

TRANSISTOR (NPN)

FEATURES

Power dissipation

MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

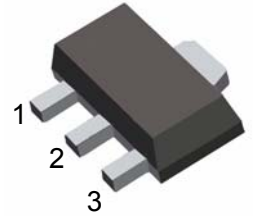
Symbol	Parameter	Value	Units
V _{CBO}	Collector-Base Voltage	40	V
V _{CEO}	Collector-Emitter Voltage	30	V
V _{EBO}	Emitter-Base Voltage	6	V
I _C	Collector Current -Continuous	3	A
P _C	Collector Power Dissipation	0.5	W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55-150	°C

SOT-89

1. BASE

2. COLLECTOR

3. EMITTER



ELECTRICAL CHARACTERISTICS(T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	V _{(BR)CBO}	I _C = 100μA, I _E =0	40			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C = 10mA, I _B =0	30			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E = 100μA, I _C =0	6			V
Collector cut-off current	I _{CBO}	V _{CB} = 40V, I _E =0			1	μA
Collector cut-off current	I _{CEO}	V _{CE} = 30V, I _B =0			10	μA
Emitter cut-off current	I _{EBO}	V _{EB} = 6V, I _C =0			1	μA
DC current gain	h _{FE(1)}	V _{CE} =2V, I _C = 1A	60		400	
	h _{FE(2)}	V _{CE} =2V, I _C = 100mA	32			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C = 2A, I _B = 0.2 A			0.5	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C = 2A, I _B = 0.2 A			1.5	V
Transition frequency	f _T	V _{CE} = 5V, I _C =0.1A f =10MHz	50			MHz

CLASSIFICATION OF h_{FE(1)}

Rank	R	O	Y	GR
Range	60-120	100-200	160-320	200-400

Typical characteristics

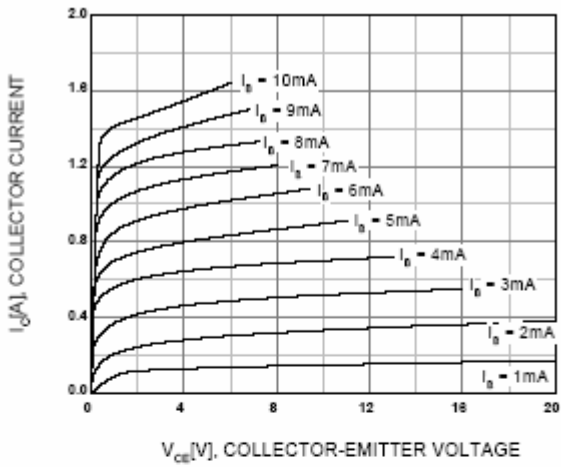


Figure 1. Static Characteristic

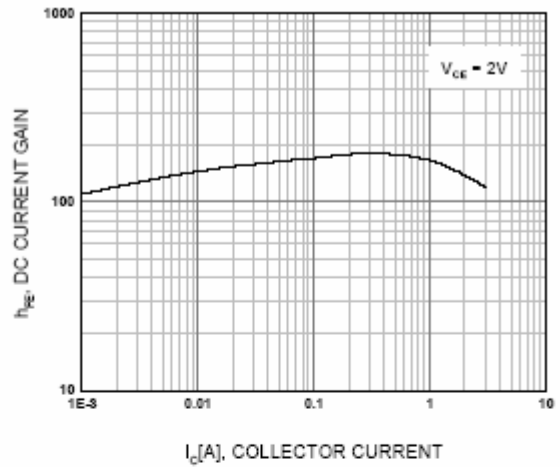


Figure 2. DC current Gain

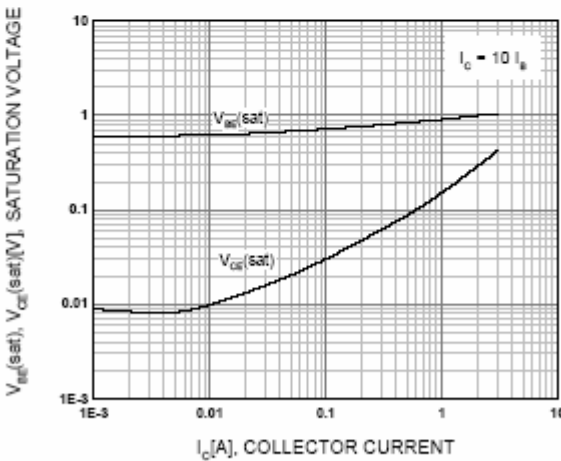


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

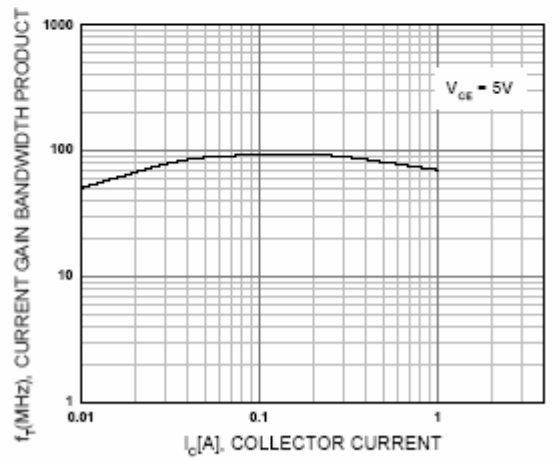


Figure 4. Current Gain Bandwidth Product

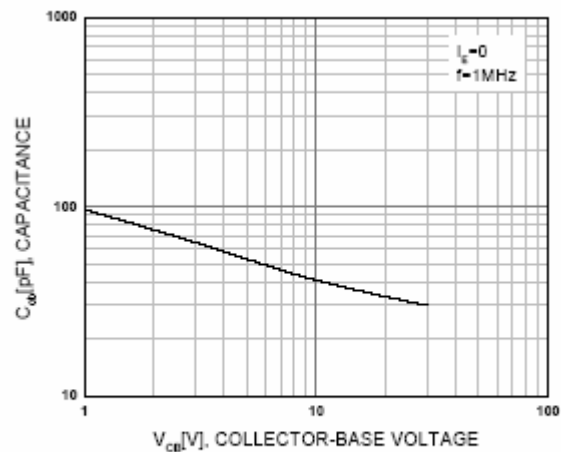


Figure 5. Collector Output Capacitance