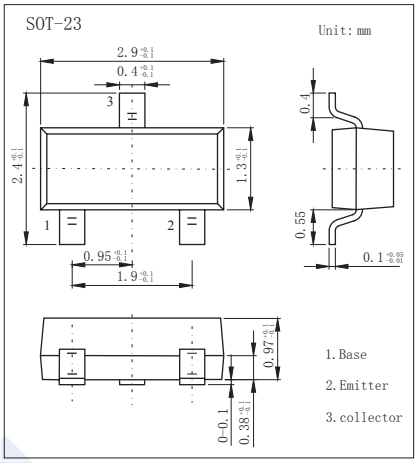
NPN Transistors

2SC3130



■ Features

- Collector Current Capability I_C=50mA
- Collector Emitter Voltage V_{CEO}=10V

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	15	V
Collector - Emitter Voltage	V_{CEO}	10	
Emitter - Base Voltage	V_{EBO}	3	
Collector Current - Continuous	I_C	50	mA
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{stg}	-55 to 150	

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	I_C= 100 μA, I_E= 0	15			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= 2 mA, I_B= 0	10			
Emitter - base breakdown voltage	V_{EBO}	I_E= 100 μ A, I_C= 0	3			
Collector-base cut-off current	I_{CBO}	V_{CB}= 10 V , I_E= 0			1	uA
Emitter cut-off current	I_{EBO}	V_{EB}= 3V , I_C=0			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=20 mA, I_B=4mA			0.5	V
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=20 mA, I_B=4mA			1.2	
DC current gain	h_{FE}	V_{CE}= 4V, I_C= 5mA	75		400	
hFE ratio	△h_{FE}	V_{CE}= 4V, I_C= 100uA	0.75		1.6	
		V_{CE}= 4V, I_C= 5mA				
Base time constant	$r_{bb'}$ C_c	V_{CB}= 4V, I_E=-5mA,f=31.9MHz		11		ps
Common emitter reverse transfer capacitance	C_{rb}	V_{CB}= 4V, I_E= 0,f=1MHz		0.45		pF
Collector output capacitance	C_{ob}	V_{CB}= 4V, I_E= 0,f=1MHz		1.4		pF
Transition frequency	f_T	V_{CE}= 4V, I_E= -5mA,f=200MHz	1.4		2.5	GHz

■ Classification of $h_{fe(1)}$

Type	2SC3130-P	2SC3130-Q	2SC3130-R
Range	75-130	110-220	200-400
Marking	1SP	1SQ	1SR

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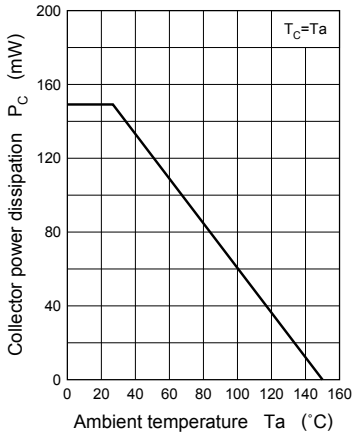
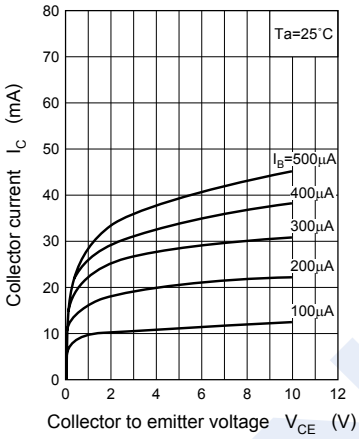
■ Typical Characterisitics

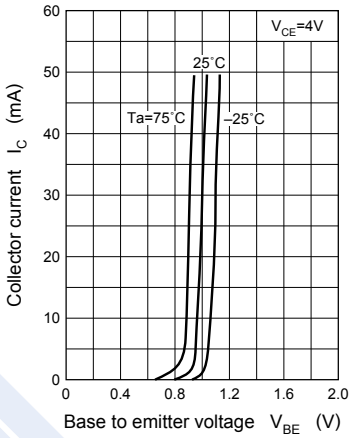
P_C — Ta



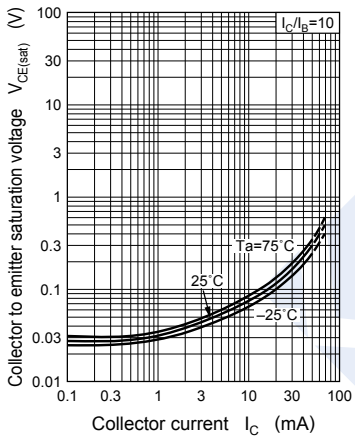
I_C — V_{CE}



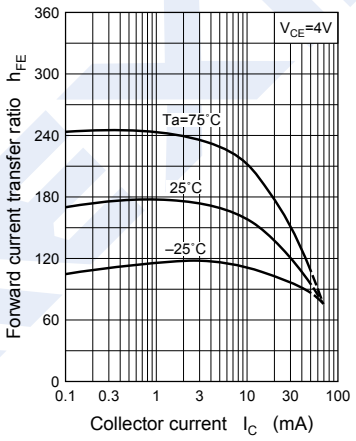
I_C — V_{BE}



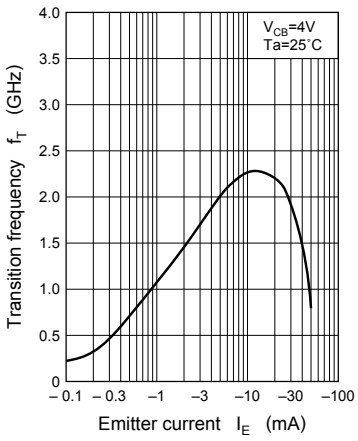
$V_{CE(sat)}$ — I_C



h_{FE} — I_C



f_T — I_E



C_{ob} — V_{CB}