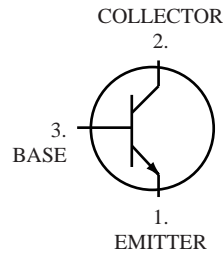
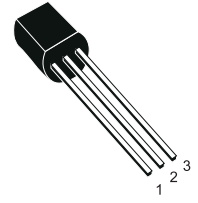


PNP Transistor

(P/b) Lead(Pb)-Free



1. EMITTER
2. COLLECTOR
3. BASE



TO-92

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Units
Collector-Base Voltage	V_{CB0}	-60	V
Collector-Emitter Voltage	V_{CEO}	-50	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current -Continuous	I_C	-100	mA
Collector Power Dissipation	P_C	250	mW
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^{\circ}\text{C}$

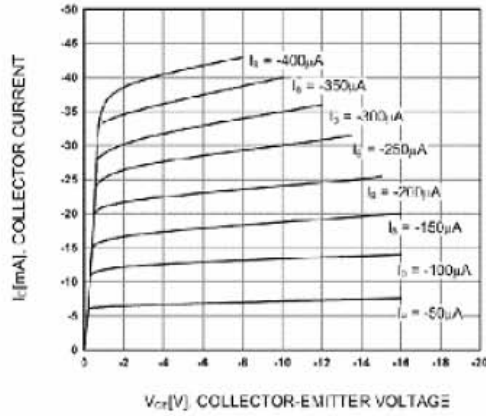
ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

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	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0$			-0.1	μA
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			MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$			6	pF
Noise figure	NF	$V_{CE} = -6\text{V}, I_C = -0.3\text{mA}, R_g = 10\text{k}\Omega, f = 100\text{Hz}$			20	dB

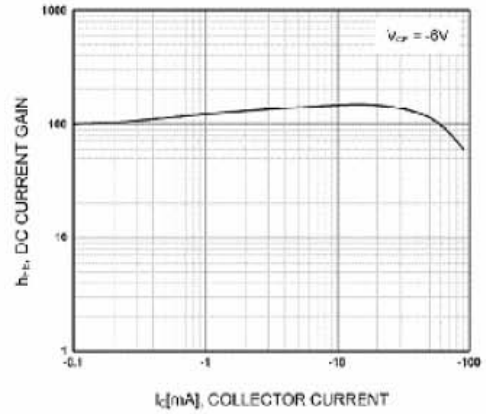
CLASSIFICATION OF h_{FE}

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

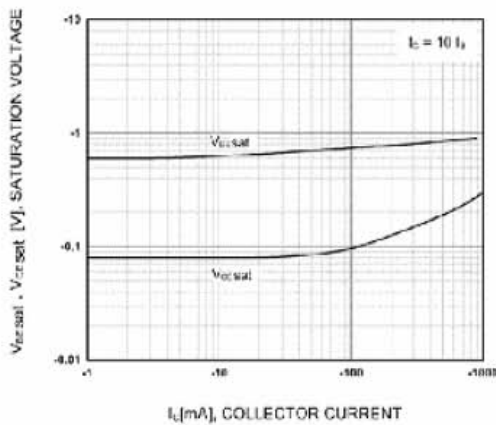
Ratings and Characteristic Curves



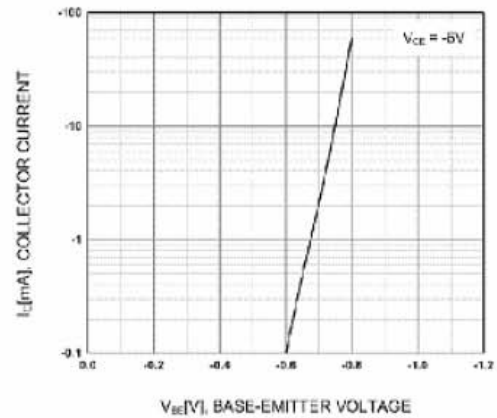
Static Characteristic



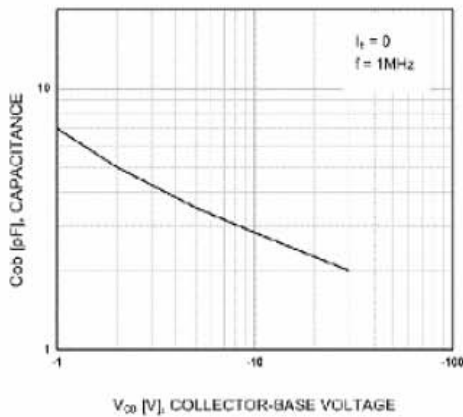
DC current Gain



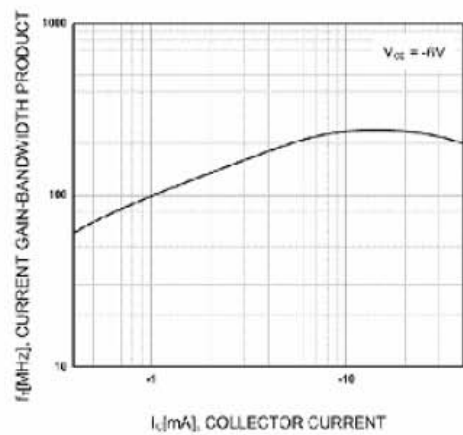
**Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage**



Base-Emitter On Voltage



Collector Output Capacitance



Current Gain Bandwidth Product