

# Transistors

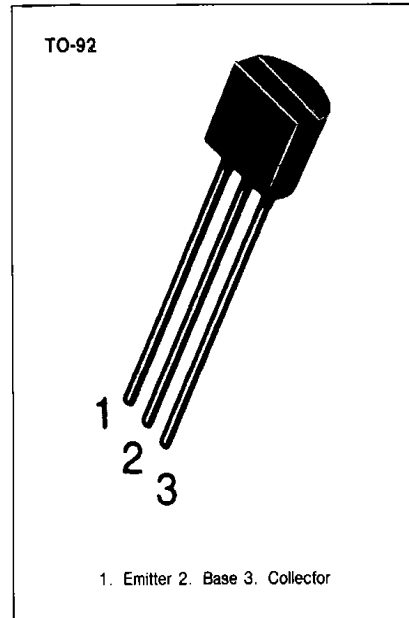
## 2SC1187

### TV 1ST, 2ND PICTURE IF AMPLIFIER (FORWARD AGC)

- High Current Gain Bandwidth Product  $f_T = 700\text{MHz}$
- High Power Gain  $G_{pe} = 24\text{dB}$  (Typ) at 45MHz

### ABSOLUTE MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	30	V
Collector-Emitter Voltage	$V_{CEO}$	20	V
Emitter-Base Voltage	$V_{EBO}$	4	V
Collector Current	$I_C$	30	mA
Collector Dissipation	$P_C$	250	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 ~ 150	$^\circ\text{C}$



### ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

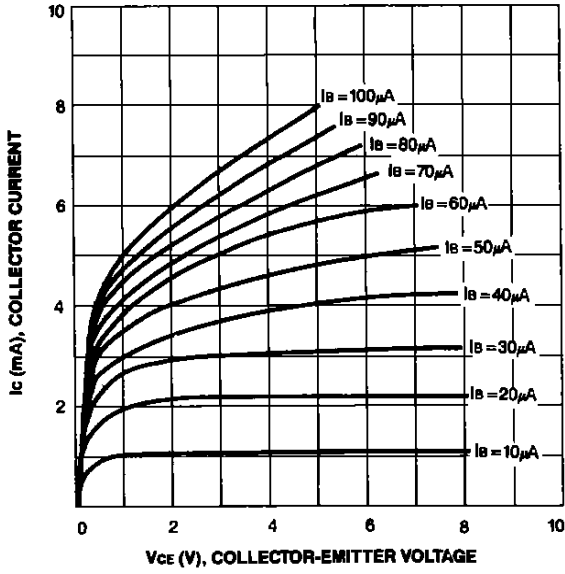
Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	30			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C = 5\text{mA}, I_B = 0$	20			V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	4			V
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 20\text{V}, I_E = 0$			0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE} = 10\text{V}, I_C = 2\text{mA}$	40		240	
Current Gain-Bandwidth Product	$f_T$	$V_{CE} = 10\text{V}, I_C = 3\text{mA}$	400	700		MHz
Reverse Transfer Capacitance	$C_{re}$	$V_{CB} = 10\text{V}, I_E = 0$ $f = 1\text{MHz}$		0.6		pF
Power Gain	$G_{pe}$	$V_{CE} = 10\text{V}, I_E = -3\text{mA}$ $f = 45\text{MHz}$	20	24		dB
AGC Voltage	$V_{AGC}$	$G_{PE} = -30\text{dB}$ $f = 45\text{MHz}$	4.4	5.2	6.0	V

### $h_{FE}$ CLASSIFICATION

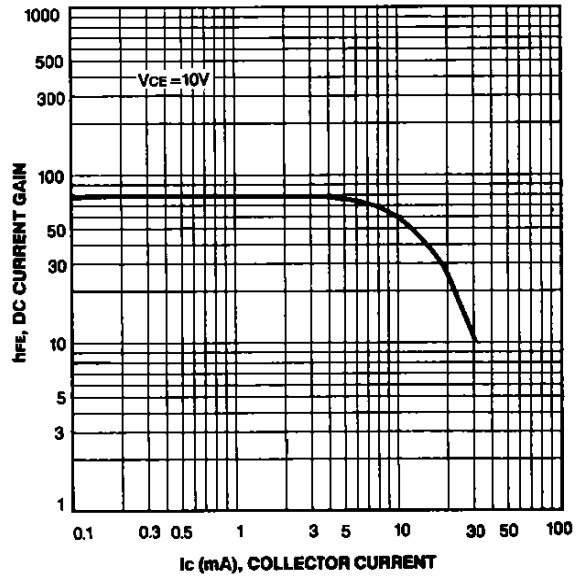
Classification	R	O	Y
$h_{FE}$	40-80	70-140	120-240



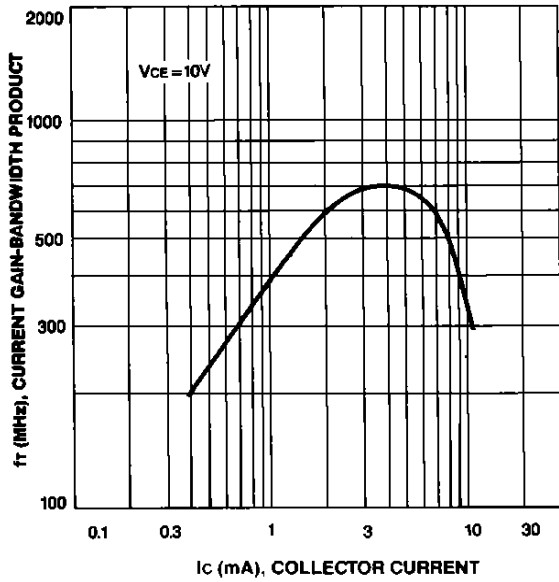
**STATIC CHARACTERISTIC**



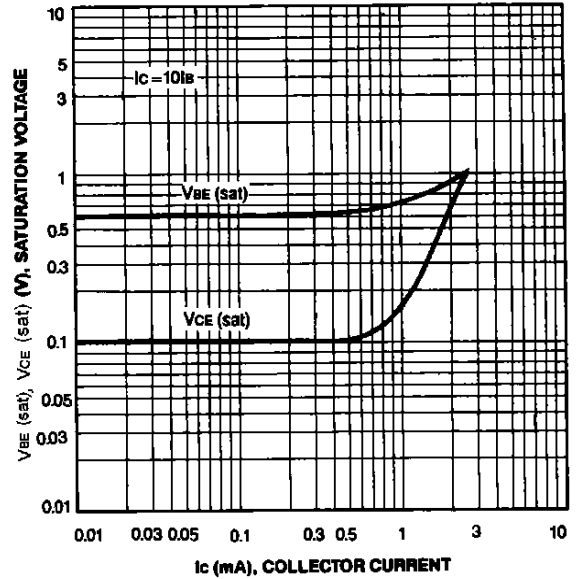
**DC CURRENT GAIN**



**CURRENT GAIN-BANDWIDTH PRODUCT**



**BASE-EMITTER SATURATION VOLTAGE  
COLLECTOR-EMITTER SATURATION VOLTAGE**



**REVERSE CAPACITANCE**

