

2SD2071

Silicon NPN epitaxial planer type

For low-frequency power amplification and driver amplification
Complementary to 2SB1377

■ Features

- Low collector to emitter saturation voltage $V_{CE(sat)}$.
- Output of 1W is obtained with a complementary pair with 2SB1377.
- Allowing supply with the radial taping.

■ Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	50	V
Collector to emitter voltage	V_{CEO}	50	V
Emitter to base voltage	V_{EBO}	7	V
Peak collector current	I_{CP}	1	A
Collector current	I_C	500	mA
Collector power dissipation	P_C^*	1	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 ~ +150	°C

* Printed circuit board: Copper foil area of 1cm² or more, and the board thickness of 1.7mm for the collector portion

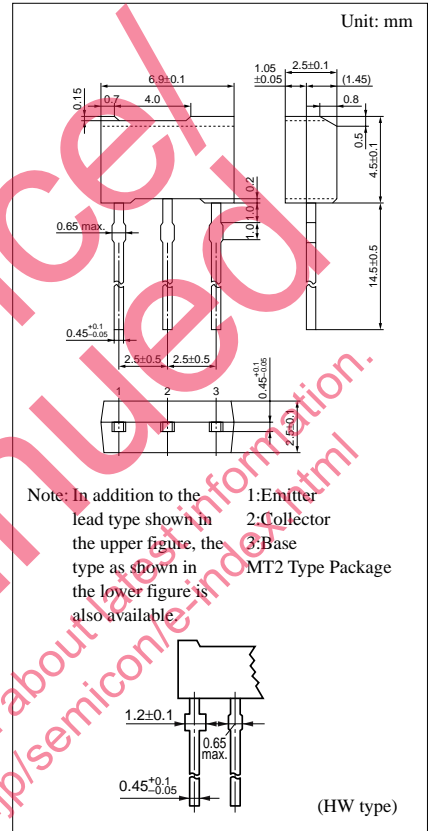
■ Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 20V, I_E = 0$			0.1	μA
Collector to base voltage	V_{CBO}	$I_C = 10\mu A, I_E = 0$	50			V
Collector to emitter voltage	V_{CEO}	$I_C = 10mA, I_B = 0$	50			V
Emitter to base voltage	V_{EBO}	$I_E = 10\mu A, I_C = 0$	7			V
Forward current transfer ratio	h_{FE1}^{*1}	$V_{CE} = 10V, I_C = 150mA^{*2}$	85	160	340	
	h_{FE2}	$V_{CE} = 10V, I_C = 500mA^{*2}$	40	90		
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 300mA, I_B = 30mA$		0.35	0.6	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = 300mA, I_B = 30mA$		1.1	1.5	V
Transition frequency	f_T	$V_{CB} = 10V, I_E = -50mA$		200		MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$		6	15	pF

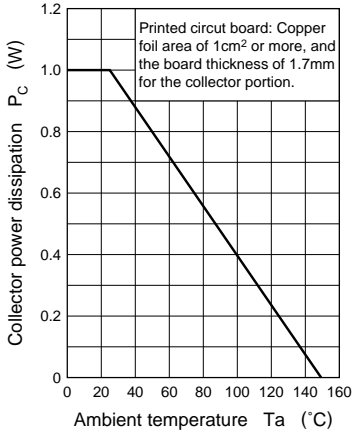
*² Pulse measurement

*¹ h_{FE} Rank classification

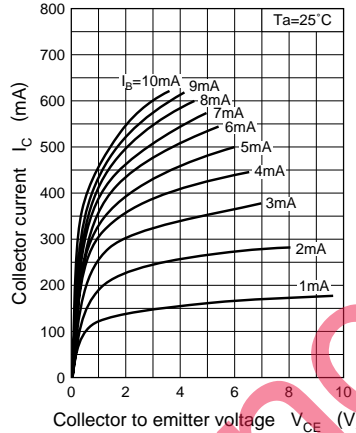
Rank	Q	R	S
h_{FE1}	85 ~ 170	120 ~ 240	170 ~ 340



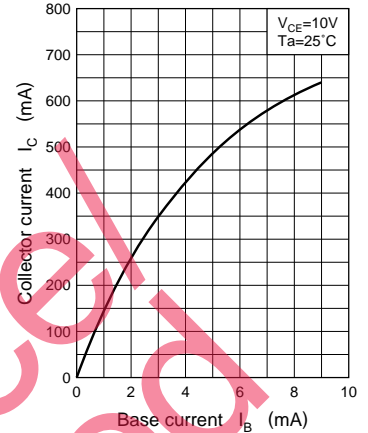
$P_C - T_a$



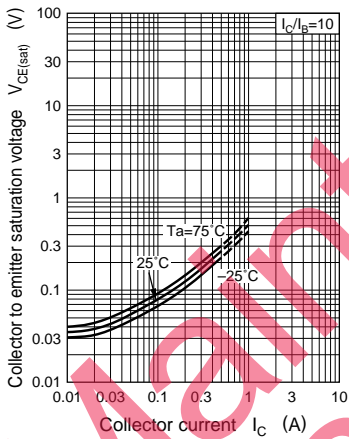
$I_C - V_{CE}$



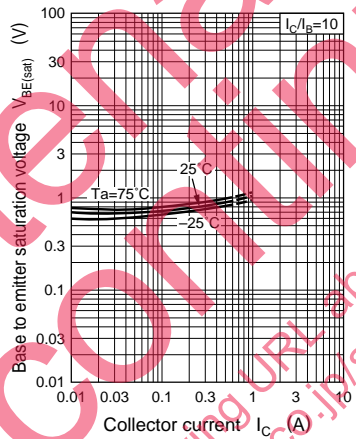
$I_C - I_B$



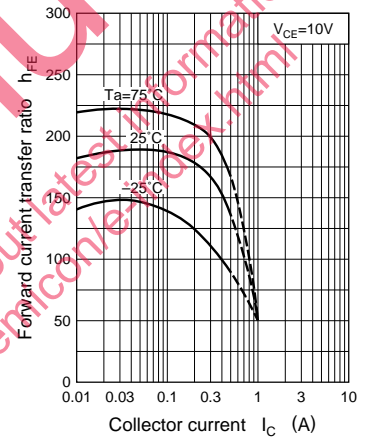
$V_{CE(sat)} - I_C$



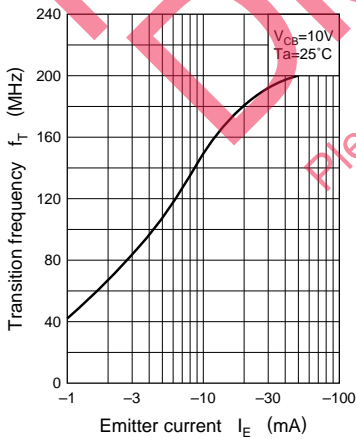
$V_{BE(sat)} - I_C$



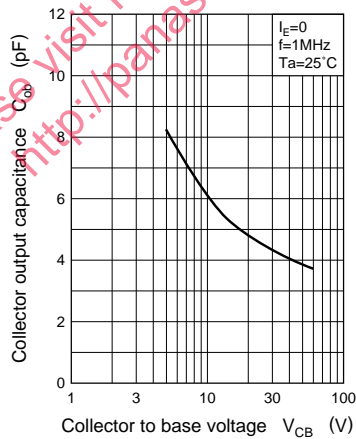
$h_{FE} - I_C$



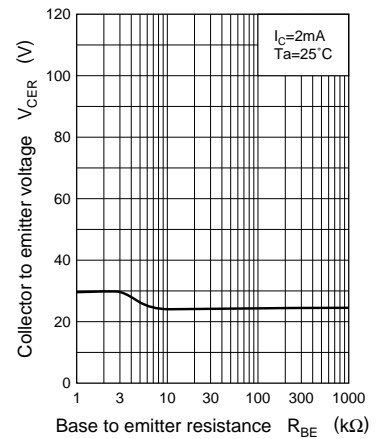
$f_T - I_E$

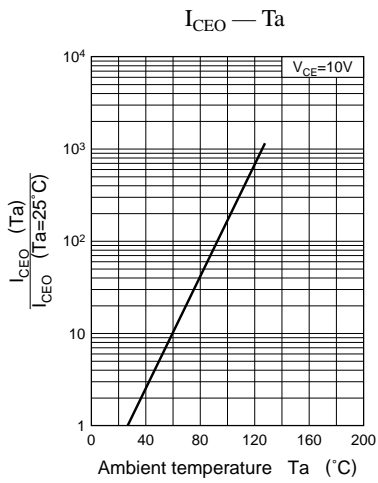


$C_{ob} - V_{CB}$



$V_{CER} - R_{BE}$





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