

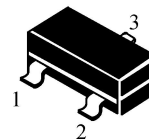
SOT-23 Bipolar Transistor 双极型三极管

SOT-23

■ **Features 特点**

NPN High Frequency 高频

- 1. BASE
- 2. EMITTER
- 3. COLLECTOR



■ **Absolute Maximum Ratings 最大额定值**

Characteristic 特性参数	Symbol 符号	Rat 额定值	Unit 单位
Collector-Base Voltage 集电极基极电压	V_{CBO}	40	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}	4	V
Collector Current 集电极电流	I_C	20	mA
Power dissipation 耗散功率	$P_C(T_a=25^\circ\text{C})$	100	mW
Thermal Resistance Junction-Ambient 热阻	$R_{\theta JA}$	1250	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature 结温和储藏温度	T_J, T_{stg}	-55to+150 $^\circ\text{C}$	

■ **Device Marking 产品打标**

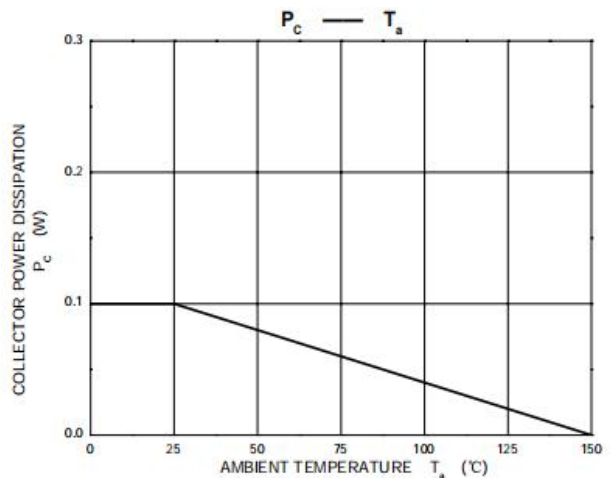
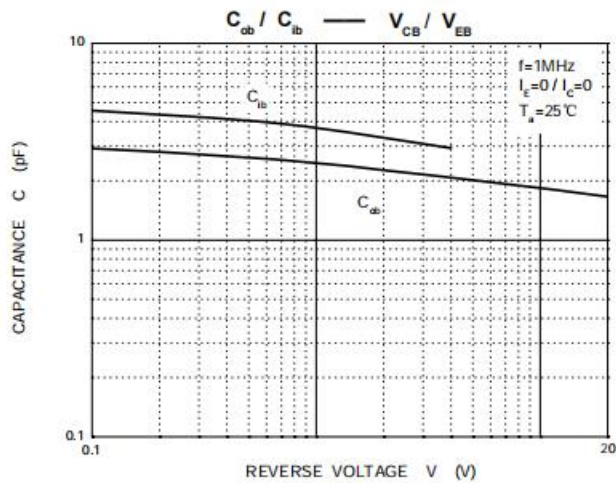
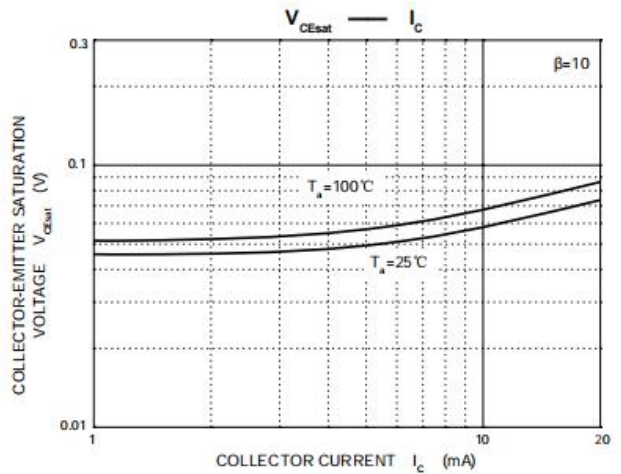
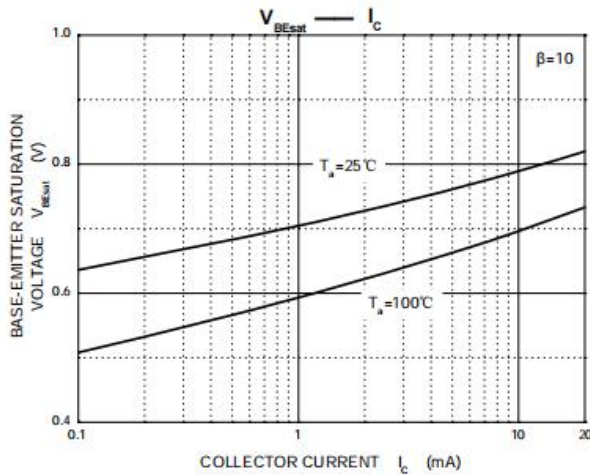
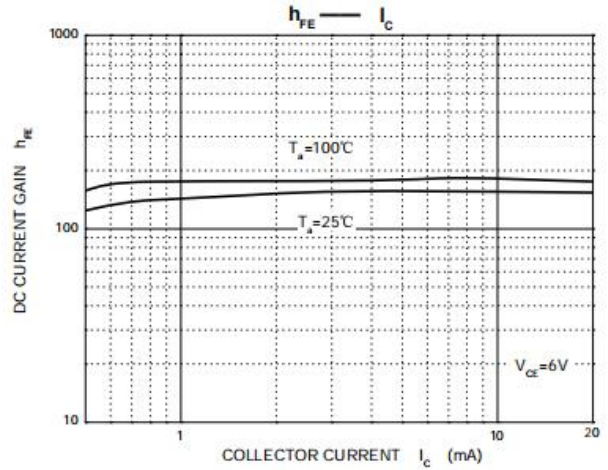
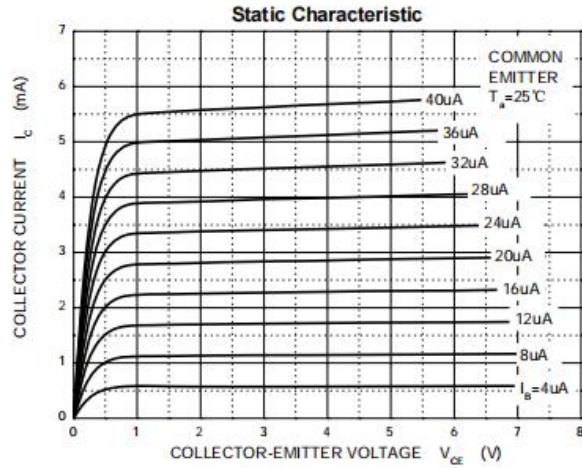
H_{FE}	40-80(R)	70-140(O)	100-200(Y)
Mark	QR	QO	QY

■ Electrical Characteristics 电特性

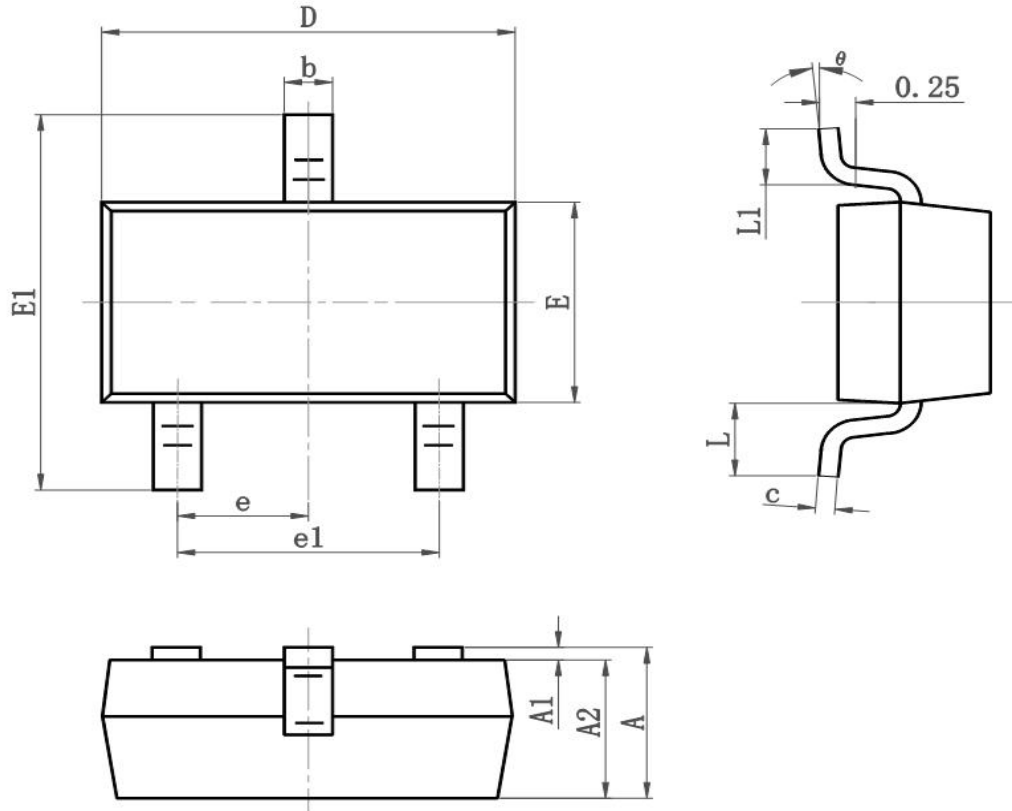
($T_A=25^{\circ}\text{C}$ unless otherwise noted 如无特殊说明, 温度为 25°C)

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 ($I_C=10\mu\text{A}$, $I_E=0$)	BV_{CBO}	40	—	—	V
Collector-Emitter Breakdown Voltage 集电极发射极击穿电压 ($I_C=1\text{mA}$, $I_B=0$)	BV_{CEO}	30	—	—	V
Emitter-Base Breakdown Voltage 发射极基极击穿电压 ($I_E=10\mu\text{A}$, $I_C=0$)	BV_{EBO}	4	—	—	V
Collector-Base Leakage Current 集电极基极漏电流 ($V_{CB}=18\text{V}$, $I_E=0$)	I_{CBO}	—	—	0.5	μA
Emitter-Base Leakage Current 发射极基极漏电流 ($V_{EB}=4\text{V}$, $I_C=0$)	I_{EBO}	—	—	0.5	μA
DC Current Gain 直流电流增益 ($V_{CE}=6\text{V}$, $I_C=1\text{mA}$)	H_{FE}	40	—	200	
Collector-Emitter Saturation Voltage 集电极发射极饱和压降 ($I_C=10\text{mA}$, $I_B=1\text{mA}$)	$V_{CE(sat)}$	—	—	0.4	V
Base-Emitter Saturation Voltage 基极发射极饱和压降 ($I_C=10\text{mA}$, $I_B=1\text{mA}$)	$V_{BE(sat)}$	—	—	1.0	V
Transition Frequency 特征频率 ($V_{CE}=6\text{V}$, $I_C=1\text{mA}$)	f_T	—	550	—	MHz
Noise Figure 噪声系数 ($V_{CE}=6\text{V}$, $I_C=1\text{mA}$, $f=100\text{MHz}$)	NF	—	2.5	5	dB
Output Capacitance 输出电容 ($V_{CB}=6\text{V}$, $I_E=0$, $f=1\text{MHz}$)	C_{ob}	—	0.7	—	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°