XP05531

Silicon NPN epitaxial planer transistor

For high frequency, oscillation and mixing

Features

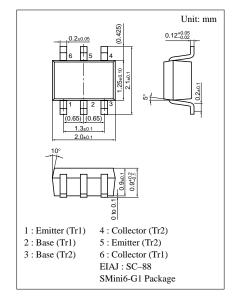
- High transition frequency f_T.
- Small collector output capacitance C_{ob} and reverse transfer capacitance C_{rb}.
- Two elements incorporated into one package.

Basic Part Number of Element

• $2SC3130 \times 2$ elements

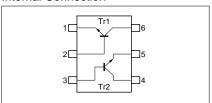
Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Ratings	Unit	
Rating of element	Collector to base voltage	V_{CBO}	15	V	
	Collector to emitter voltage	V_{CEO}	10	V	
	Emitter to base voltage	V_{EBO}	3	V	
	Collector current	I_{C}	50	mA	
Overall	Total power dissipation	P_{T}	150	mW	
	Junction temperature	T_{j}	150	°C	
	Storage temperature	T_{stg}	-55 to +150	°C	



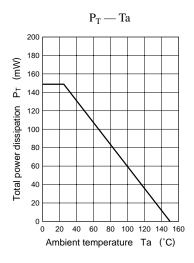
Marking Symbol: 5M

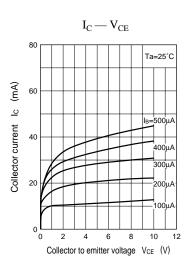
Internal Connection

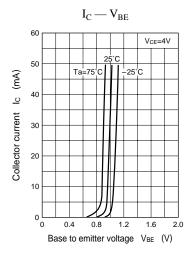


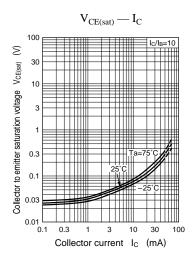
Electrical Characteristics (Ta=25°C)

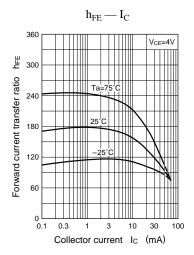
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to emitter voltage	V _{CEO}	$I_C = 2mA$, $I_B = 0$	10			V
Emitter to base voltage	V _{EBO}	$I_{\rm E} = 10 \mu A, I_{\rm C} = 0$	3			V
Collector cutoff current	I_{CBO}	$V_{CB} = 10V, I_{E} = 0$			1	μΑ
Conector cutoff current	I_{CEO}	$V_{CE} = 10V, I_B = 0$			10	μΑ
Forward current transfer ratio	h _{FE1}	$V_{CE} = 4V, I_C = 5mA$	75		400	
h _{FE2} /h _{FE1} ratio	h _{FE2} /h _{FE1}	$\frac{V_{CE} = 4V, I_{C} = 100\mu A}{V_{CE} = 4V, I_{C} = 5mA}$		0.75	1.6	
Collector to emitter saturation voltage	V _{CE(sat)}	$I_C = 20\text{mA}, I_B = 4\text{mA}$			0.5	V
Transition frequency	f_T	$V_{CB} = 4V, I_{E} = -5mA, f = 200MHz$	1.4	1.9	2.5	GHz
Collector output capacitance	C _{ob}	$V_{CB} = 4V, I_E = 0, f = 1MHz$		0.9	1.1	pF
Common base reverse transfer capacitance	C _{rb}	$V_{CB} = 4V, I_{E} = 0, f = 1MHz$		0.25	0.35	pF
Collector to base parameter	r _{bb} .C _C	$V_{CB} = 4V, I_E = -5mA, f = 31.9MHz$		11.8	13.5	ps

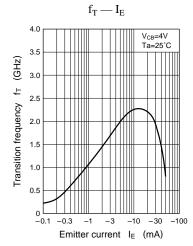


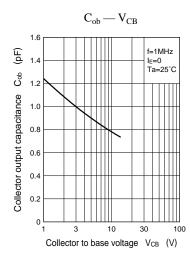












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