## 2SB1378

### Silicon PNP epitaxial planer type

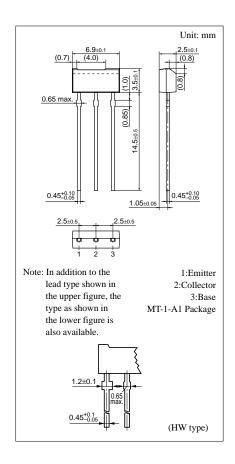
For low-frequency power amplification Complementary to 2SD1996

#### Features

- ullet Low collector to emitter saturation voltage  $V_{\text{CE(sat)}}$ .
- Optimum for low-voltage operation and for converters.
- Allowing supply with the radial taping.

#### Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	-25	V
Collector to emitter voltage	$V_{CEO}$	-20	V
Emitter to base voltage	$V_{\mathrm{EBO}}$	-7	V
Peak collector current	$I_{CP}$	-1	A
Collector current	$I_{C}$	- 0.5	A
Collector power dissipation	$P_{C}$	600	mW
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	$T_{stg}$	<b>−55 ~ +150</b>	°C



#### Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = -25V, I_E = 0$			-100	nA
	$I_{CEO}$	$V_{CE} = -20V, I_B = 0$			-1	μА
Collector to base voltage	V <sub>CBO</sub>	$I_{\rm C} = -10\mu A, I_{\rm E} = 0$	-25			V
Collector to emitter voltage	V <sub>CEO</sub>	$I_{C} = -1  \text{mA},  I_{B} = 0$	-20			V
Emitter to base voltage	V <sub>EBO</sub>	$I_{\rm E} = -10\mu A, I_{\rm C} = 0$	-7			V
Forward current transfer ratio	h <sub>FE1</sub> *1	$V_{CE} = -2V, I_{C} = -0.5A^{*2}$	90		350	
	h <sub>FE2</sub>	$V_{CE} = -2V, I_C = -1A^{*2}$	25			
Collector to emitter saturation voltage	V <sub>CE(sat)</sub>	$I_C = -500 \text{mA}, I_B = -50 \text{mA}^{*2}$			- 0.4	V
Base to emitter saturation voltage	V <sub>BE(sat)</sub>	$I_C = -500 \text{mA}, I_B = -50 \text{mA}^{*2}$			-1.2	V
Transition frequency	$f_{\mathrm{T}}$	$V_{CB} = -10V$ , $I_E = 50$ mA, $f = 200$ MHz		150		MHz
Collector output capacitance	Cob	$V_{CB} = -10V, I_E = 0, f = 1MHz$		15	25	pF

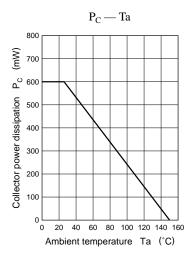
\*2 Pulse measurement

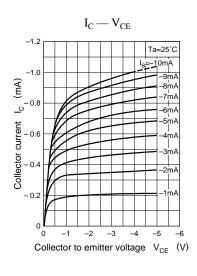
<sup>\*1</sup>hFE1 Rank classification

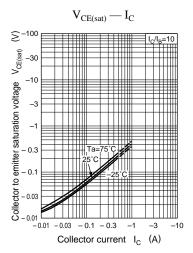
Rank	Q	R	S
h <sub>FE1</sub>	90 ~ 155	130 ~ 220	180 ~ 350

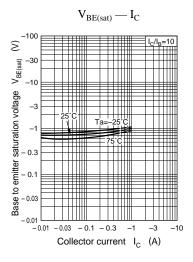
260 Panasonic

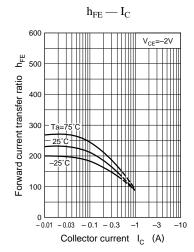
Transistor 2SB1378

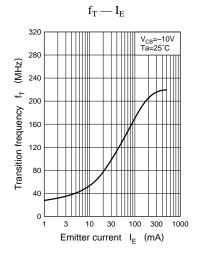


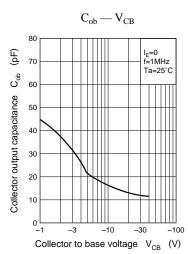












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