

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 forward 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.

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	2SA1531 -35	V
2SA1531A		-55	
Collector to emitter voltage	V_{CEO}	2SA1531 -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

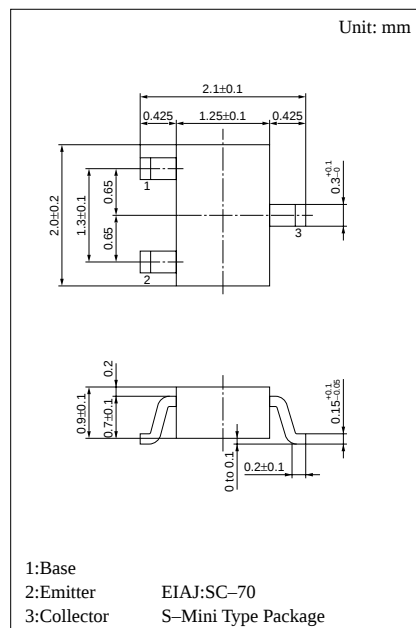
Electrical Characteristics (Ta=25°C)

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	V_{CBO}	$I_C = -10\mu A, I_E = 0$	2SA1531 -35			V
			2SA1531A -55			
Collector to emitter voltage	V_{CEO}	$I_C = -2mA, I_B = 0$	2SA1531 -35			V
			2SA1531A -55			
Emitter to base voltage	V_{EBO}	$I_E = -10\mu A, I_C = 0$	-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	$V_{CE} = -10V, I_C = -1mA, G_v = 80dB$ $R_g = 100k\Omega, \text{Function} = \text{FLAT}$			150	mV

^{*1} h_{FE1} Rank classification

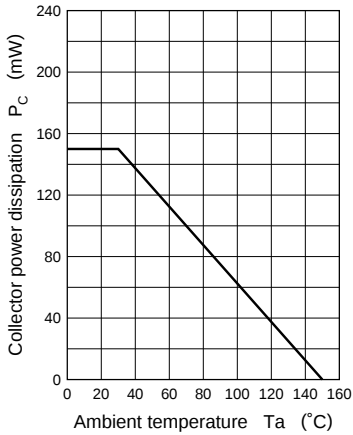
^{*2} Pulse measurement

Rank	R	S	T
h_{FE}	180 ~ 360	260 ~ 520	360 ~ 700
Marking	2SA1531	FR	FS
Symbol	2SA1531A	HR	HT

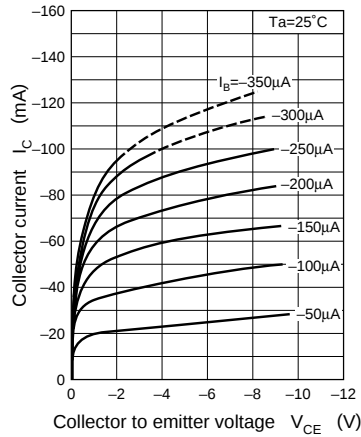


Marking symbol : F(2SA1531)
H(2SA1531A)

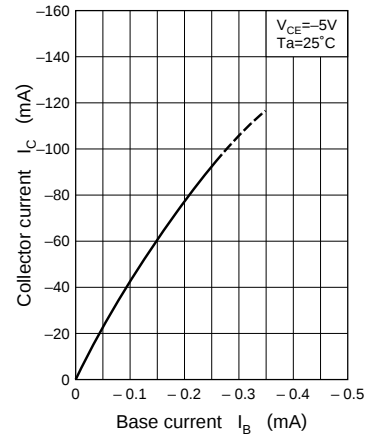
$P_C - T_a$



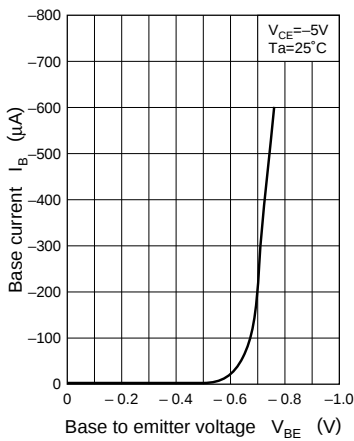
$I_C - V_{CE}$



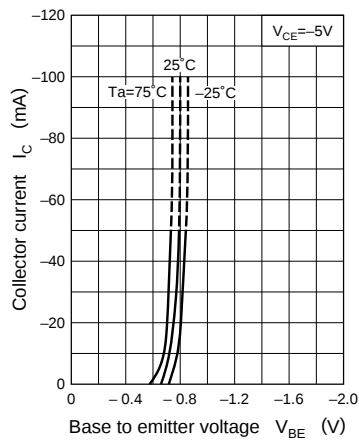
$I_C - I_B$



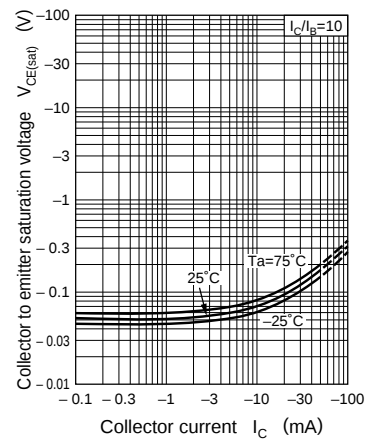
$I_B - V_{BE}$



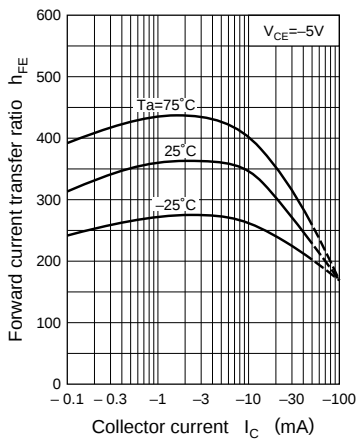
$I_C - V_{BE}$



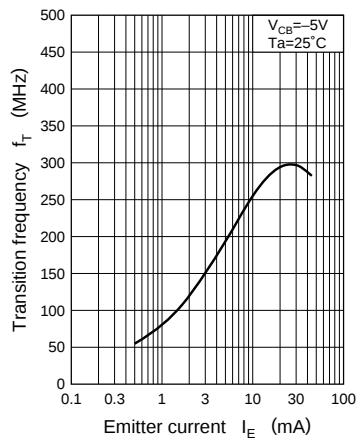
$V_{CE(sat)} - I_C$



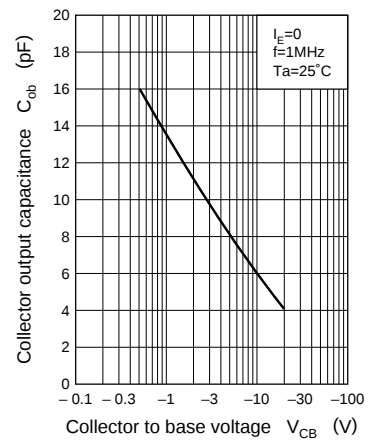
$h_{FE} - I_C$

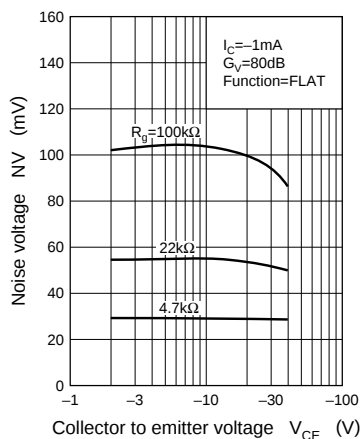
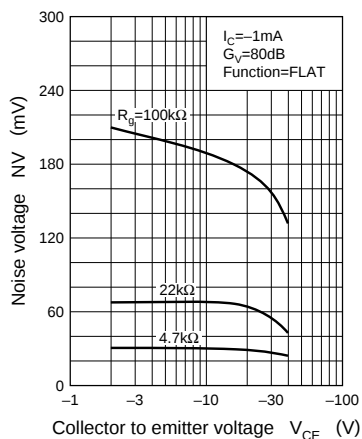
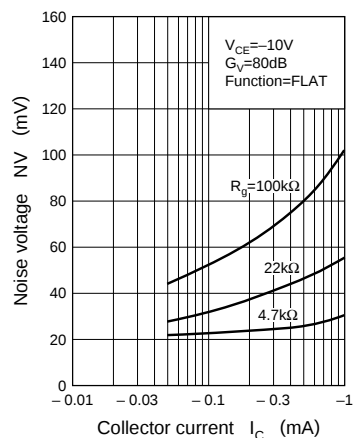
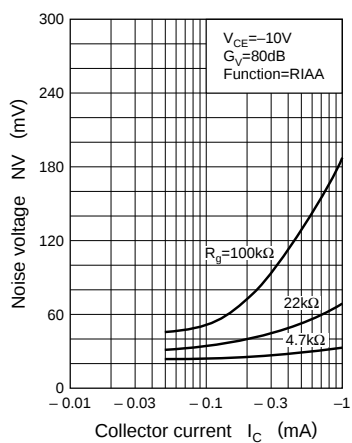
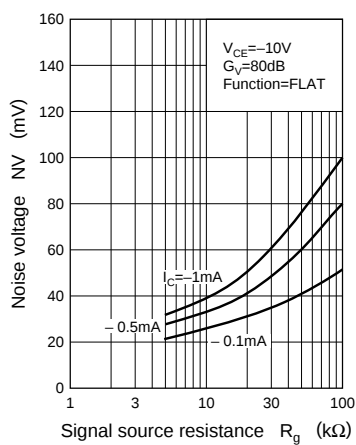


$f_T - I_E$



$C_{ob} - V_{CB}$



NV — V_{CE} NV — V_{CE} NV — I_C NV — I_C NV — R_g NV — R_g 