

## TO-92 Plastic-Encapsulate Transistors

AV945 TRANSISTOR ( NPN )

### FEATURES

Power dissipation

$$P_{CM} : 0.4 \text{ W ( } T_{amb}=25^{\circ}\text{C )}$$

Collector current

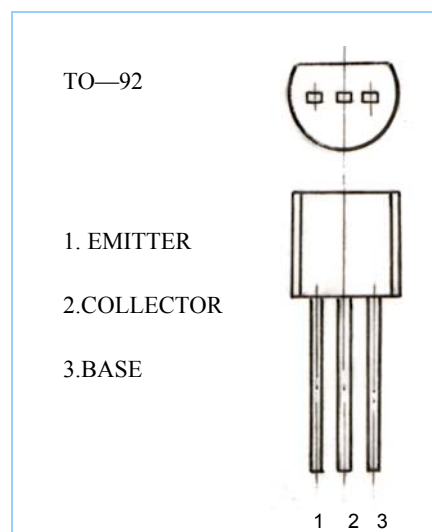
$$I_{CM} : 0.15 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO} : 60 \text{ V}$$

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	$V_{(BR)CBO}$	$I_C=1000 \mu\text{A}, I_E=0$	60		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=0.1 \text{ mA}, I_B=0$	50		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100 \mu\text{A}, I_C=0$	5		V
Collector cut-off current	$I_{CBO}$	$V_{CB}=60 \text{ V}, I_E=0$		0.1	$\mu\text{A}$
Collector cut-off current	$I_{CER}$	$V_{CE}=55 \text{ V}, R=10\text{M}\Omega$		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	$H_{FE(1)}$	$V_{CE}=6 \text{ V}, I_C=1 \text{ mA}$	70	700	
	$H_{FE(2)}$	$V_{CE}=6 \text{ V}, I_C=0.1 \text{ mA}$	40		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100 \text{ mA}, I_B=10 \text{ mA}$		0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=100 \text{ mA}, I_B=10 \text{ mA}$		1	V
Base-emitter voltage	$V_{BE}$	$I_E=310 \text{ mA}$		1.4	V
Transition frequency	$f_T$	$V_{CE}=6 \text{ V}, I_C=10 \text{ mA}$ $f=30 \text{ MHz}$	150		MHz

### CLASSIFICATION OF $H_{FE(1)}$

Rank	O	Y	GR	BL
Range	70-140	120-240	200-400	350-700

### TYPICAL PERFORMANCE CHARACTERISTICS

Fig.1 Static characteristics

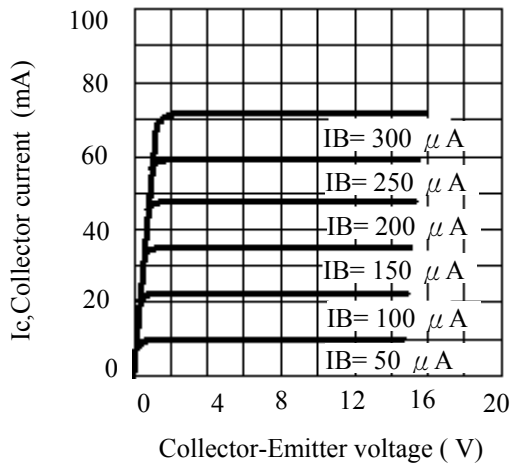


Fig.2 DC current Gain

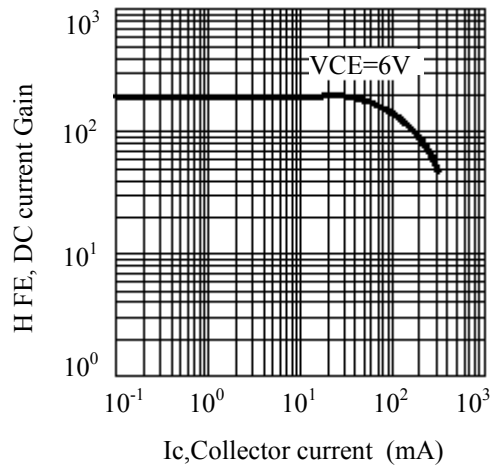


Fig.3 Base-Emitter on Voltage

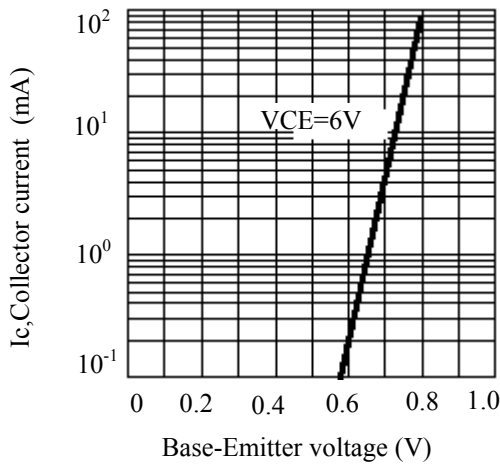


Fig.4 Saturation voltage

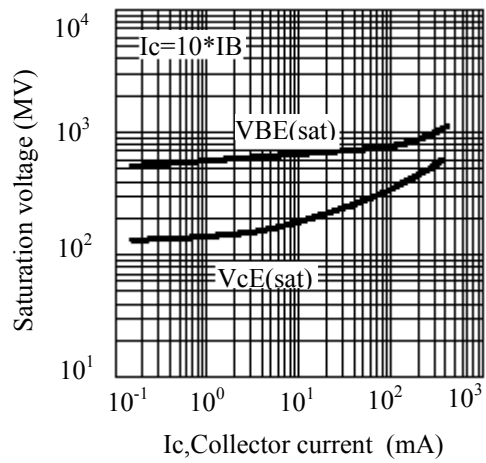


Fig.5 Current gain-bandwidth product

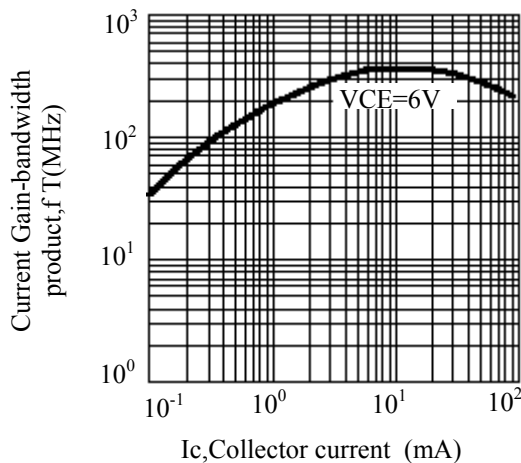


Fig.6 Collector output Capacitance

