

2SB745, 2SB745A

Silicon PNP epitaxial planer type

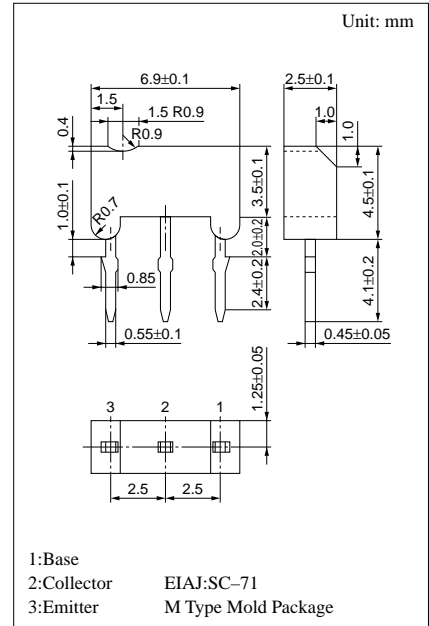
For low-frequency and low-noise amplification
Complementary to 2SD661 and 2SD661A

Features

- Low noise voltage NV.
- High 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 (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	2SB745	-35	V
	2SB745A	-55	
Collector to emitter voltage	2SB745	-35	V
	2SB745A	-55	
Emitter to base voltage	V_{EBO}	-5	V
Peak collector current	I_{CP}	-200	mA
Collector current	I_C	-50	mA
Collector power dissipation	P_C	400	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 ~ +150	°C



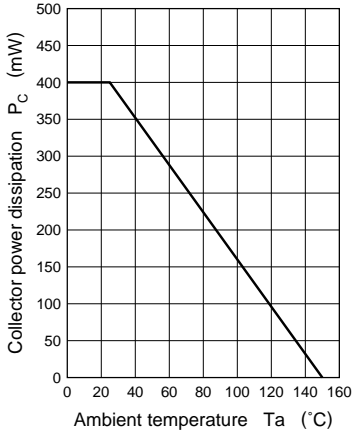
Electrical Characteristics (Ta=25°C)

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}	$I_C = -10\mu A, I_E = 0$	-35			V
			-55			
Collector to emitter voltage	V_{CEO}	$I_C = -2mA, I_B = 0$	-35			V
			-55			
Emitter to base voltage	V_{EBO}	$I_E = -10\mu A, I_C = 0$	-5			V
Forward current transfer ratio	h_{FE}^*	$V_{CB} = -5V, I_E = 2mA$	180		700	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100mA, I_B = -10mA$			-0.6	V
Base to emitter voltage	V_{BE}	$V_{CE} = -1V, I_C = -100mA$		-0.7	-1	V
Transition frequency	f_T	$V_{CB} = -5V, I_E = 2mA, f = 200MHz$		150		MHz
Noise voltage	NV	$V_{CE} = -10V, I_C = -1mA, G_v = 80dB$ $R_g = 100k\Omega, \text{Function} = \text{FLAT}$			150	mV

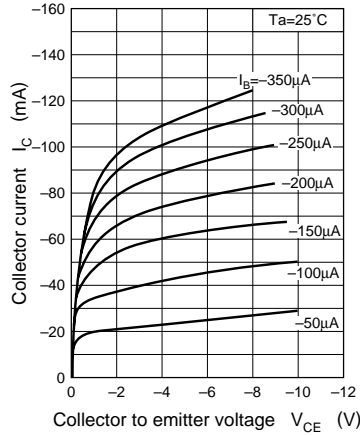
* h_{FE} Rank classification

Rank	R	S	T
h_{FE}	180 ~ 360	260 ~ 520	360 ~ 700

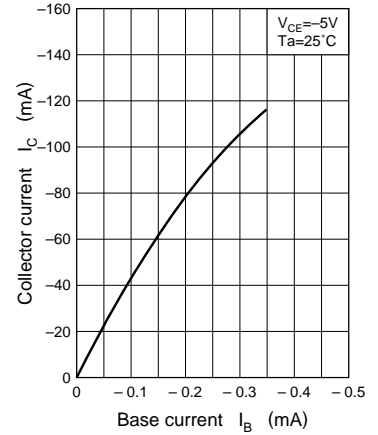
$P_C - T_a$



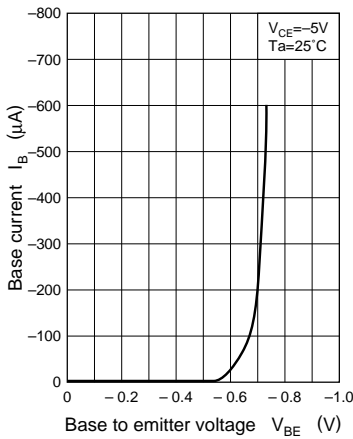
$I_C - V_{CE}$



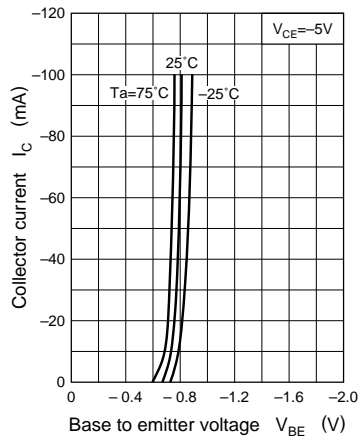
$I_C - I_B$



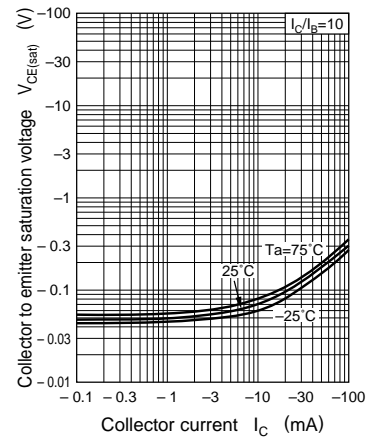
$I_B - V_{BE}$



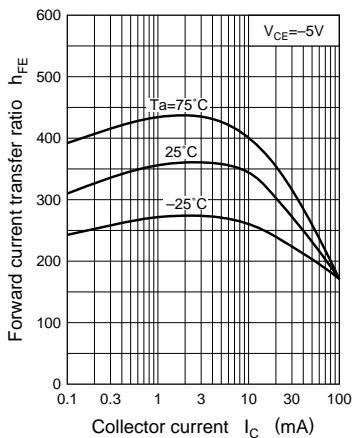
$I_C - V_{BE}$



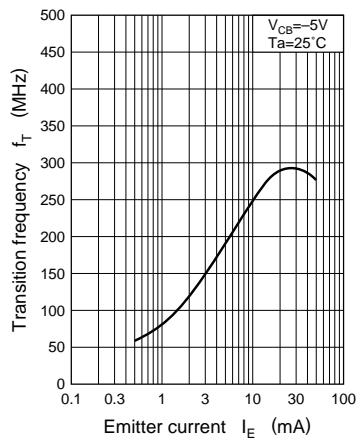
$V_{CE(sat)} - I_C$



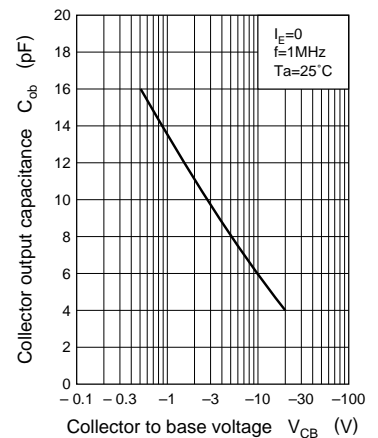
$h_{FE} - I_C$



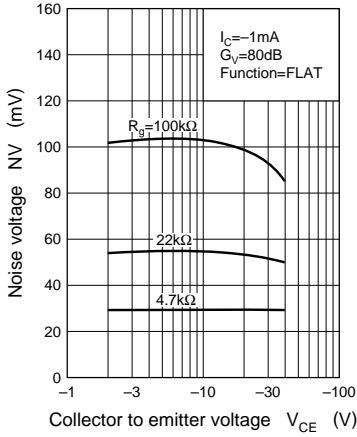
$f_T - I_E$



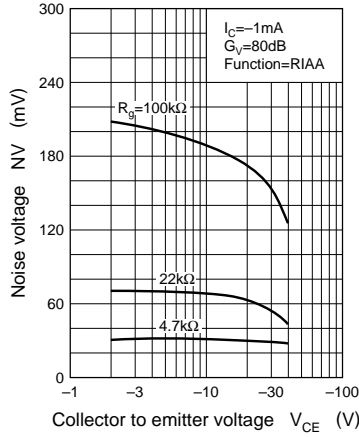
$C_{ob} - V_{CB}$



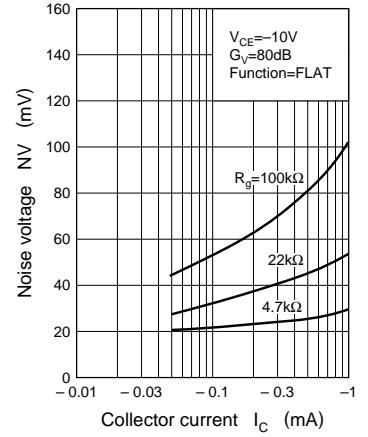
NV — V_{CE}



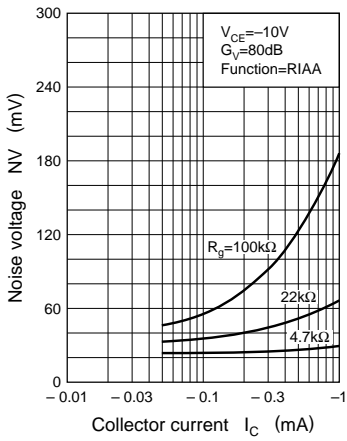
NV — V_{CE}



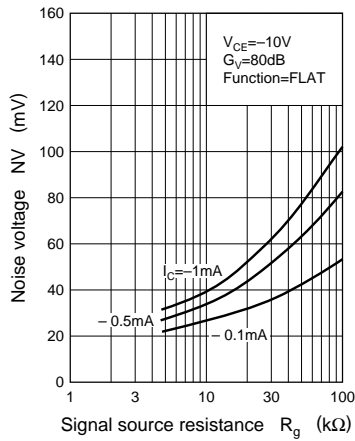
NV — I_C



NV — I_C



NV — R_g



NV — R_g

