

2SB1416

Silicon PNP epitaxial planar type

For low-frequency power amplification

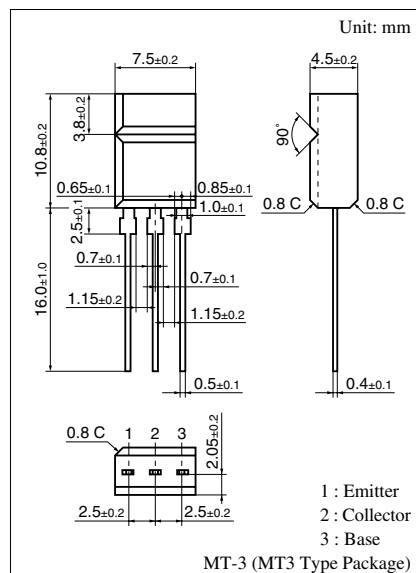
Complementary to 2SD2136

■ Features

- High forward current transfer ratio h_{FE} which has satisfactory linearity
- Low collector to emitter saturation voltage $V_{CE(sat)}$
- Allowing automatic insertion with radial taping

■ Absolute Maximum Ratings $T_C = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	-60	V
Collector to emitter voltage	V_{CEO}	-60	V
Emitter to base voltage	V_{EBO}	-5	V
Peak collector current	I_{CP}	-5	A
Collector current	I_C	-3	A
Collector power dissipation	P_C	1.5	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

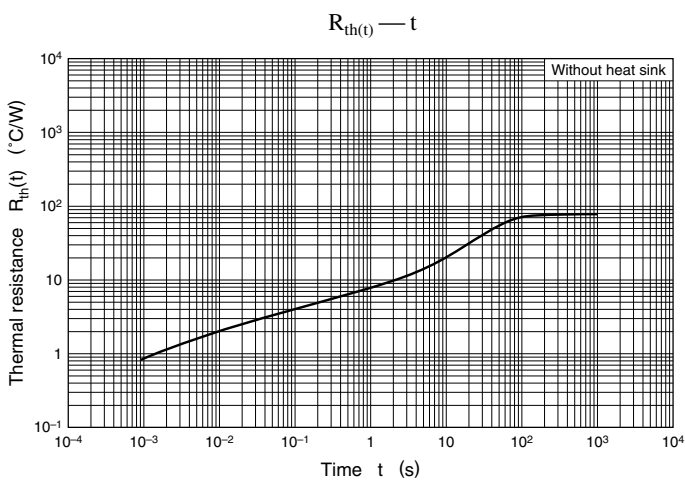
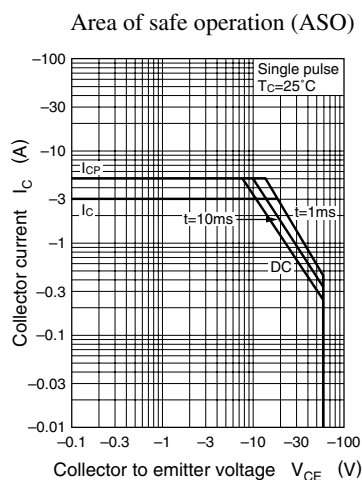
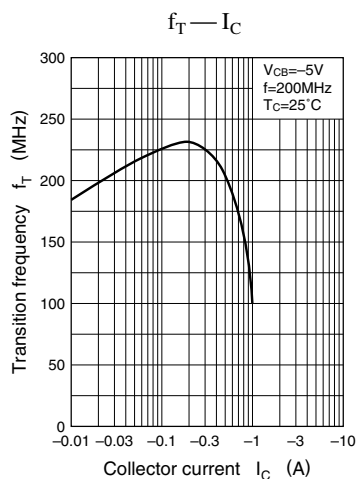
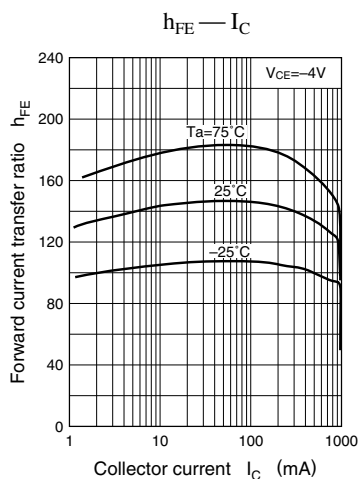
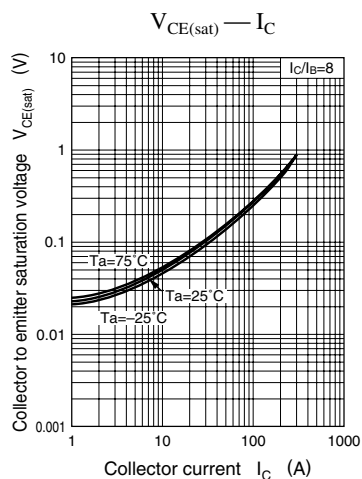
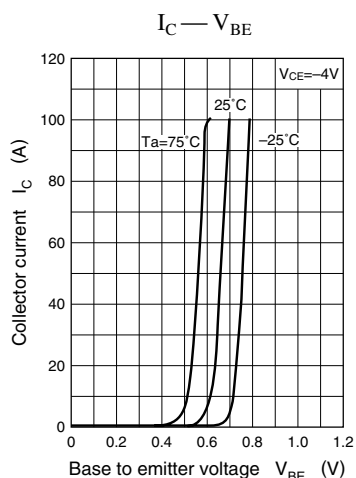
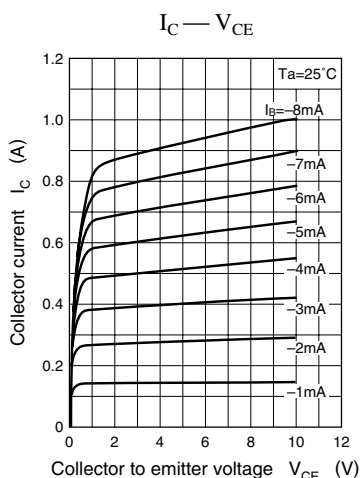
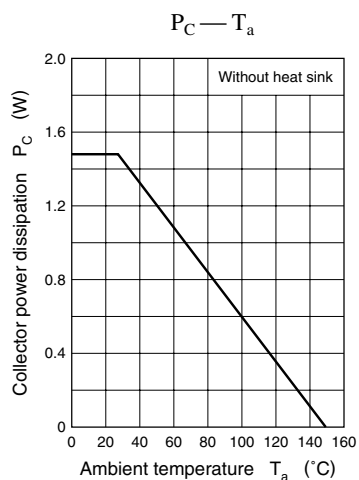


■ Electrical Characteristics $T_C = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CES}	$V_{CE} = -60\text{ V}, V_{BE} = 0$			-200	μA
	I_{CEO}	$V_{CE} = -30\text{ V}, I_B = 0$			-300	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = -5\text{ V}, I_C = 0$			-1	mA
Collector to emitter voltage	V_{CEO}	$I_C = -30\text{ mA}, I_B = 0$	-60			V
Forward current transfer ratio	h_{FE1}^*	$V_{CE} = -4\text{ V}, I_C = -1\text{ A}$	40		250	
	h_{FE2}	$V_{CE} = -4\text{ V}, I_C = -3\text{ A}$	10			
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = -3\text{ A}, I_B = -0.375\text{ A}$			-1.8	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$V_{CE} = -4\text{ V}, I_C = -3\text{ A}$			-1.2	V
Transition frequency	f_T	$V_{CB} = -5\text{ V}, I_E = 0.1\text{ A}, f = 200\text{ MHz}$			270	MHz
Turn-on time	t_{on}	$I_C = -1\text{ A}, I_{B1} = -0.1\text{ A}, I_{B2} = 0.1\text{ A}$		0.5		μs
Storage time	t_{stg}			1.2		μs
Fall time	t_f			0.3		μs

Note) *: Rank classification

Rank	P	Q	R
h_{FE1}	40 to 90	70 to 150	120 to 250



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