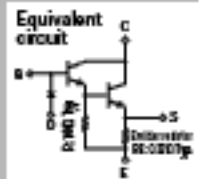


Built-in temperature compensation diodes
Built-in emitter resistor
Darlington

SAP16N



(Complement to type SAP16P)

Application: Audio

■ Absolute maximum ratings ($T_a = 25^\circ\text{C}$)

| Symbol | Rating | Unit |
|---------------|----------------------------------|------------------|
| V_{CE0} | 160 | V |
| $V_{CE(sat)}$ | 160 | V |
| V_{BE0} | 5 | V |
| I_C | 15 | A |
| I_B | 1 | A |
| P_C | 150 ($T_c = 25^\circ\text{C}$) | W |
| $Di I_F$ | 10 | mA |
| T_j | 150 | $^\circ\text{C}$ |
| T_{stg} | -40 to +150 | $^\circ\text{C}$ |

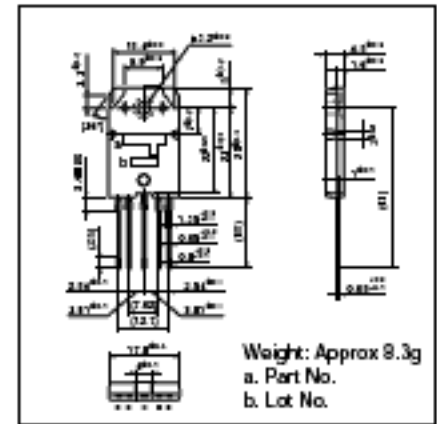
■ Electrical Characteristics ($T_a = 25^\circ\text{C}$)

| Symbol | Conditions | Rating | | | Unit |
|---------------|--|--------|------|-------|---------------|
| | | min | typ | max | |
| I_{CBO} | $V_{CE} = 160\text{V}$ | | | 100 | μA |
| I_{EBO} | $V_{EB} = 5\text{V}$ | | | 100 | μA |
| V_{CE0} | $I_C = 30\text{mA}$ | 160 | | | V |
| h_{FE}^* | $V_{CE} = 4\text{V}, I_C = 10\text{A}$ | 5000 | | 20000 | |
| $V_{CE(sat)}$ | $I_C = 10\text{A}, I_B = 10\text{mA}$ | | | 2.0 | V |
| $V_{BE(sat)}$ | $I_C = 10\text{A}, I_B = 10\text{mA}$ | | | 2.5 | V |
| V_{BE} | $V_{CE} = 20\text{V}, I_C = 40\text{mA}$ | | 1190 | | mV |
| $Di V_F$ | $I_F = 2.5\text{mA}$ | | 705 | | mV |
| R_E | $I_E = 1\text{A}$ | 0.176 | 0.22 | 0.264 | Ω |
| R_{EB} | | 90 | 100 | 110 | Ω |

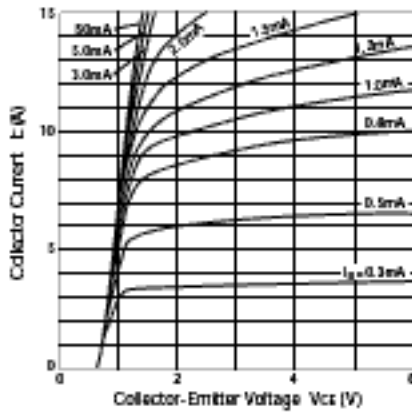
* h_{FE} Rank: \bar{O} (5000 to 12000), Y (8000 to 20000)

External Dimensions

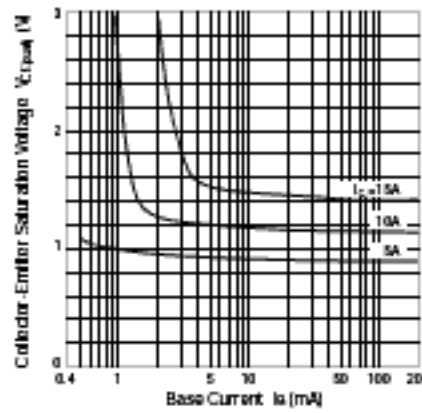
(Unit: mm)



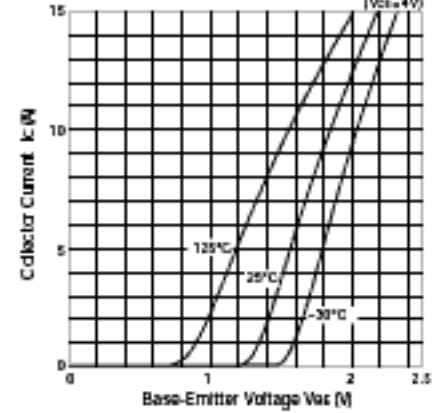
$I_C - V_{CE}$ Characteristics (Typical)



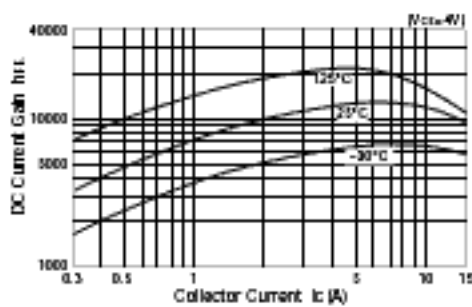
$V_{CE(sat)} - I_B$ Characteristics (Typical)



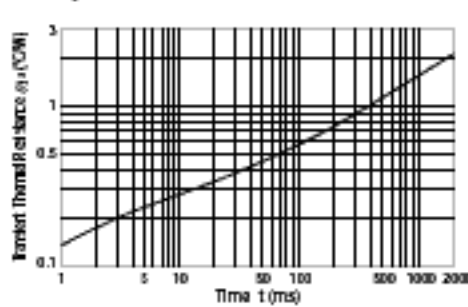
$I_C - V_{BE}$ Temperature Characteristics (Typical)



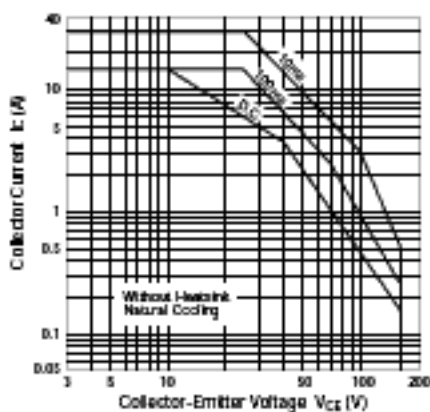
$h_{FE} - I_C$ Characteristics (Typical)



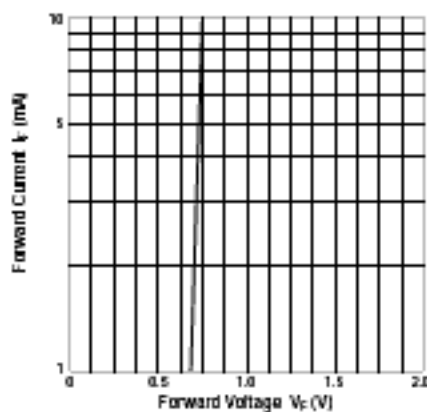
$\theta_{j-a} - t$ Characteristics



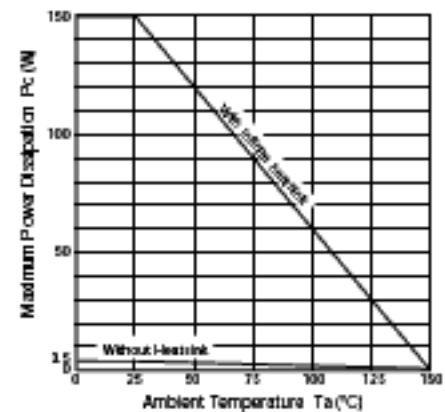
Safe Operating Area (Single Pulse)



$Di I_F - V_F$ Characteristics (Typical)



$P_C - T_a$ Derating



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