

# 2SC2188

## Silicon NPN epitaxial planer type

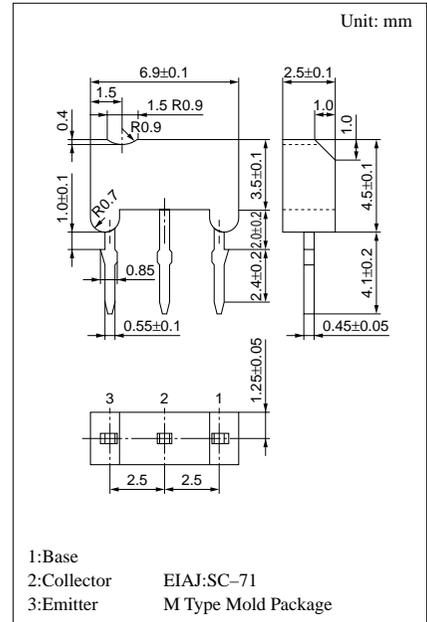
For intermediate frequency amplification of TV image

### 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 (Ta=25°C)

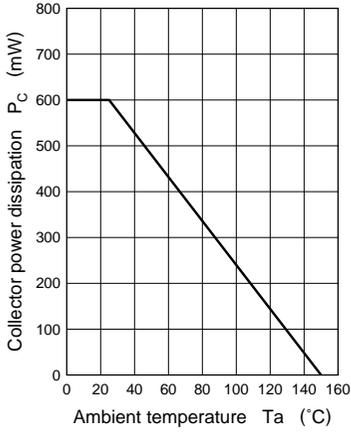
Parameter	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	45	V
Collector to emitter voltage	$V_{CEO}$	35	V
Emitter to base voltage	$V_{EBO}$	4	V
Collector current	$I_C$	50	mA
Collector power dissipation	$P_C$	600	mW
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 ~ +150	°C



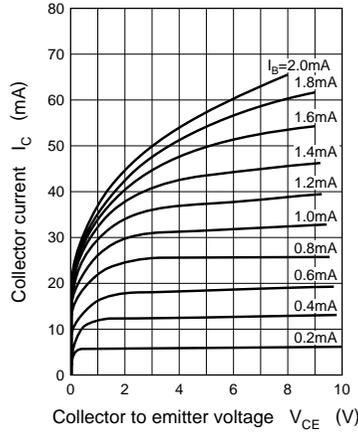
### Electrical Characteristics (Ta=25°C)

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

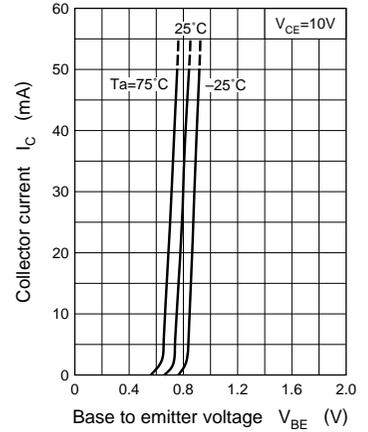
$P_C - T_a$



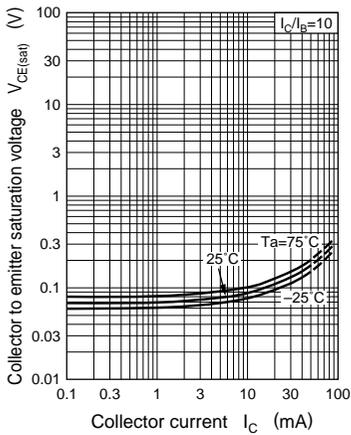
$I_C - V_{CE}$



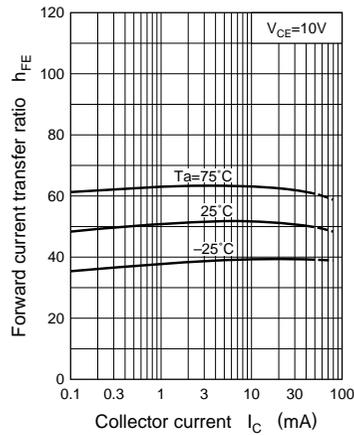
$I_C - V_{BE}$



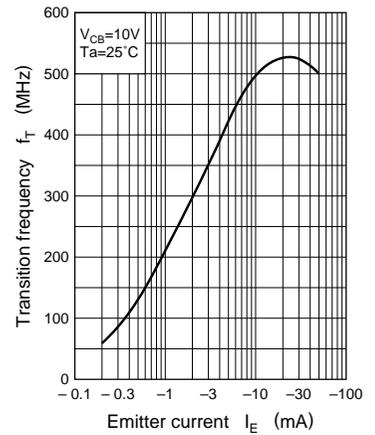
$V_{CE(sat)} - I_C$



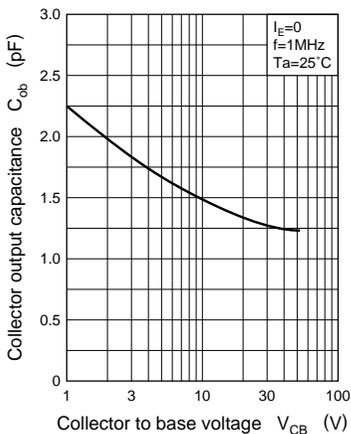
$h_{FE} - I_C$



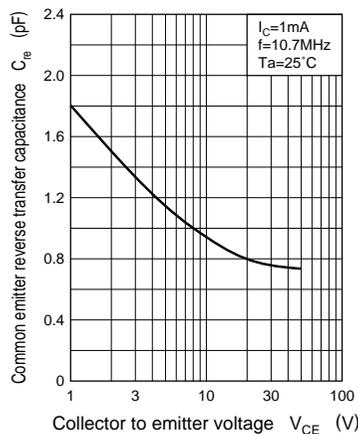
$f_T - I_E$



$C_{ob} - V_{CB}$



$C_{re} - V_{CE}$



$PG - I_E$

