

## TO-92 Plastic-Encapsulate Transistors

AV8050 TRANSISTOR ( NPN )

**FEATURES**

Power dissipation

$$P_{CM} : 1 \text{ W ( } T_{amb}=25^{\circ}\text{C )}$$

Collector current

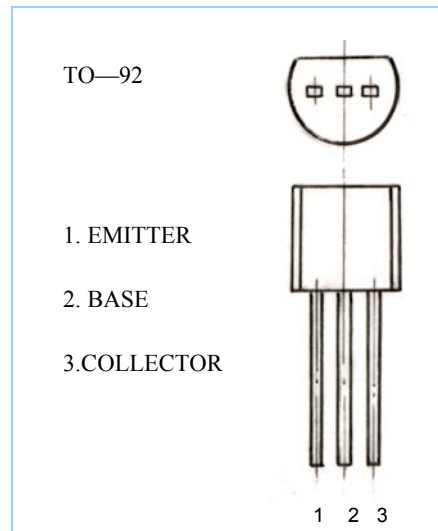
$$I_{CM} : 1.5 \text{ A}$$

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	TYP	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	$I_{CEO}$	$V_{CE} = 20 \text{ V} , I_B = 0$			0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 5 \text{ V} , I_C = 0$			0.1	$\mu\text{A}$
DC current gain	$H_{FE(1)}$	$V_{CE} = 1 \text{ V} , I_C = 100 \text{ mA}$	85		300	
	$H_{FE(2)}$	$V_{CE} = 1 \text{ V} , I_C = 800 \text{ mA}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 800 \text{ mA} , I_B = 80 \text{ mA}$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 800 \text{ mA} , I_B = 80 \text{ mA}$			1.2	V
Base-emitter voltage	$V_{BE}$	$I_E = 1.5 \text{ A}$			1.6	V
Transition frequency	$f_T$	$V_{CE} = 10 \text{ V} , I_C = 50 \text{ mA}$ $f = 30 \text{ MHz}$	190			MHz

**CLASSIFICATION OF HFE(1)**

Rank	B	C	D
Range	85-160	120-200	160-300

### TYPICAL PERFORMANCE CHARACTERISTICS

Fig.1 Static characteristics

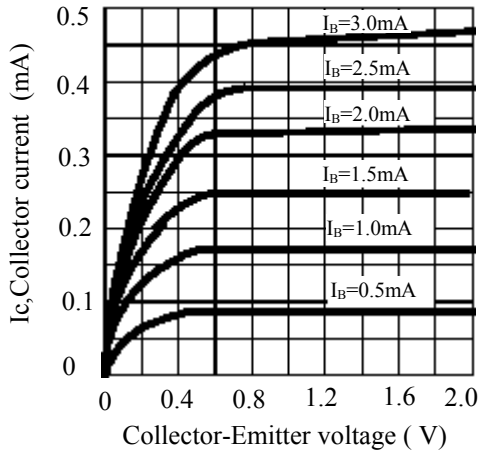


Fig.2 DC current Gain

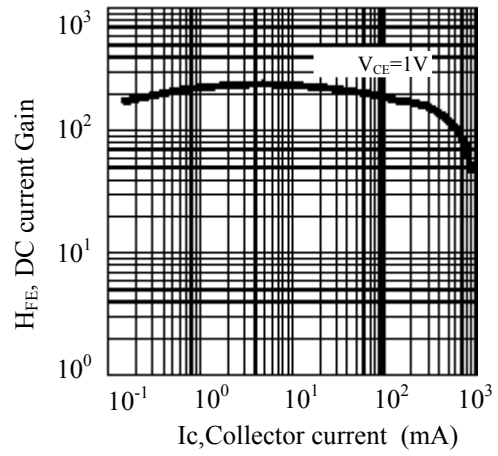


Fig.3 Base-Emitter on Voltage

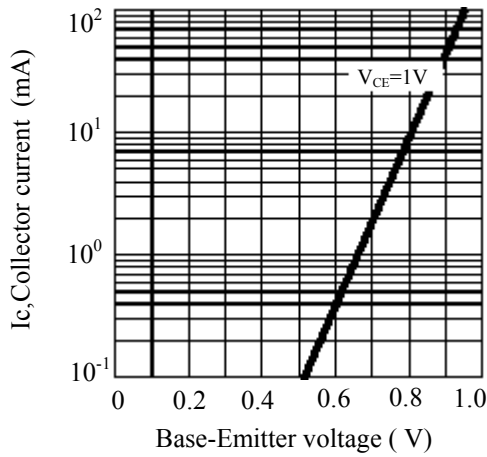


Fig.4 Saturation voltage

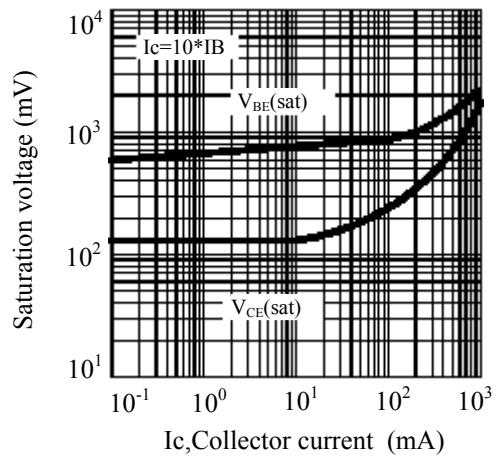


Fig.5 Current gain-bandwidth product

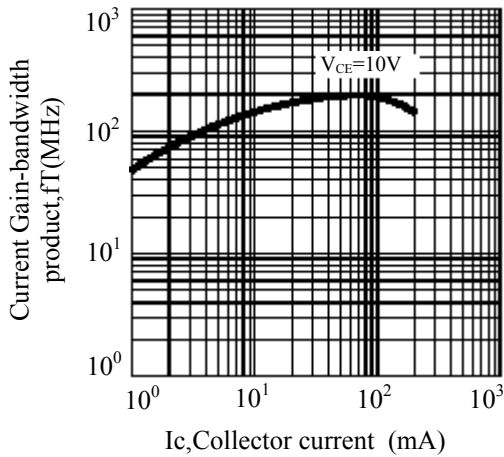


Fig.6 Collector output Capacitance

