2SA733
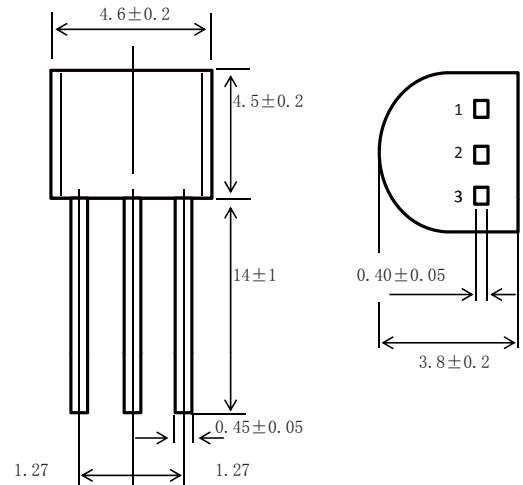
TO-92 Plastic-Encapsulate Transistors

FEATURE

●NPN Transistors

MECHANICAL DATA

●Case style:TO-92 molded plastic

●Mounting position:any

4.6 ± 0.2

4.5 ± 0.2

14 ± 1

0.45 ± 0.05

1.27 1.27

0.40 ± 0.05

3.8 ± 0.2

1 □
2 □
3 □

MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-100	mA
P_D	Total Device Dissipation	250	mW
T_J	Junction Temperature	150	℃
T_{stg}	Junction and Storage Temperature	-55-150	℃

PACKAGE   INFORMATION

| Device	Package	Shipping
2SA733	TO-92	2000/Tape&Reel

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V(BR)_{CBO}$	I_C= -50uA,I_E=0	-60			V
Collector-emitter breakdown voltage	$V(BR)_{CEO}$	I_C= -1mA , I_B=0	-50			V
Emitter-base breakdown voltage	$V(BR)_{EBO}$	I_E= -50uA, I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB}= -60 V , I_E=0			-0.1	uA
Emitter cut-off current	I_{EBO}	V_{EB}= -5 V , I_C=0			-0.1	uA
DC current gain	h_{FE}	V_{CE}= -6 V, I_C= -1mA	90	200	600	
Collector-emitter saturation voltage	V_{CE}(sat)	I_C= -100mA, I_B=- 10mA		-0.18	-0.3	V
Base-emitter voltage	V_{BE}	V_{CE}=-6V,I_C=-1.0mA	-0.58	-0.62	-0.68	V
Transition frequency	f_T	V_{CE}=-6V,I_C=-10mA	100	180		MHz
Collector output capacitance	C_{ob}	V_{CB}=-10V,I_E=0,f=1MH$_Z$		4.5	6	pF
Noise figure	NF	V_{CE}=-6V,I_C=-0.3mA, Rg=10kΩ,f=100H$_Z$		6	20	dB

CLASSIFICATION OF h$_{FE}$

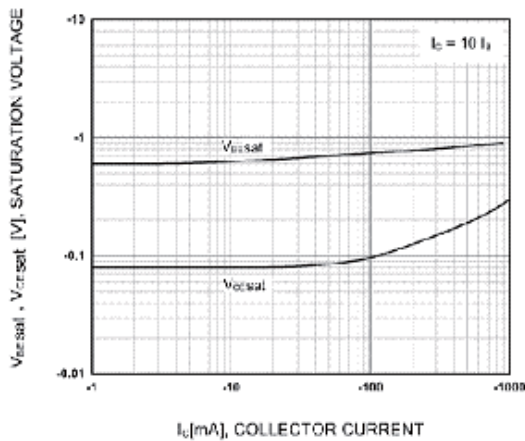| Rank	R	Q	P	K
Range	90-180	135-270	200-400	300-600

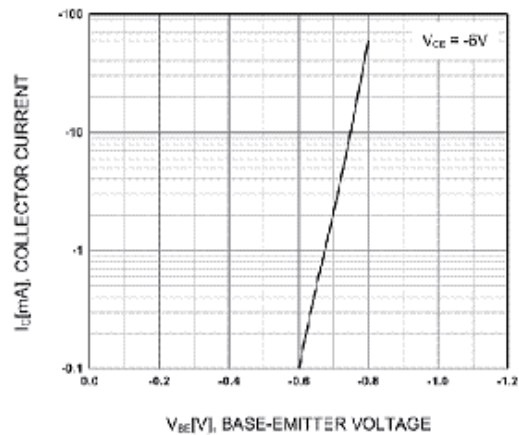■ Typical Characterisitics
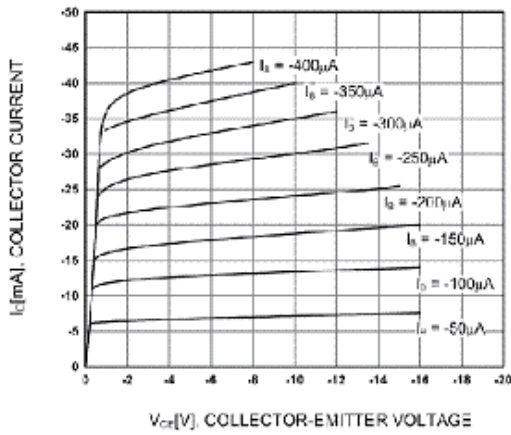
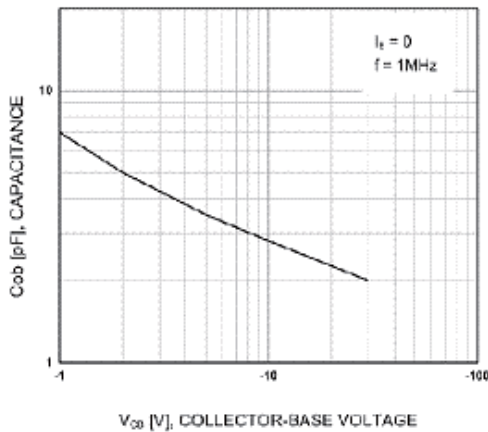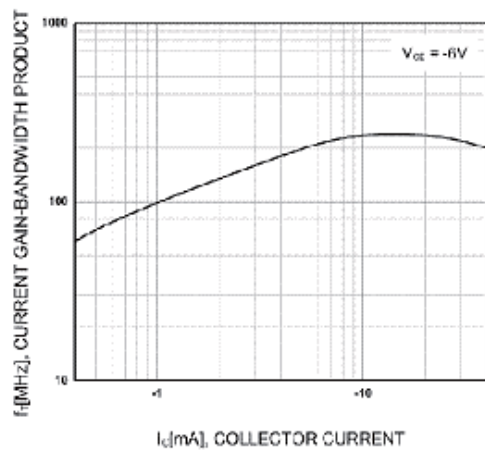**Static Characteristic**
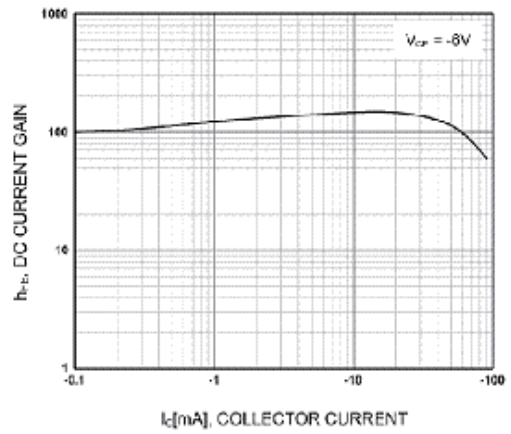
DC current Gain

Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

Base-Emitter On Voltage

Collector Output Capacitance

Current Gain Bandwidth Product