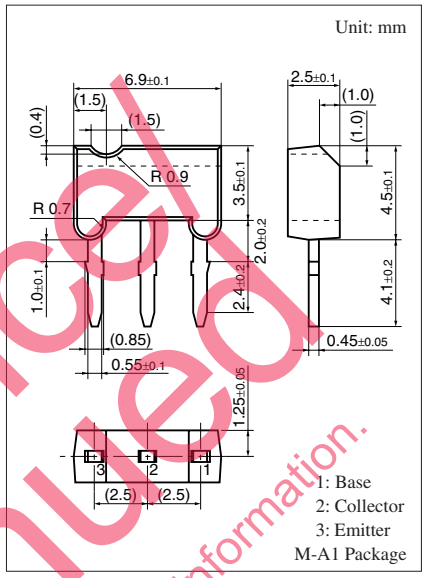
2SC2188

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 $T_a = 25°C$

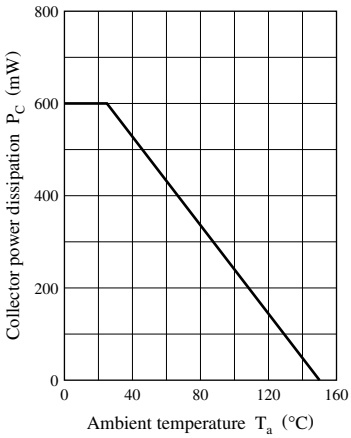
Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	45	V
Collector-emitter voltage (Base open)	V_{CEO}	35	V
Emitter-base voltage (Collector open)	V_{EBO}	4	V
Collector current	I_C	50	mA
Collector power dissipation	P_C	600	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}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

■ Electrical Characteristics $T_a = 25°C \pm 3°C$

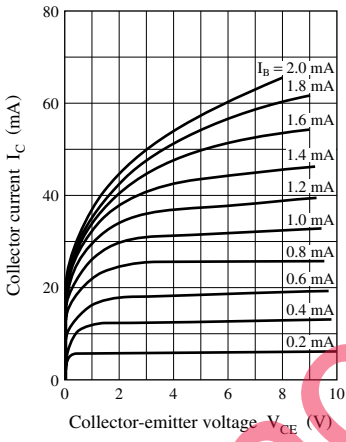
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = 10\ \mu A$, $I_E = 0$	45			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 1$ mA, $I_B = 0$	35			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 10\ \mu A$, $I_C = 0$	4			V
Collector-emitter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

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

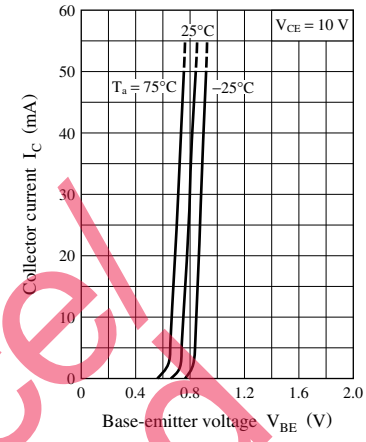
P_C — T_a



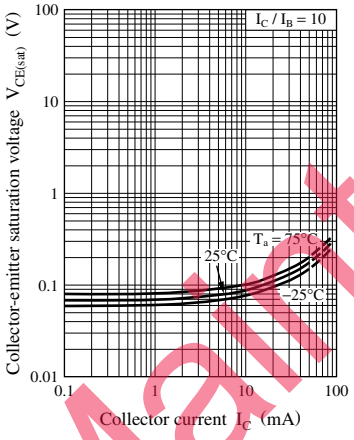
I_C — V_{CE}



I_C — V_{BE}

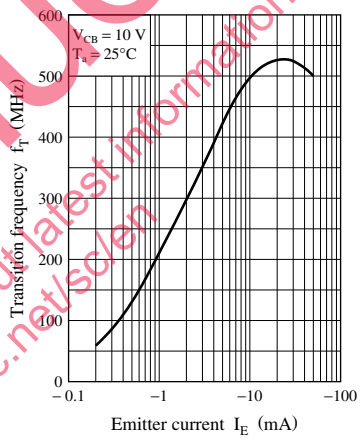


$V_{CE(sat)}$ — I_C

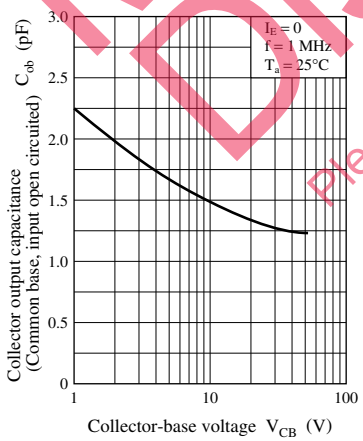


h_{FE} — I_C

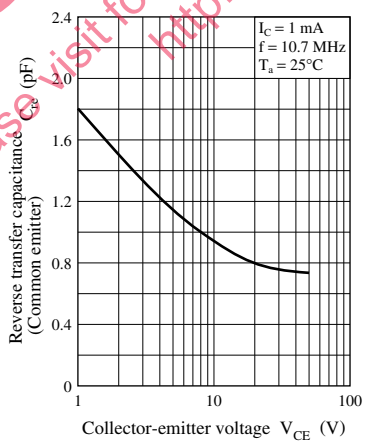
f_T — I_E



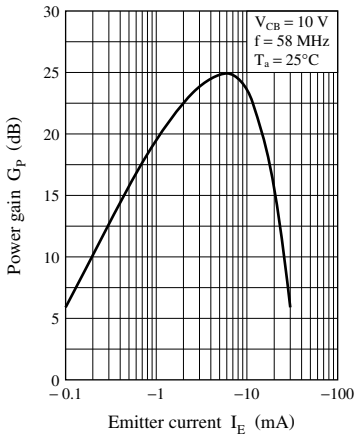
C_{ob} — V_{CB}



C_{re} — V_{CE}



G_P — I_E



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