2SB0710 (2SB710), 2SB0710A (2SB710A)

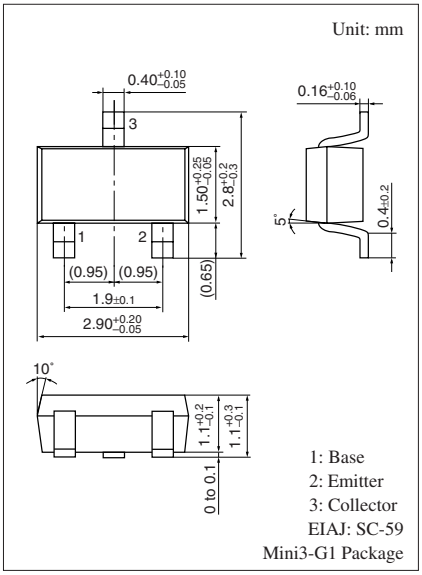
Silicon PNP epitaxial planar type

For general amplification

Complementary to 2SD0602 (2SD602), 2SD0602A (2SD602A)

■ Features

- Large collector current I_C
- Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing



Marking Symbol:

- 2SB0710: C
- 2SB0710A: D

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter		Symbol	Rating	Unit
Collector-base voltage (Emitter open)	2SB0710	V_{CBO}	−30	V
	2SB0710A		−60	
Collector-emitter voltage (Base open)	2SB0710	V_{CEO}	−25	V
	2SB0710A		−50	
Emitter-base voltage (Collector open)		V_{EBO}	−5	V
Collector current		I_C	− 0.5	A
Peak collector current		I_{CP}	−1	A
Collector power dissipation		P_C	200	mW
Junction temperature		T_j	150	°C
Storage temperature		T_{stg}	−55 to +150	°C

■ Electrical Characteristics $T_a = 25°C \pm 3°C$

Parameter		Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	2SB0710	V_{CBO}	$I_C = -10$ µA, $I_E = 0$	−30			V
	2SB0710A			−60			
Collector-emitter voltage (Base open)	2SB0710	V_{CEO}	$I_C = -10$ mA, $I_B = 0$	−25			V
	2SB0710A			−50			
Emitter-base voltage (Collector open)		V_{EBO}	$I_E = -10$ µA, $I_C = 0$	−5			V
Collector-base cutoff current (Emitter open)		I_{CBO}	$V_{CB} = -20$ V, $I_E = 0$			− 0.1	µA
Forward current transfer ratio *1		h_{FE1} *2	$V_{CE} = -10$ V, $I_C = -150$ mA	85		340	—
		h_{FE2}	$V_{CE} = -10$ V, $I_C = -500$ mA	40			—
Collector-emitter saturation voltage *1		$V_{CE(sat)}$	$I_C = -300$ mA, $I_B = -30$ mA		− 0.35	− 0.60	V
Base-emitter saturation voltage *1		$V_{BE(sat)}$	$I_C = -300$ mA, $I_B = -30$ mA		−1.1	−1.5	V
Transition frequency		f_T	$V_{CB} = -10$ V, $I_E = 50$ mA, f = 200 MHz		200		MHz
Collector output capacitance (Common base, input open circuited)		C_{ob}	$V_{CB} = -10$ V, $I_E = 0$, f = 1 MHz		6	15	pF

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *1: Pulse measurement

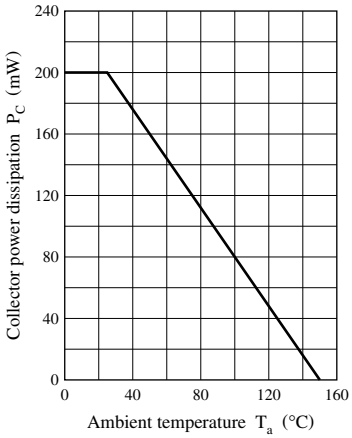
*2: Rank classification

Rank		Q	R	S	No-rank
h_{FE1}		85 to 170	120 to 240	170 to 340	85 to 340
Marking symbol	2SB0710	CQ	CR	CS	C
	2SB0710A	DQ	DR	DS	D

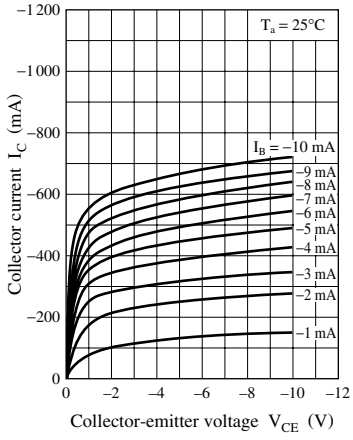
Product of no-rank is not classified and have no marking symbol for rank.

Note) The part numbers in the parenthesis show conventional part number.

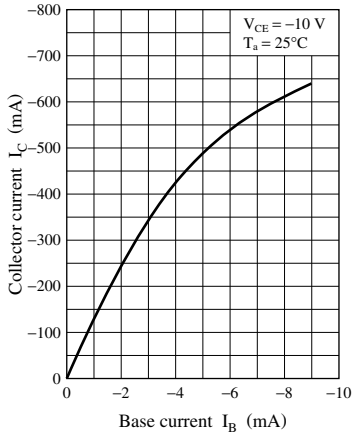
P_C — T_a



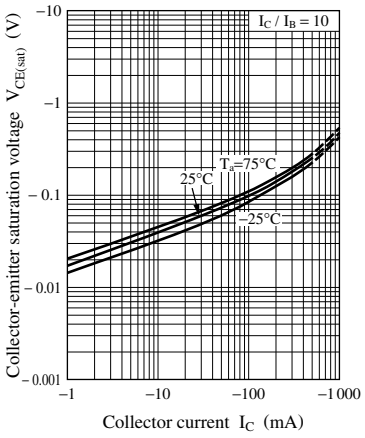
I_C — V_{CE}



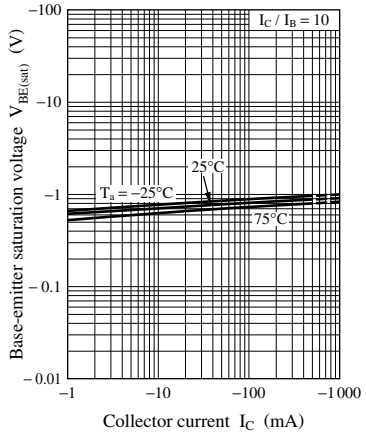
I_C — I_B



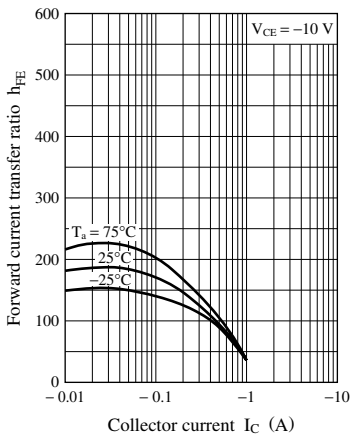
$V_{CE(sat)}$ — I_C



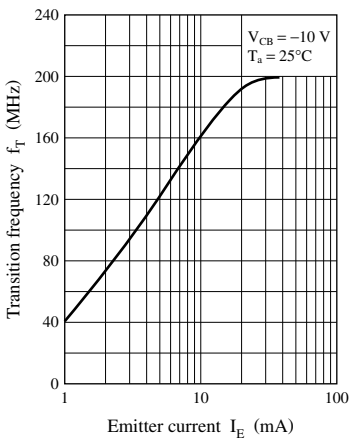
$V_{BE(sat)}$ — I_C



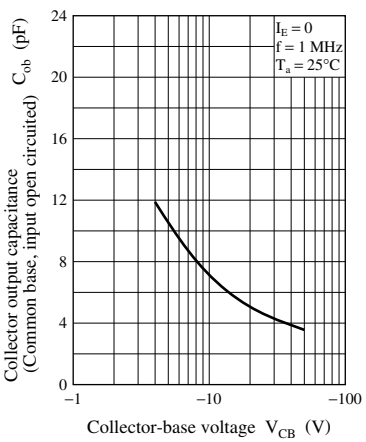
h_{FE} — I_C



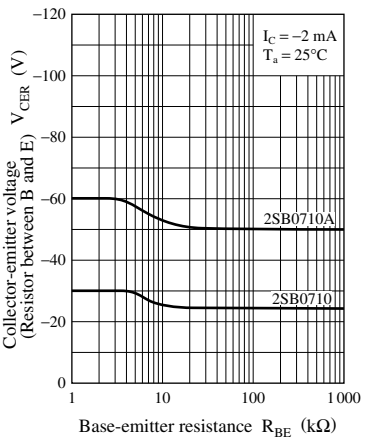
f_T — I_E



C_{ob} — V_{CB}



V_{CER} — R_{BE}



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