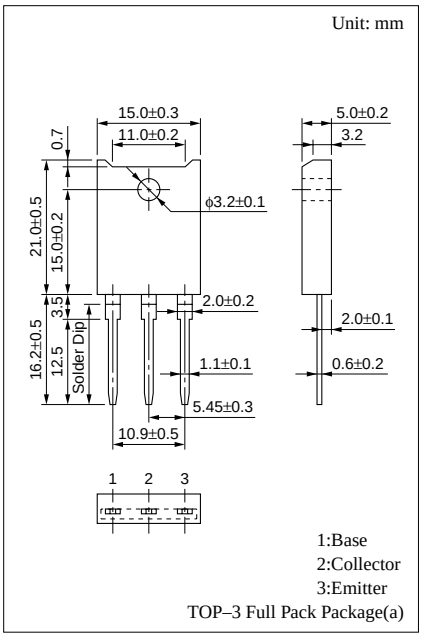
# 2SB1372



## Silicon PNP triple diffusion planar type

For high power amplification
Complementary to 2SD2065




### Features

- Satisfactory foward current transfer ratio $h_{FE}$ vs. collector current $I_C$ characteristics
- Wide area of safe operation (ASO)
- High transition frequency $f_T$
- Full-pack package which can be installed to the heat sink with one screw

### Absolute Maximum Ratings ($T_C$=25˚C)

| Parameter | | Symbol | Ratings | Unit |
|---|---|---|---|---|
| Collector to base voltage | | $V_{CBO}$ | –140 | V |
| Collector to emitter voltage | | $V_{CEO}$ | –140 | V |
| Emitter to base voltage | | $V_{EBO}$ | –5 | V |
| Peak collector current | | $I_{CP}$ | –12 | A |
| Collector current | | $I_C$ | –7 | A |
| Collector power dissipation | $T_C$=25°C | $P_C$ | 80 | W |
| | Ta=25°C | | 3 | |
| Junction temperature | | $T_j$ | 150 | °C |
| Storage temperature | | $T_{stg}$ | –55 to +150 | °C |

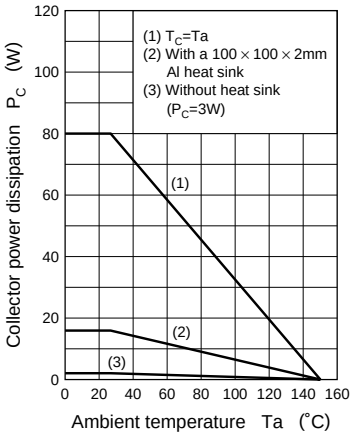
### Electrical Characteristics ($T_C$=25˚C)

| Parameter | Symbol | Conditions | min | typ | max | Unit |
|---|---|---|---|---|---|---|
| Collector cutoff current | $I_{CBO}$ | $V_{CB}$ = –140V, $I_E$ = 0 | | | –50 | µA |
| Emitter cutoff current | $I_{EBO}$ | $V_{EB}$ = –3V, $I_C$ = 0 | | | –50 | µA |
| Forward current transfer ratio | $h_{FE1}$ | $V_{CE}$ = –5V, $I_C$ = –20mA | 20 | | | |
| | $h_{FE2}$* | $V_{CE}$ = –5V, $I_C$ = –1A | 60 | | 200 | |
| | $h_{FE3}$ | $V_{CE}$ = –5V, $I_C$ = –5A | 20 | | | |
| Base to emitter voltage | $V_{BE}$ | $V_{CE}$ = –5V, $I_C$ = –5A | | | –1.8 | V |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | $I_C$ = –5A, $I_B$ = – 0.5A | | | –2.0 | V |
| Transition frequency | $f_T$ | $V_{CE}$ = –5V, $I_C$ = – 0.5A, f = 1MHz | | 15 | | MHz |
| Collector output capacitance | $C_{ob}$ | $V_{CB}$ = –10V, $I_E$ = 0, f = 1MHz | | 200 | | pF |

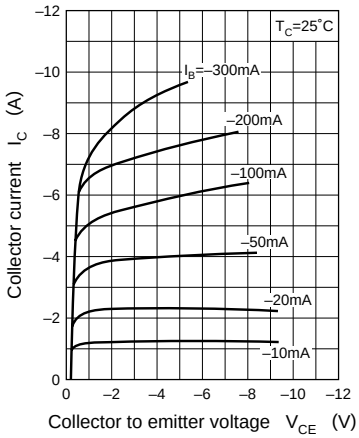
*$h_{FE2}$ Rank classification

| Rank | Q | S | P |
|---|---|---|---|
| $h_{FE2}$ | 60 to 120 | 80 to 160 | 100 to 200 |

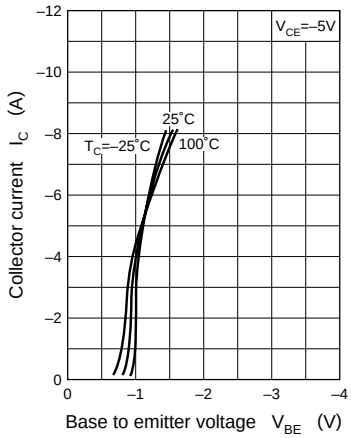
$P_C$ — Ta



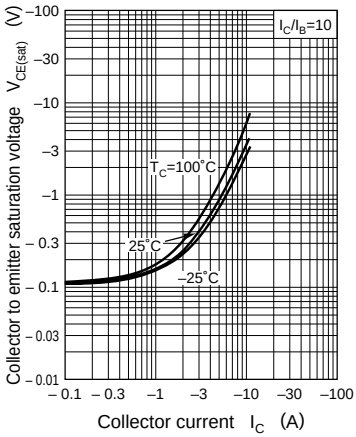

$I_C$ — $V_{CE}$



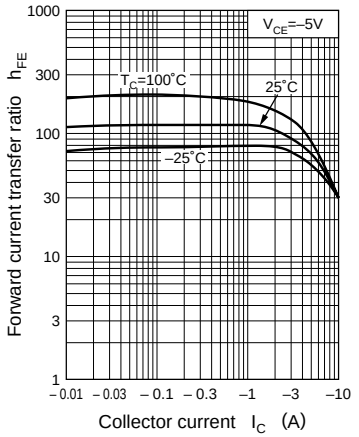

$I_C$ — $V_{BE}$



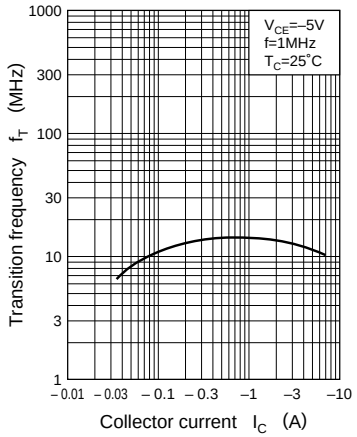

$V_{CE(sat)}$ — $I_C$



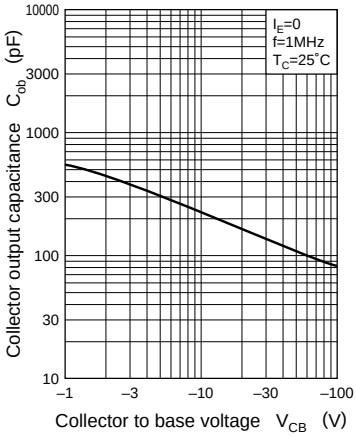

$h_{FE}$ — $I_C$



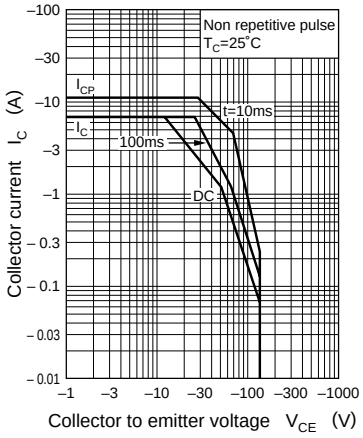

$f_T$ — $I_C$




$C_{ob}$ — $V_{CB}$




Area of safe operation (ASO)



$R_{th(t)}$ — t