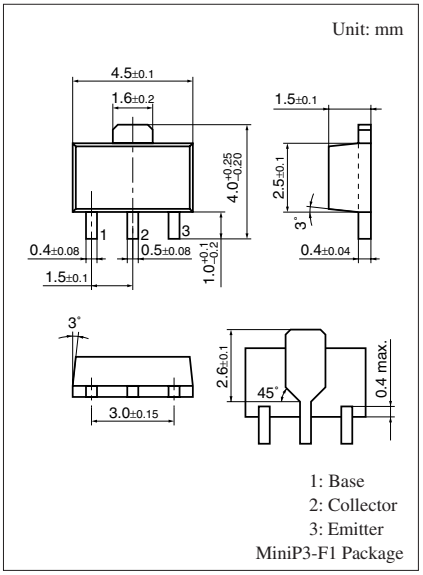
2SB0789, 2SB0789A (2SB789, 2SB789A)

Silicon PNP epitaxial planar type

For low-frequency driver amplification

■ Features

- High collector-emitter voltage (Base open) V_{CEO}
- Large collector power dissipation P_C



Marking Symbol:

- 2SB0789: D
- 2SB0789A: E

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter		Symbol	Rating	Unit
Collector-base voltage (Emitter open)	2SB0789	V_{CBO}	−100	V
	2SB0789A		−120	
Collector-emitter voltage (Base open)	2SB0789	V_{CEO}	−100	V
	2SB0789A		−120	
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	1	W
Junction temperature		T_j	150	°C
Storage temperature		T_{stg}	−55 to +150	°C

Note) ∗: Print circuit board: Copper foil area of 1 cm^2 or more, and the board thickness of 1.7 mm for the collector portion.

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

Parameter		Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	2SB0789	V_{CEO}	$I_C = -100$ μA, $I_B = 0$	−100			V
	2SB0789A			−120			
Emitter-base voltage (Collector open)		V_{EBO}	$I_E = -10$ μA, $I_C = 0$	−5			V
Forward current transfer ratio *1		h_{FE1} *2	$V_{CE} = -10$ V, $I_C = -150$ mA	90		220	—
		h_{FE2}	$V_{CE} = -5$ V, $I_C = -500$ mA	50			
Collector-emitter saturation voltage *1		$V_{CE(sat)}$	$I_C = -500$ mA, $I_B = -50$ mA		− 0.2	− 0.6	V
Base-emitter saturation voltage *1		$V_{BE(sat)}$	$I_C = -500$ mA, $I_B = -50$ mA		− 0.85	−1.20	V
Transition frequency		f_T	$V_{CB} = -10$ V, $I_E = 50$ mA, f = 200 MHz		120		MHz
Collector output capacitance (Common base, input open circuited)		C_{ob}	$V_{CB} = -10$ V, $I_E = 0$, f = 1 MHz			30	pF

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

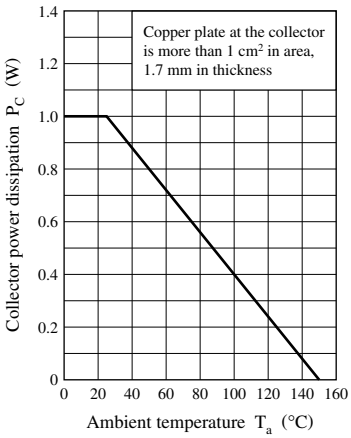
2. ∗1: Pulse measurement

∗2: Rank classification

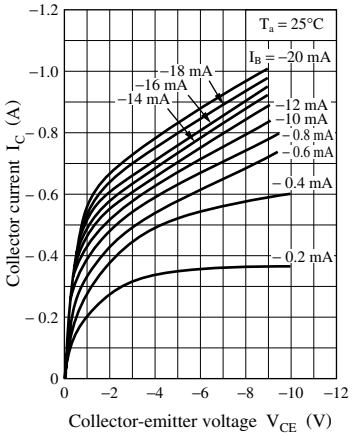
Rank	Q	R
h_{FE1}	90 to 155	130 to 220

Note) The part number in the parenthesis shows conventional part number.

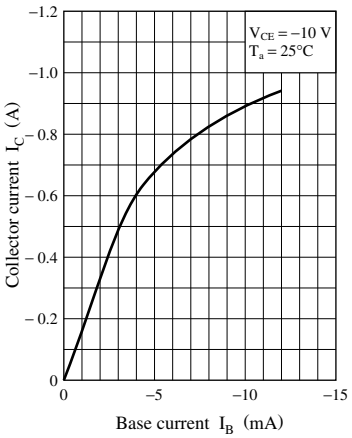
P_C — T_a



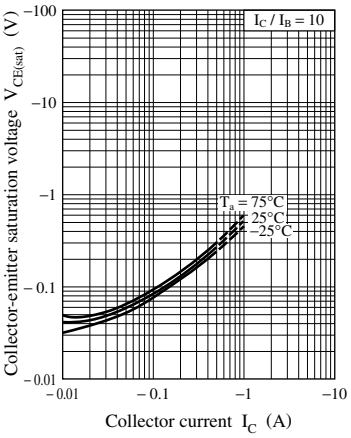
I_C — V_{CE}



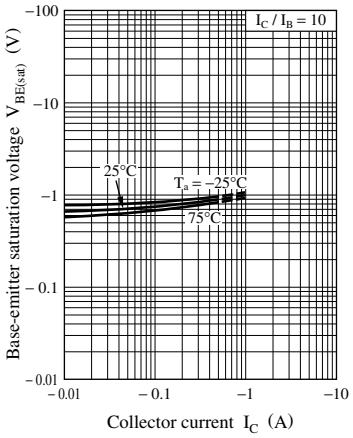
I_C — I_B



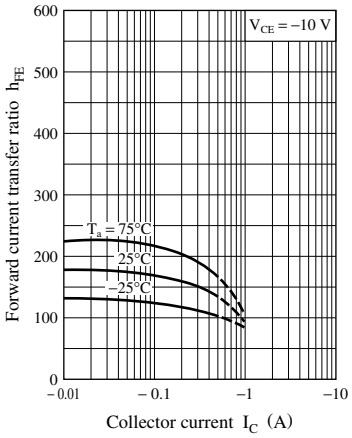
$V_{CE(sat)}$ — I_C



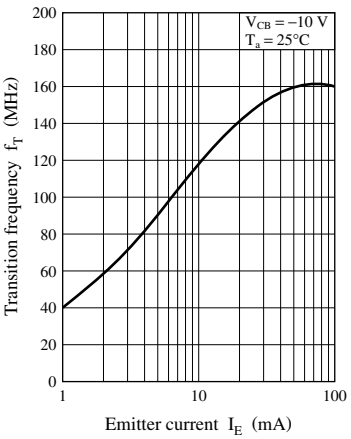
$V_{BE(sat)}$ — I_C



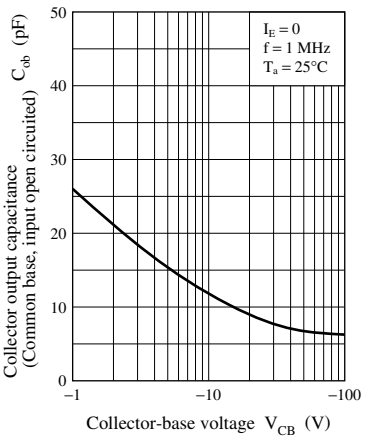
h_{FE} — I_C



f_T — I_E



C_{ob} — V_{CB}



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