

TO-92 Bipolar Transistor 双极型三极管

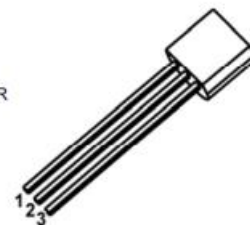
■ **Features 特点**

NPN General Purpose 通用

■ **Absolute Maximum Ratings 最大额定值**

TO-92

1.EMITTER
2.COLLECTOR
3.BASE



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}	60	V
Collector-Emitter Voltage 集电极发射极电压	V_{CEO}	50	V
Emitter-Base Voltage 发射极基极电压	V_{EBO}	5	V
Collector Current 集电极电流	I_C	150	mA
Power dissipation 耗散功率	$P_C(T_a=25^\circ C)$	400	mW
Thermal Resistance Junction-Ambient 热阻	$R_{\theta JA}$	313	$^\circ C/W$
Junction and Storage Temperature 结温和储藏温度	T_J, T_{stg}	-55to+150 $^\circ C$	

■ **Device Rank 产品分档**

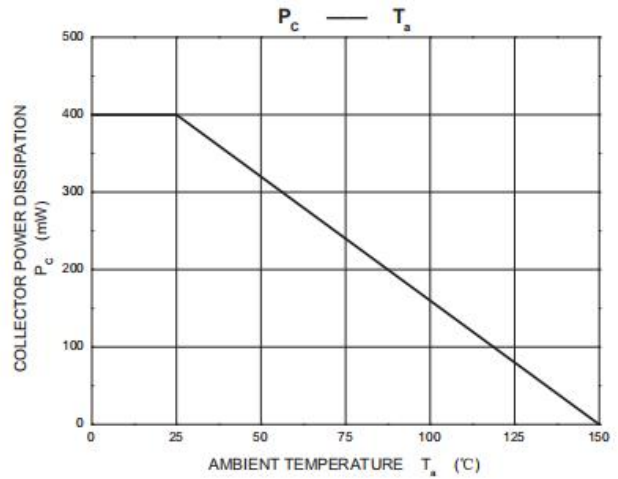
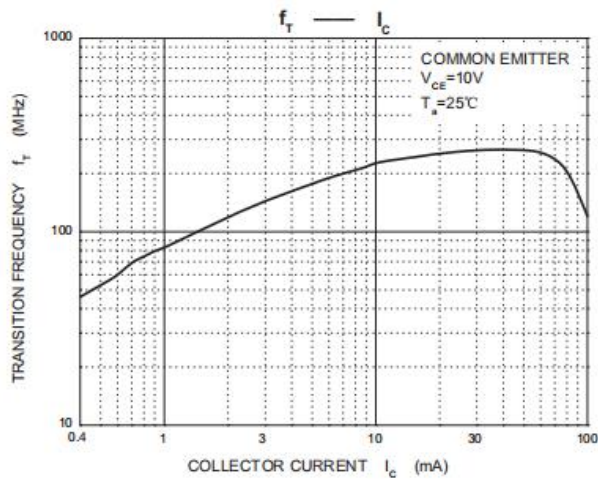
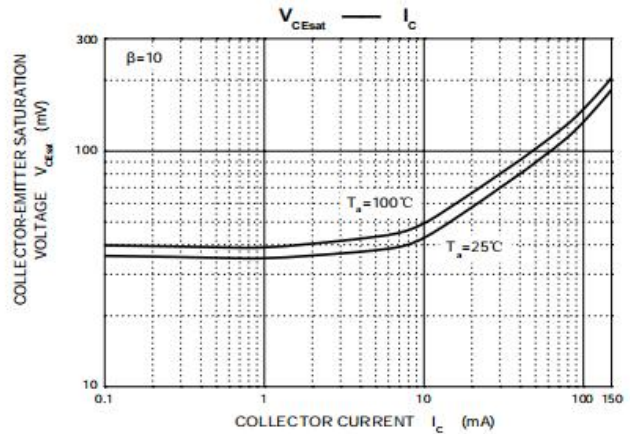
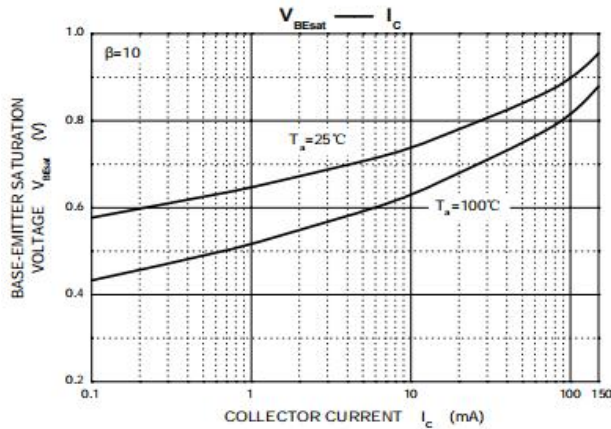
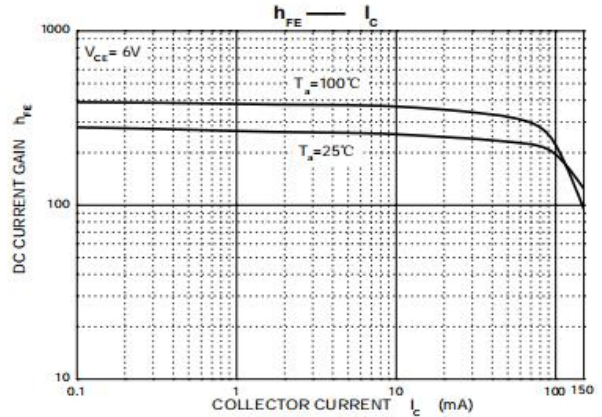
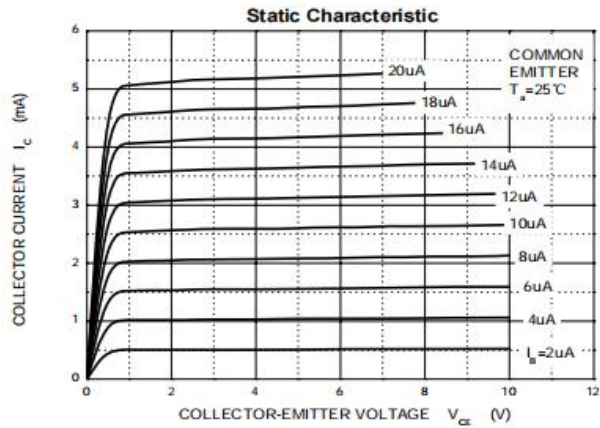
Rank 档位	O	Y	GR	BL
H_{FE} Range	70-140	120-240	200-400	350-700

■ Electrical Characteristics 电特性

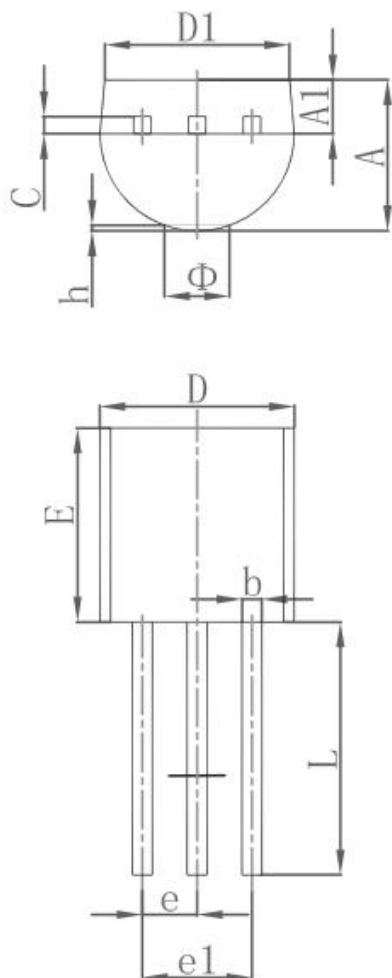
($T_A=25^{\circ}\text{C}$ unless otherwise noted 如无特殊说明, 温度为 25°C)

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 ($I_C=100\mu\text{A}$, $I_E=0$)	BV_{CBO}	60	—	—	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}	50	—	—	V
Emitter-Base Breakdown Voltage 发射极基极击穿电压 ($I_E=100\mu\text{A}$, $I_C=0$)	BV_{EBO}	5	—	—	V
Collector-Base Leakage Current 集电极基极漏电流 ($V_{CB}=60\text{V}$, $I_E=0$)	I_{CBO}	—	—	100	nA
Emitter-Base Leakage Current 发射极基极漏电流 ($V_{EB}=5\text{V}$, $I_C=0$)	I_{EBO}	—	—	100	nA
DC Current Gain 直流电流增益 ($V_{CE}=6\text{V}$, $I_C=1\text{mA}$)	H_{FE}	70	—	700	
Collector-Emitter Saturation Voltage 集电极发射极饱和压降 ($I_C=100\text{mA}$, $I_B=10\text{mA}$)	$V_{CE(sat)}$	—	—	0.3	V
Base-Emitter Saturation Voltage 基极发射极饱和压降 ($I_C=100\text{mA}$, $I_B=10\text{mA}$)	$V_{BE(sat)}$	—	—	1	V
Transition Frequency 特征频率 ($V_{CE}=6\text{V}$, $I_C=10\text{mA}$)	f_T	200	—	—	MHz
Noise Figure 噪声系数 ($V_{CE}=6\text{V}$, $I_C=0.1\text{mA}$, $f=1\text{KHz}$)	NF	—	—	10	dB
Output Capacitance 输出电容 ($V_{CB}=10\text{V}$, $I_E=0$, $f=1\text{MHz}$)	C_{ob}	—	—	3	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	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Φ		1.600		0.063
h	0.000	0.380	0.000	0.015