

# 2SC2188

## Silicon NPN epitaxial planar type

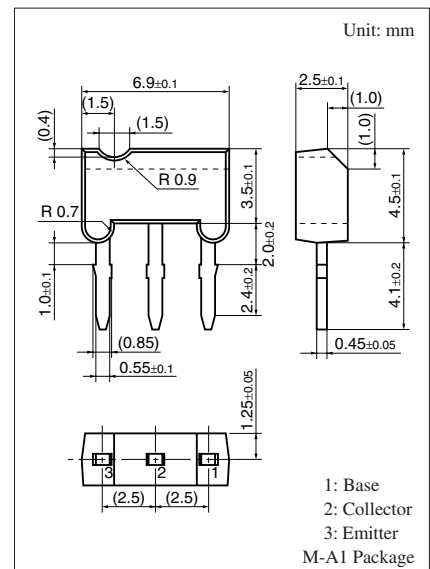
For intermediate frequency amplification of TV image

### ■ Features

- High transition frequency  $f_T$
- Satisfactory linearity of forward current transfer ratio  $h_{FE}$
- M type package allowing easy automatic and manual insertion as well as stand-alone fixing to the printed circuit board

### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

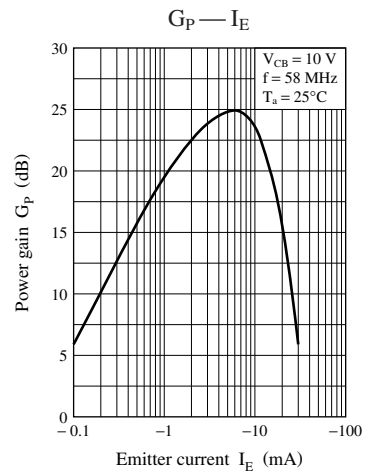
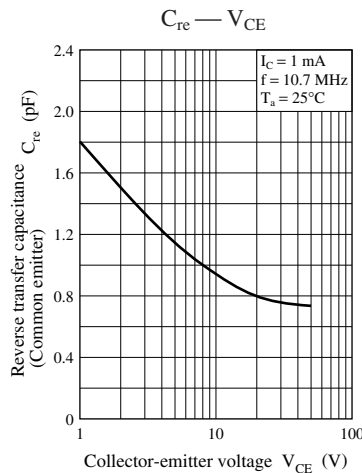
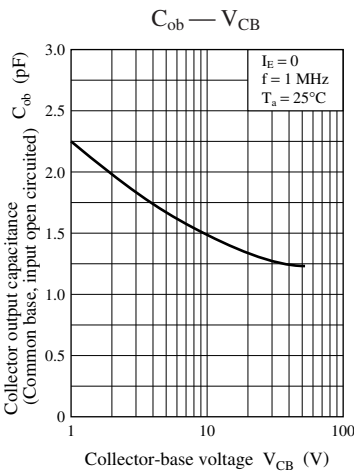
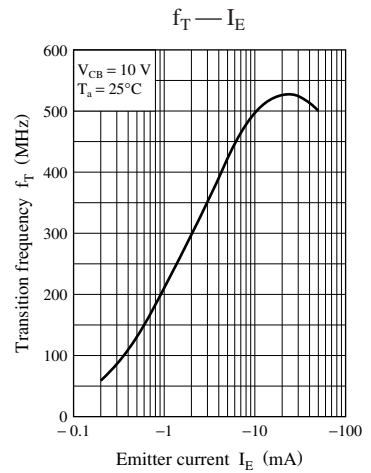
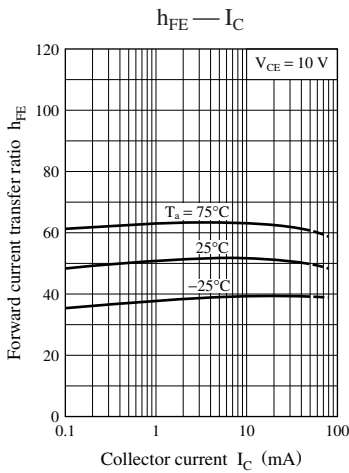
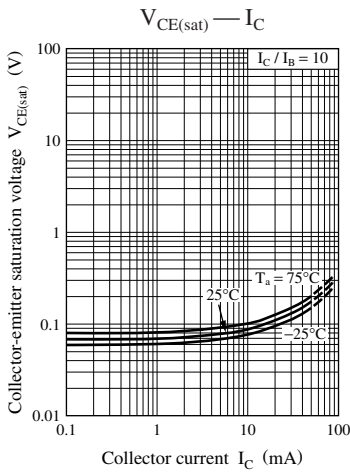
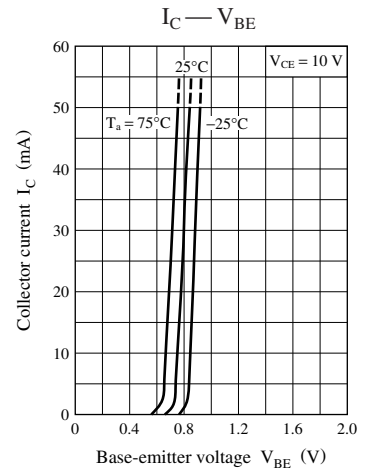
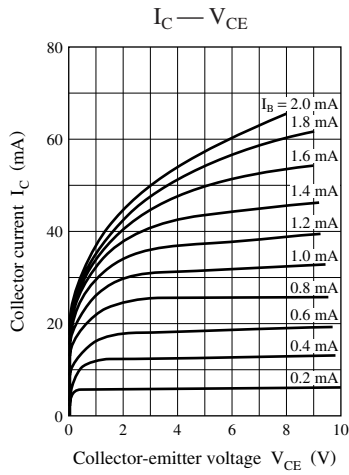
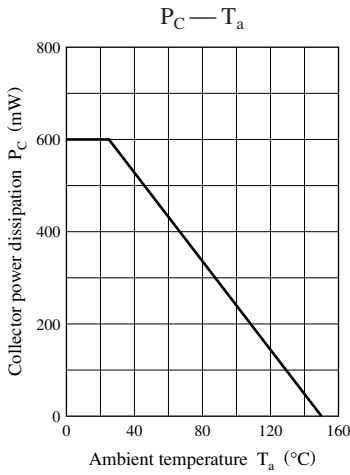
Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	45	V
Collector-emitter voltage (Base open)	$V_{CEO}$	35	V
Emitter-base voltage (Collector open)	$V_{EBO}$	4	V
Collector current	$I_C$	50	mA
Collector power dissipation	$P_C$	600	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$



### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	$I_C = 10 \mu\text{A}$ , $I_E = 0$	45			V
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = 1 \text{ mA}$ , $I_B = 0$	35			V
Emitter-base voltage (Collector open)	$V_{EBO}$	$I_E = 10 \mu\text{A}$ , $I_C = 0$	4			V
Collector-emitter cutoff current (Base open)	$I_{CEO}$	$V_{CE} = 20 \text{ V}$ , $I_B = 0$			10	$\mu\text{A}$
Forward current transfer ratio	$h_{FE}$	$V_{CB} = 10 \text{ V}$ , $I_E = -10 \text{ mA}$	20	50	100	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 20 \text{ mA}$ , $I_B = 2 \text{ mA}$			0.5	V
Transition frequency	$f_T$	$V_{CB} = 10 \text{ V}$ , $I_E = -10 \text{ mA}$ , $f = 100 \text{ MHz}$	300	500		MHz
Reverse transfer capacitance (Common emitter)	$C_{re}$	$V_{CB} = 10 \text{ V}$ , $I_E = -1 \text{ mA}$ , $f = 10.7 \text{ MHz}$			1.5	pF
Power gain	$G_p$	$V_{CB} = 10 \text{ V}$ , $I_E = -10 \text{ mA}$ , $f = 58 \text{ MHz}$		18		dB

Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.



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