

**TO-92 Plastic-Encapsulate Transistors**

AV9012 TRANSISTOR ( PNP )

**FEATURES**

Power dissipation

$$P_{CM} : 0.625 \text{ W ( } T_{amb}=25^{\circ}\text{C )}$$

Collector current

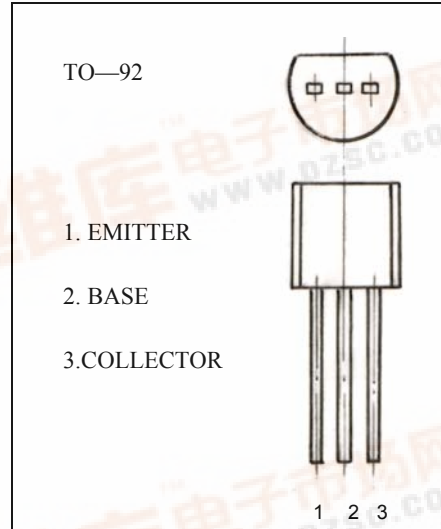
$$I_{CM} : -0.5 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO} : -40 \text{ V}$$

Operating and storage junction temperature range

$$T_J , T_{stg} : -55^{\circ}\text{C to } +150^{\circ}\text{C}$$



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

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -100 \mu\text{A}, I_E = 0$	-40		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -0.1 \text{ mA}, I_B = 0$	-25		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -100 \mu\text{A}, I_C = 0$	-5		V
Collector cut-off current	$I_{CBO}$	$V_{CB} = -40 \text{ V}, I_E = 0$		-0.1	$\mu\text{A}$
Collector cut-off current	$I_{CEO}$	$V_{CE} = -20 \text{ V}, I_B = 0$		-0.2	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -5 \text{ V}, I_C = 0$		-0.1	$\mu\text{A}$
DC current gain	$H_{FE(1)}$	$V_{CE} = -1 \text{ V}, I_C = -50 \text{ mA}$	64	300	
	$H_{FE(2)}$	$V_{CE} = -1 \text{ V}, I_C = -500 \text{ mA}$	40		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500 \text{ mA}, I_B = -50 \text{ mA}$		-0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -500 \text{ mA}, I_B = -50 \text{ mA}$		-1.2	V
Base-emitter voltage	$V_{EB}$	$I_E = -100 \text{ mA}$		-1.4	V
Transition frequency	$f_T$	$V_{CE} = -6 \text{ V}, I_C = -20 \text{ mA}$ $f = 30 \text{ MHz}$	150		MHz

**CLASSIFICATION OF HFE(1)**

Rank	D	E	F	G	H	I
Range	64-91	78-112	96-135	112-166	144-202	190-300



### Typical Characteristics

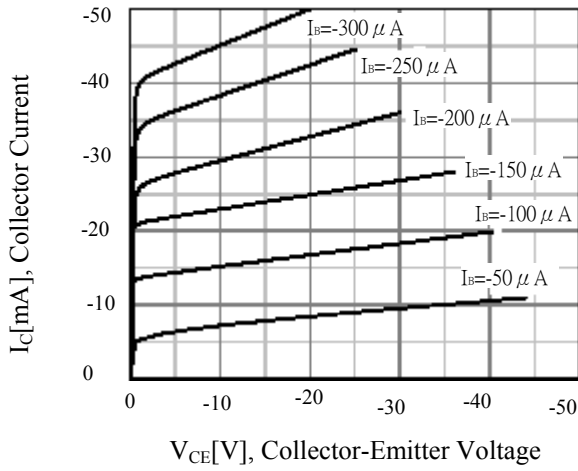


Figure 1. Static Characteristic

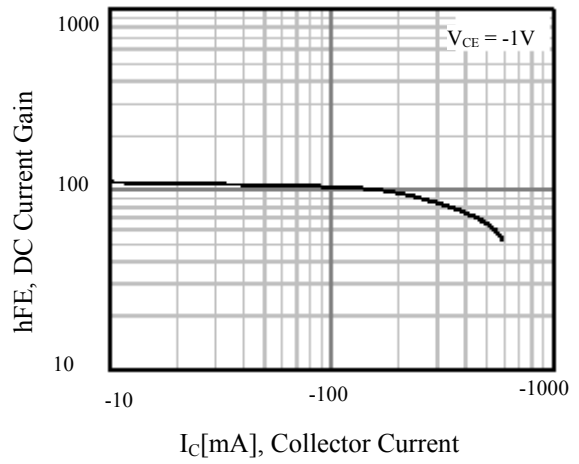


Figure 2. DC current Gain

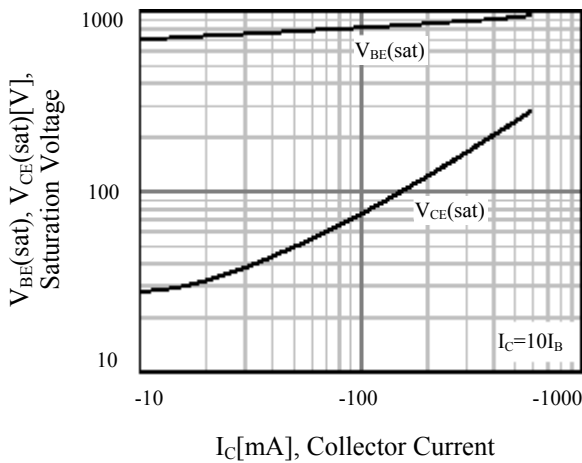


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

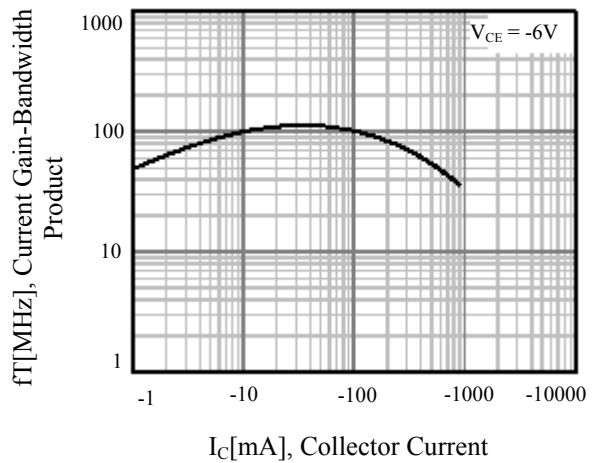


Figure 4. Current Gain Bandwidth Product