



## TO-92 Plastic-Encapsulate Transistors

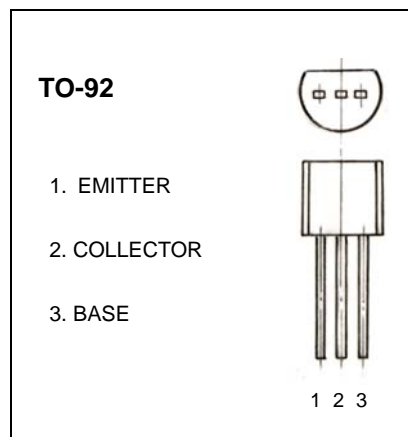
### A733 TRANSISTOR(PNP )

#### FEATURE

Power dissipation

#### MAXIMUM RATINGS\* $T_A=25^{\circ}\text{C}$ 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	$^{\circ}\text{C}$
$T_{stg}$	Junction and Storage Temperature	-55-150	$^{\circ}\text{C}$



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

#### ELECTRICAL CHARACTERISTICS( $T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

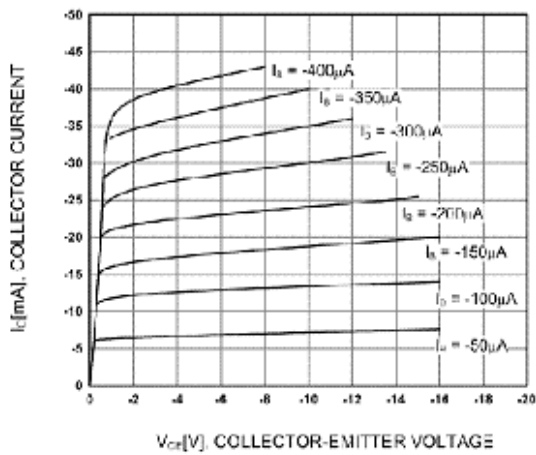
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V(BR)_{CBO}$	$I_C = -50\mu\text{A}, I_E = 0$	-60			V
Collector-emitter breakdown voltage	$V(BR)_{CEO}$	$I_C = -1\text{mA}, I_B = 0$	-50			V
Emitter-base breakdown voltage	$V(BR)_{EBO}$	$I_E = -50\mu\text{A}, I_C = 0$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

#### CLASSIFICATION OF $h_{FE}$

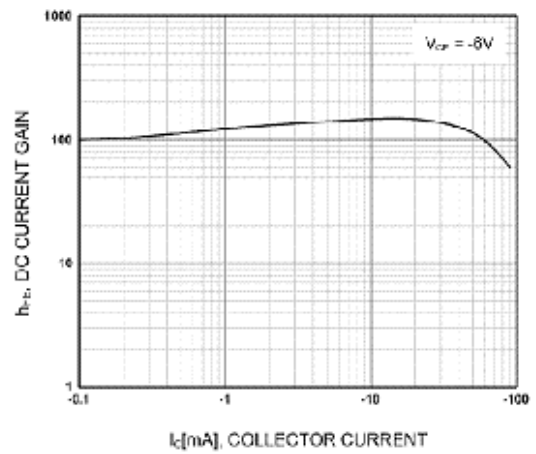
Rank	R	Q	P	K
Range	90-180	135-270	200-400	300-600

# Typical Characteristics

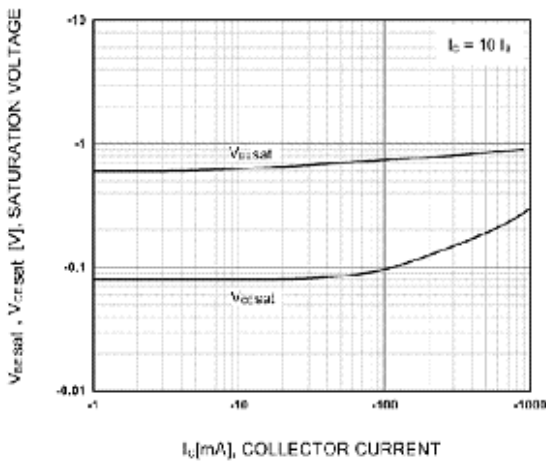
A733



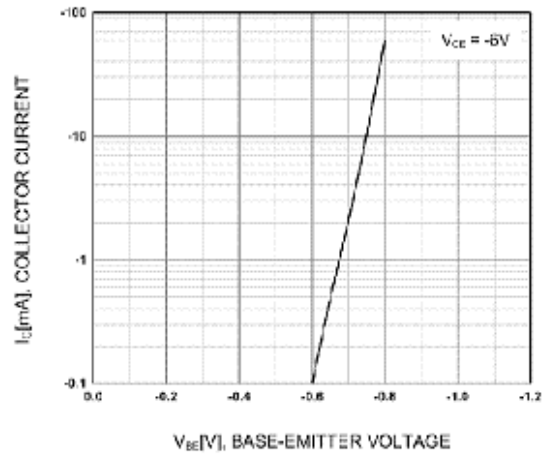
**Static Characteristic**



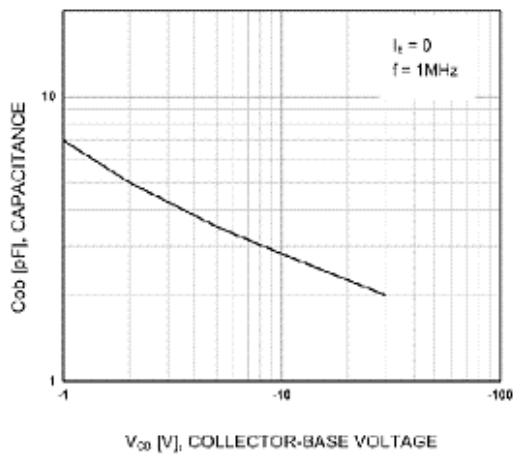
**DC current Gain**



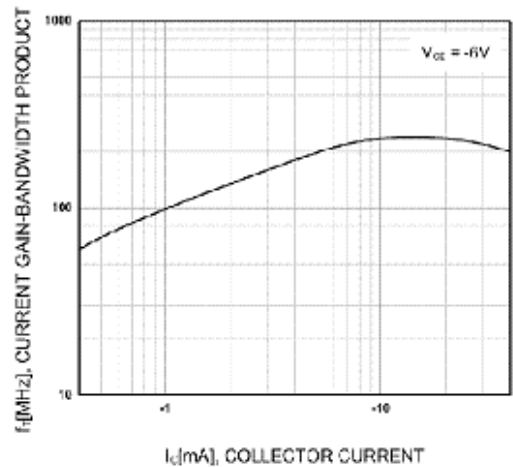
**Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage**



**Base-Emitter On Voltage**



**Collector Output Capacitance**



**Current Gain Bandwidth Product**