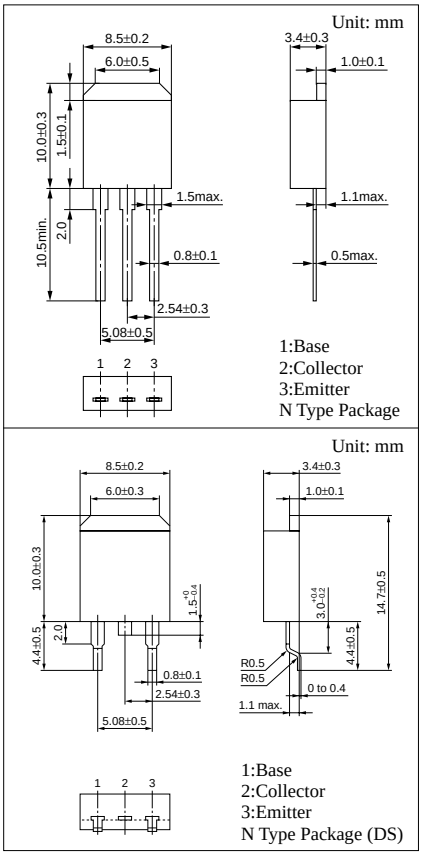
# 2SB928, 2SB928A

## Silicon PNP epitaxial planar type

For power amplification
For TV vartical deflection output
Complementary to 2SD1250 and 2SD1250A




## Features

- High collector to emitter $V_{CEO}$
- High collector power dissipation $P_C$
- 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 | | $V_{CBO}$ | –200 | V |
| Collector to emitter voltage | 2SB928 | $V_{CEO}$ | –150 | V |
| | 2SB928A | | –180 | |
| Emitter to base voltage | | $V_{EBO}$ | –6 | V |
| Peak collector current | | $I_{CP}$ | –3 | A |
| Collector current | | $I_C$ | –2 | A |
| Collector power dissipation | $T_C$=25°C | $P_C$ | 30 | 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)

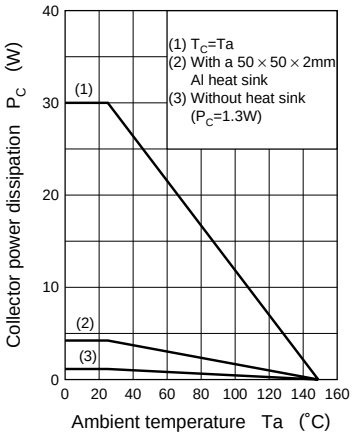
| Parameter | | Symbol | Conditions | min | typ | max | Unit |
|---|---|---|---|---|---|---|---|
| Collector cutoff current | | $I_{CBO}$ | $V_{CB}$ = –200V, $I_E$ = 0 | | | –50 | μA |
| Emitter cutoff current | | $I_{EBO}$ | $V_{EB}$ = –4V, $I_C$ = 0 | | | –50 | μA |
| Collector base voltage | | $V_{CBO}$ | $I_C$ = –500μA, $I_E$ = 0 | –200 | | | V |
| Collector to emitter voltage | 2SB928 | $V_{CEO}$ | $I_C$ = –5mA, $I_B$ = 0 | –150 | | | V |
| | 2SB928A | | | –180 | | | |
| Emitter to base voltage | | $V_{EBO}$ | $I_E$ = –500μA, $I_C$ = 0 | –6 | | | V |
| Forward current transfer ratio | | $h_{FE1}$* | $V_{CE}$ = –10V, $I_C$ = –150mA | 60 | | 240 | |
| | | $h_{FE2}$ | $V_{CE}$ = –10V, $I_C$ = –400mA | 50 | | | |
| Base to emitter voltage | | $V_{BE}$ | $V_{CE}$ = –10V, $I_C$ = –400mA | | | –1 | V |
| Collector to emitter saturation voltage | | $V_{CE(sat)}$ | $I_C$ = –500mA, $I_B$ = –50mA | | | –1 | V |
| Transition frequency | | $f_T$ | $V_{CE}$ = –10V, $I_C$ = – 0.5A, f = 10MHz | | 30 | | MHz |

*$h_{FE1}$ Rank classification

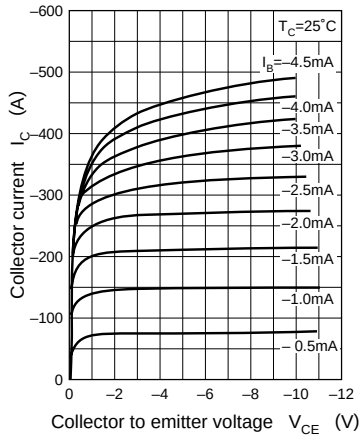
| Rank | Q | P |
|---|---|---|
| $h_{FE1}$ | 60 to 140 | 100 to 240 |

Note: Ordering can be made by the common rank (PQ rank $h_{FE1}$ = 60 to 240) in the rank classification.

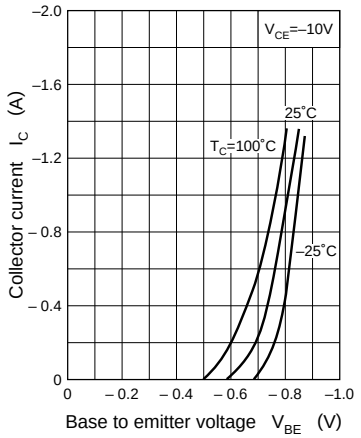
$P_C$ — Ta



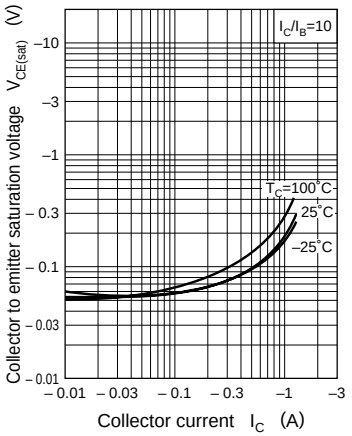

$I_C$ — $V_{CE}$



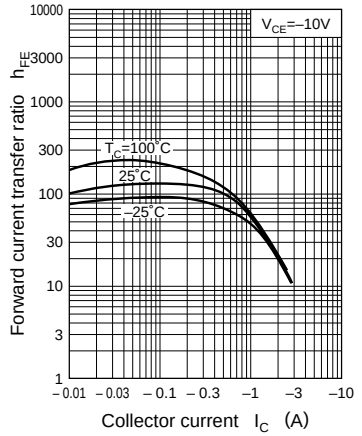

$I_C$ — $V_{BE}$



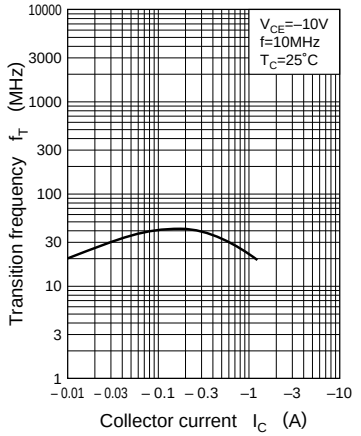

$V_{CE(sat)}$ — $I_C$



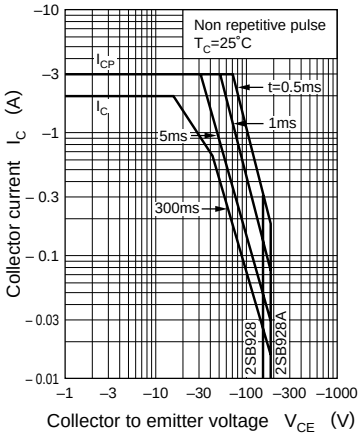

$h_{FE}$ — $I_C$




$f_T$ — $I_C$




Area of safe operation (ASO)




$R_{th(t)}$ — t