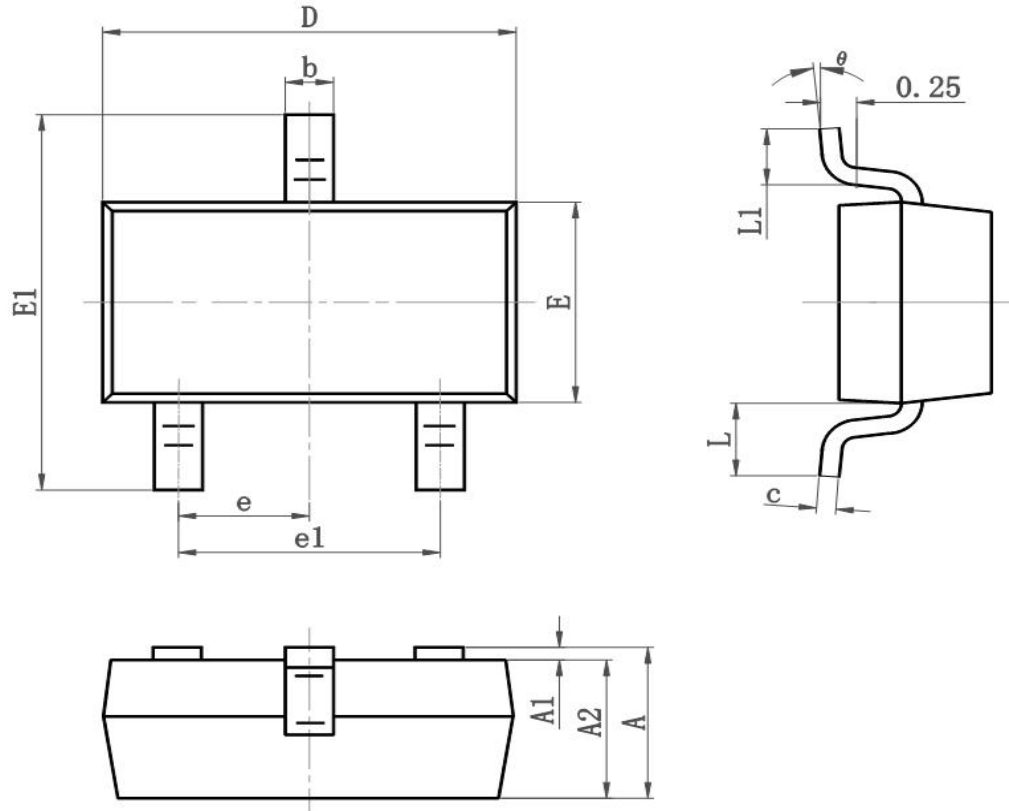
(TA=25℃ unless otherwise noted 如无特殊说明, 温度为 25℃)

Characteristic 特性参数	Symbol 符号	Min 最小值	Type 典型值	Max 最大值	Unit 单位
Collector-Base Breakdown Voltage 集电极基极击穿电压(I _C = 100μA, I _E =0)	BV _{CBO}	30	—	—	V
Collector-Emitter Breakdown Voltage 集电极发射极击穿电压(I _C = 100μA, I _B =0)	BV _{CEO}	30	—	—	V
Emitter-Base Breakdown Voltage 发射极基极击穿电压(I _E = 100μA, I _C =0)	BV _{EBO}	10	—	—	V
Collector-Base Leakage Current 集电极基极漏电流(V _{CB} =30V, I _E =0)	I _{CBO}	—	—	100	nA
Collector-Emitter Leakage Current 集电极发射极漏电流(V _{CE} =30V, I _B =0)	I _{CEO}	—	—	100	nA
Emitter-Base Leakage Current 发射极基极漏电流(V _{EB} =10V, I _C =0)	I _{EBO}	—	—	100	nA
DC Current Gain(V _{CE} =5V, I _C = 10mA)MMBTA13 (V _{CE} =5V, I _C = 10mA)MMBTA14 直流电流增益(V _{CE} = 5V, I _C = 100mA)MMBTA13 (V _{CE} = 5V, I _C = 100mA)MMBTA14	H _{FE}	5000 10000 10000 20000	—	—	
Collector-Emitter Saturation Voltage 集电极发射极饱和压降(I _C = 100mA, I _B = 100μA)	V _{CE(sat)}	—	—	1.5	V
Base-Emitter Saturation Voltage 基极发射极饱和压降(I _C = 100mA, I _B = 100μA)	V _{BE(sat)}	—	—	2	V
Base-Emitter On Voltage 基极发射极导通电压(V _{CE} = 5V, I _C = 100mA)	V _{BE(on)}	—	—	2	V
Transition Frequency 特征频率(V _{CE} = 5V, I _C = 10mA)	f _T	125	—	—	MHz
Output Capacitance 输出电容(V _{CB} = 10V, I _E =0, f=1MHz)	C _{ob}	—	—	12	pF

■ Typical Characteristic Curve 典型特性曲线



■Dimension 外形封装尺寸



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.050	0.055
E1	2.250	2.550	0.089	0.100
e	0.900	1.00	0.035	0.039
e1	1.800	2.000	0.071	0.079
L	0.500	0.600	0.020	0.024
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°