2SA1531, 2SA1531A

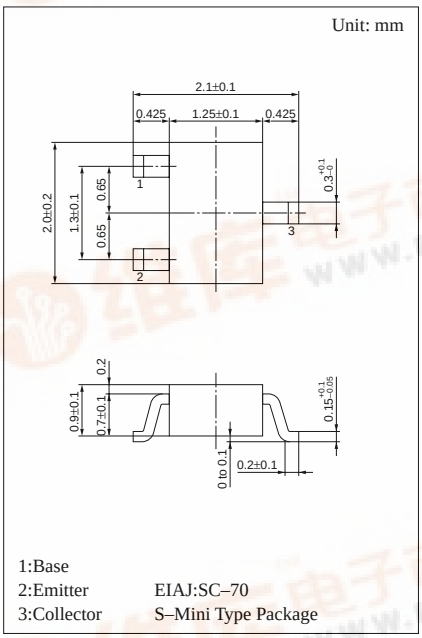
Silicon PNP epitaxial planer type

For low-frequency and low-noise amplification

Complementary to 2SC3929 and 2SC3929A

Features

- Low noise voltage NV.
- High foward current transfer ratio h_{FE}.
- S-Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.



Marking symbol : F(2SA1531)
H(2SA1531A)

Absolute Maximum Ratings (Ta=25˚C)

Parameter		Symbol	Ratings	Unit
Collector to base voltage	2SA1531	V_{CBO}	–35	V
	2SA1531A		–55	
Collector to emitter voltage	2SA1531	V_{CEO}	–35	V
	2SA1531A		–55	
Emitter to base voltage		V_{EBO}	–5	V
Peak collector current		I_{CP}	–100	mA
Collector current		I_C	–50	mA
Collector power dissipation		P_C	150	mW
Junction temperature		T_j	150	˚C
Storage temperature		T_{stg}	–55 ~ +150	˚C

Electrical Characteristics (Ta=25˚C)

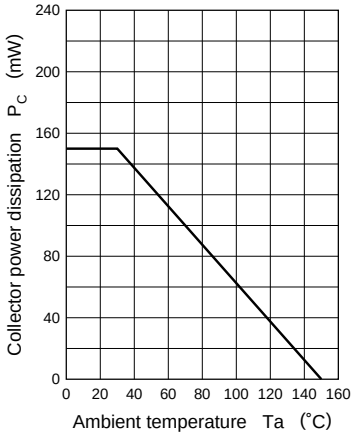
Parameter		Symbol	Conditions	min	typ	max	Unit
Collector cutoff current		I_{CBO}	V_{CB} = –10V, I_E = 0			–100	nA
		I_{CEO}	V_{CE} = –10V, I_B = 0			–1	µA
Collector to base voltage	2SA1531	V_{CBO}	I_C = –10µA, I_E = 0	–35			V
	2SA1531A			–55			
Collector to emitter voltage	2SA1531	V_{CEO}	I_C = –2mA, I_B = 0	–35			V
	2SA1531A			–55			
Emitter to base voltage		V_{EBO}	I_E = –10µA, I_C = 0	–5			V
Forward current transfer ratio		h_{FE}*1	V_{CE} = –5V, I_C = –2mA	180		700	
Collector to emitter saturation voltage		$V_{CE(sat)}$	I_C = –100mA, I_B = –10mA*2			– 0.6	V
Base to emitter voltage		V_{BE}	V_{CE} = –1V, I_C = –100mA*2		– 0.7	–1.0	V
Transition frequency		f_T	V_{CB} = –10V, I_E = 2mA, f = 200MHz		80		MHz
Noise voltage		NV	V_{CE} = –10V, I_C = –1mA, G_V = 80dB R_g = 100kΩ, Function = FLAT			150	mV

*1 h_{FE1} Rank classification

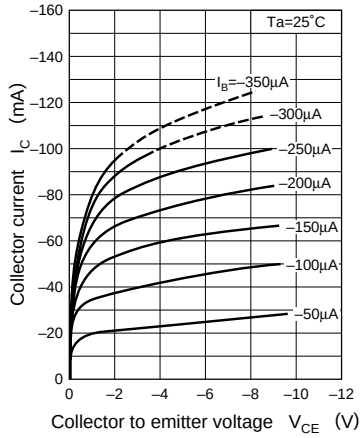
*2 Pulse measurement

Rank		R	S	T
hFE		180 ~ 360	260 ~ 520	360 ~ 700
Marking Symbol	2SA1531	FR	FS	FT
	2SA1531A	HR	HS	HT

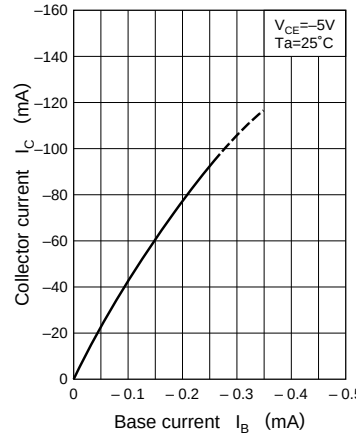
P_C — Ta



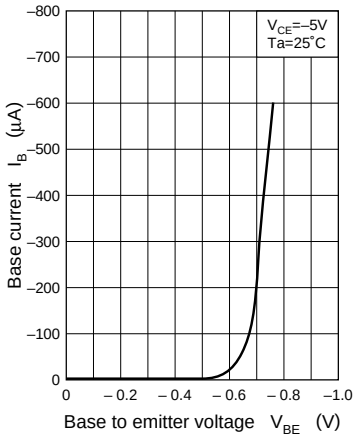
I_C — V_{CE}



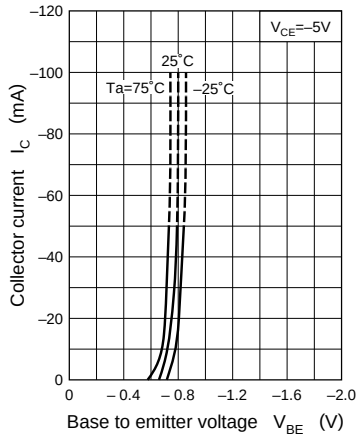
I_C — I_B



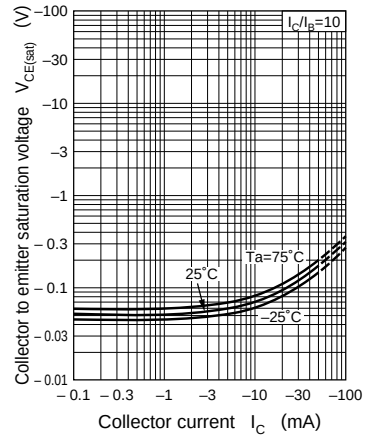
I_B — V_{BE}



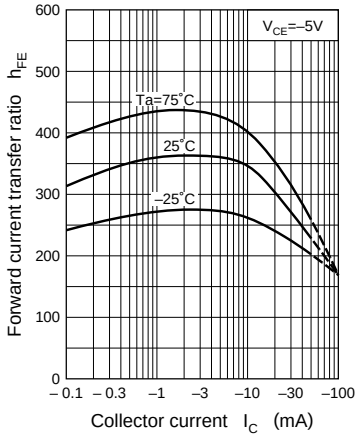
I_C — V_{BE}



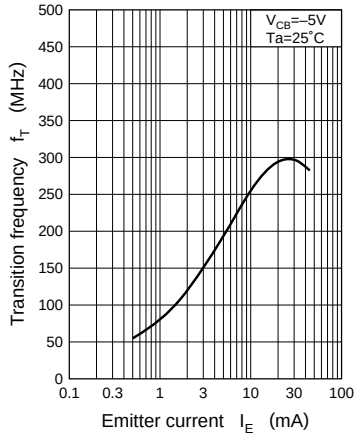
$V_{CE(sat)}$ — I_C



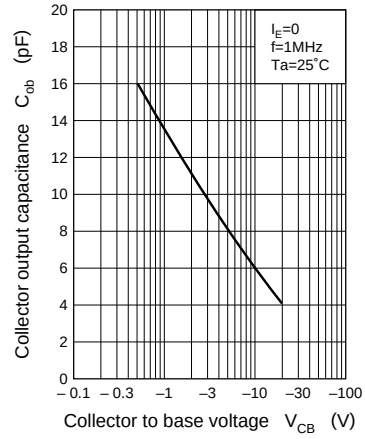
h_{FE} — I_C



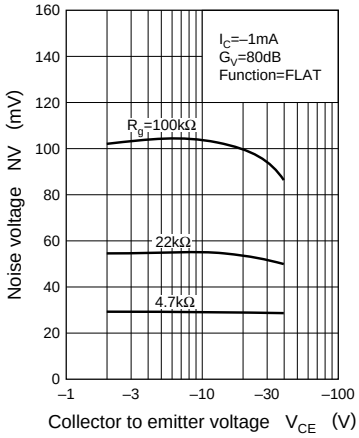
f_T — I_E



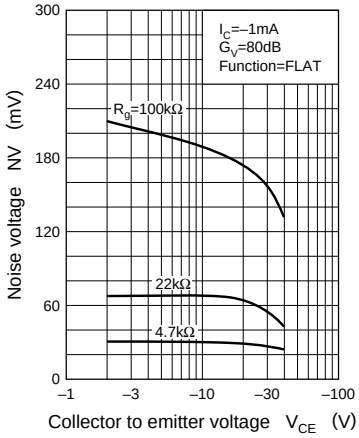
C_{ob} — V_{CB}



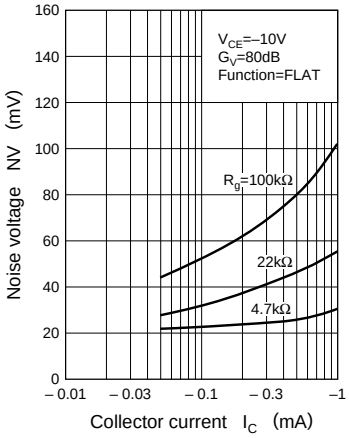
NV — V_{CE}



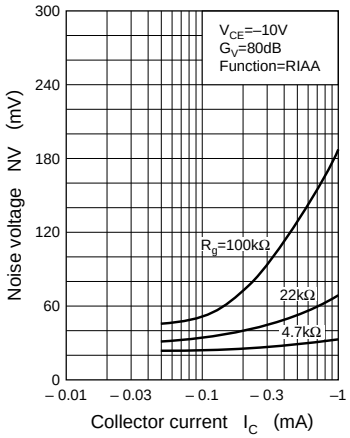
NV — V_{CE}



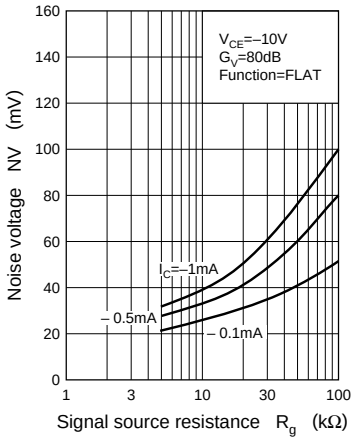
NV — I_C



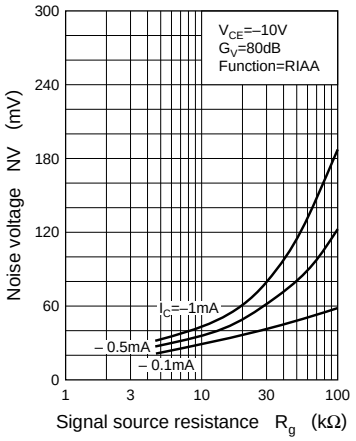
NV — I_C



NV — R_g



NV — R_g



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