

# Transistors

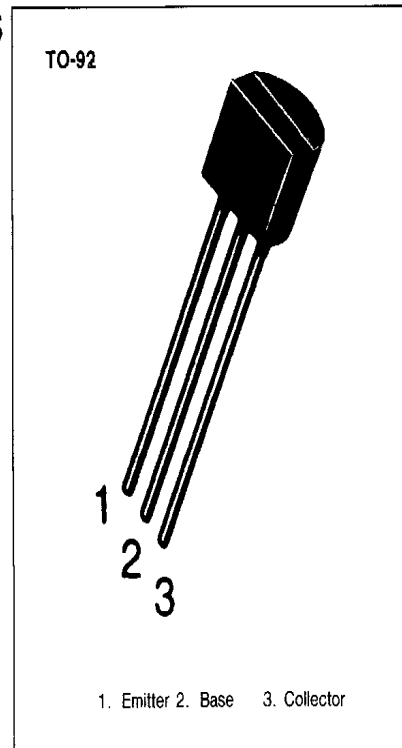
## 2SC388

### TV FINAL PICTURE IF AMPLIFIER APPLICATIONS

- $G_{pe} = 33\text{dB}$  (Typ) ( $f = 45\text{MHz}$ )

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	30	V
Collector-Emitter Voltage	$V_{CEO}$	25	V
Emitter-Base Voltage	$V_{EBO}$	4	V
Collector Current	$I_C$	50	mA
Collector Dissipation	$P_C$	300	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 ~ 150	$^\circ\text{C}$

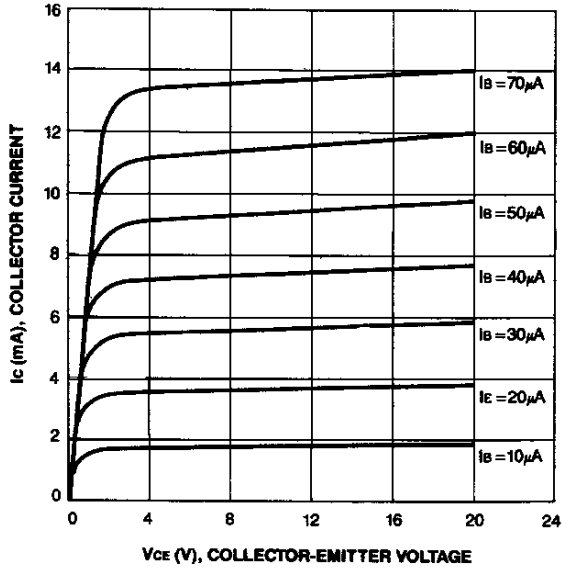


### ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

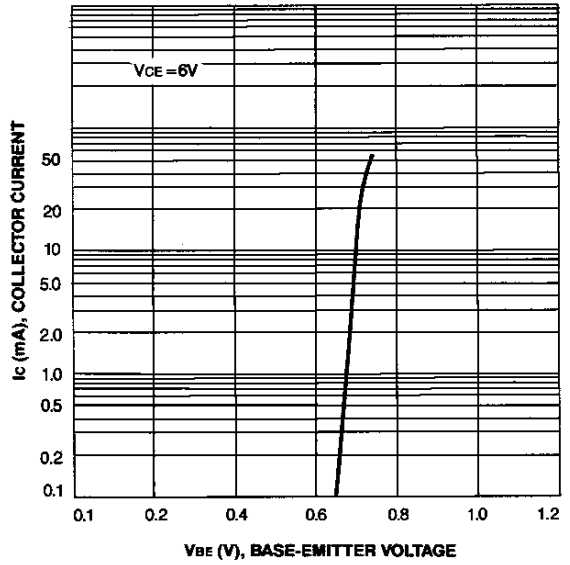
Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	30			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C = 5\text{mA}, I_B = 0$	25			V
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 30\text{V}, I_E = 0$			0.1	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 3\text{V}, I_C = 0$			0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE} = 12.5\text{V}, I_C = 12.5\text{mA}$	20		200	
Collector-Emitter Saturation Voltage	$V_{CE}(\text{sat})$	$I_C = 15\text{mA}, I_B = 1.5\text{mA}$			0.2	V
Base-Emitter Saturation Voltage	$V_{BE}(\text{sat})$	$I_C = 15\text{mA}, I_B = 1.5\text{mA}$			1.5	V
Output Capacitance	$C_{ob}$	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$	0.8		2	pF
Collector-Base Time Constant	$C_c'r_{bb}'$	$V_{CB} = 10\text{V}, I_E = -1\text{mA}$ $f = 30\text{MHz}$			25	ps
Current Gain-Bandwidth Product	$f_T$	$V_{CE} = 12.5\text{V}, I_C = 12.5\text{mA}$	300			MHz
Power Gain	$G_{pe}$	$V_{CC} = 12.5\text{V}, f = 45\text{MHz}$ $I_E = -12.5\text{mA}$	28		36	dB



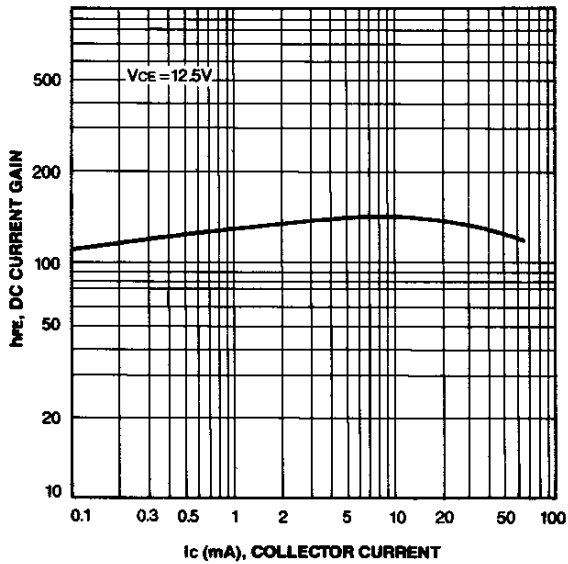
STATIC CHARACTERISTIC



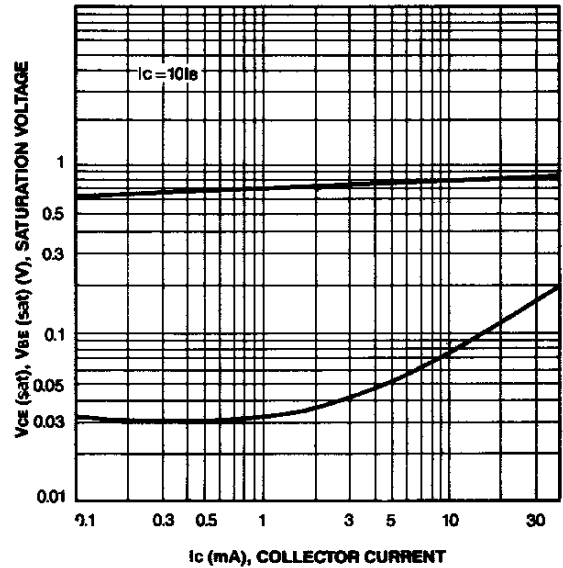
BASE-EMITTER ON VOLTAGE



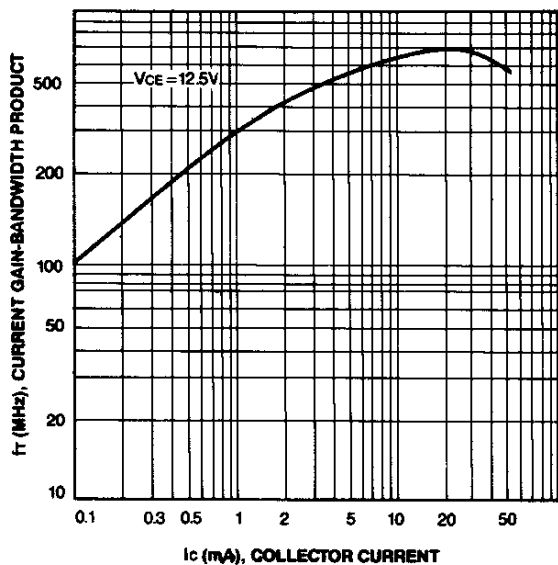
DC CURRENT GAIN



BASE-EMITTER SATURATION VOLTAGE  
COLLECTOR-EMITTER SATURATION VOLTAGE



CURRENT GAIN-BANDWIDTH PRODUCT



COLLECTOR INPUT CAPACITANCE  
COLLECTOR OUTPUT CAPACITANCE

