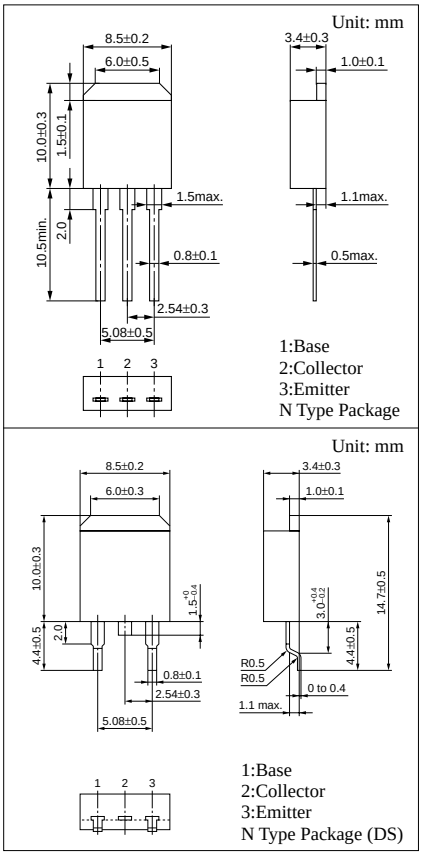
2SA1498

Silicon PNP epitaxial planar type

For high-speed switching



Features

- High foward current transfer ratio h_{FE}
- High-speed switching
- High collector to base voltage V_{CBO}
- N type package enabling direct soldering of the radiating fin to the printed circuit board, etc. of small electronic equipment.

Absolute Maximum Ratings (T_C=25˚C)

Parameter		Symbol	Ratings	Unit
Collector to base voltage		V_{CBO}	–400	V
Collector to emitter voltage		V_{CEO}	–400	V
Emitter to base voltage		V_{EBO}	–7	V
Peak collector current		I_{CP}	–1.2	A
Collector current		I_C	– 0.6	A
Collector power dissipation	T_C=25°C	P_C	25	W
	Ta=25°C		1.3	
Junction temperature		T_j	150	˚C
Storage temperature		T_{stg}	–55 to +150	˚C

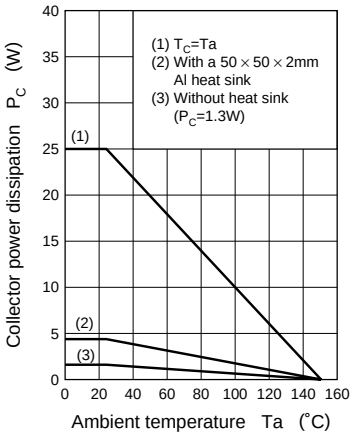
Electrical Characteristics (T_C=25˚C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = –400V, I_E = 0			–100	µA
Emitter cutoff current	I_{EBO}	V_{EB} = –7V, I_C = 0			–100	µA
Collector to emitter voltage	V_{CEO}	I_C = –10mA, I_B = 0	–400			V
Forward current transfer ratio	h_{FE1}*	V_{CE} = –5V, I_C = –100mA	30		160	
	h_{FE2}	V_{CE} = –5V, I_C = –300mA	10			
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = –300mA, I_B = –60mA			–1.0	V
Base to emitter saturation voltage	$V_{BE(sat)}$	I_C = –300mA, I_B = –60mA			–1.5	V
Transition frequency	f_T	V_{CE} = –10V, I_C = –100mA, f = 1MHz		15		MHz
Turn-on time	t_{on}	I_C = –300mA,			1.0	µs
Storage time	t_{stg}	I_{B1} = –60mA, I_{B2} = 60mA,			3.5	µs
Fall time	t_f	V_{CC} = –100V			1.0	µs

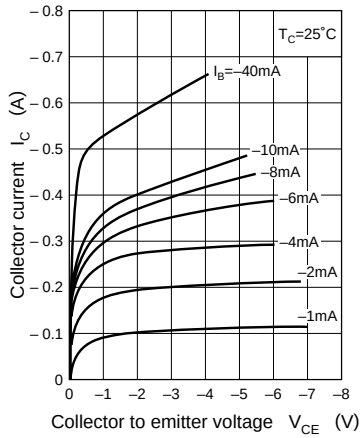
*h_{FE1} Rank classification

Rank	Q	P	O
h_{FE1}	30 to 60	50 to 100	80 to 160

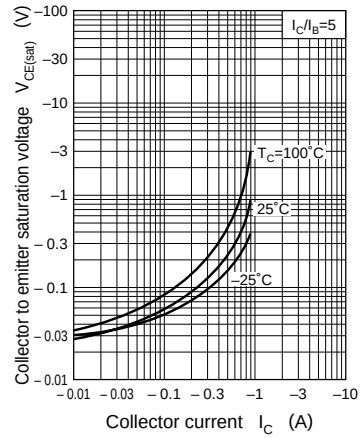
P_C — Ta



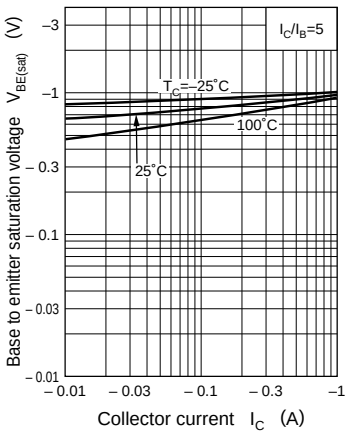
I_C — V_{CE}



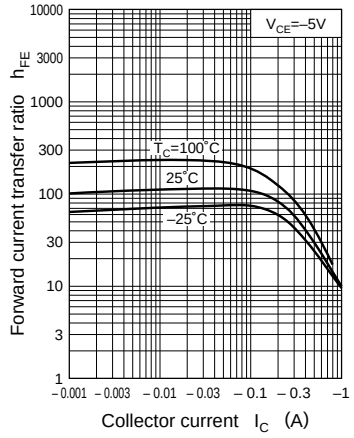
$V_{CE(sat)}$ — I_C



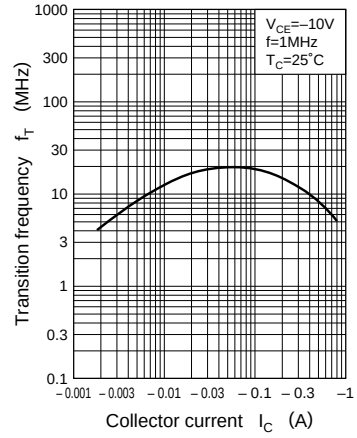
$V_{BE(sat)}$ — I_C



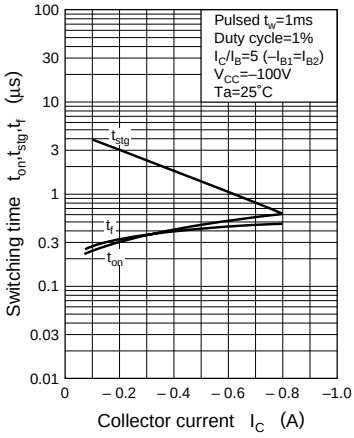
h_{FE} — I_C



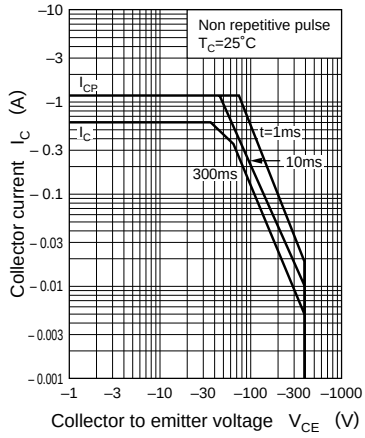
f_T — I_C



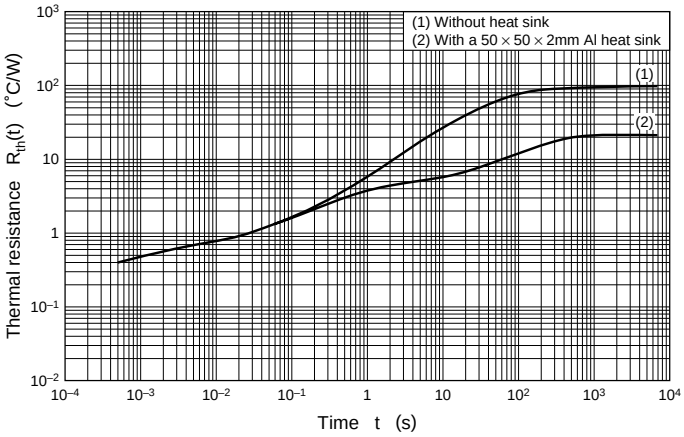
t_{on}, t_{stg}, t_f — I_C



Area of safe operation (ASO)



$R_{th(t)}$ — t


(1) Without heat sink
(2) With a 50 × 50 × 2mm Al heat sink
(1)
(2)
Thermal resistance $R_{th}(t)$ (°C/W)
10^3
10^2
10
1
10^{-1}
10^{-2}
10^{-4}
10^{-3}
10^{-2}
10^{-1}
1
10
10^2
10^3
10^4
Time t (s)