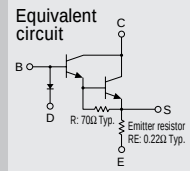


Built-in temperature
compensation diodes
Built-in emitter resistor
Darlington

SAP09N



(Complement to type SAP09P)

Application: Audio

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

Symbol	Ratings	Unit
V_{CB0}	150	V
V_{CEO}	150	V
V_{EBO}	5	V
I_C	10	A
I_B	1	A
P_C	80 ($T_c = 25^\circ\text{C}$)	W
I_{F1}	10	mA
T_J	150	$^\circ\text{C}$
T_{stg}	-40 to +150	$^\circ\text{C}$

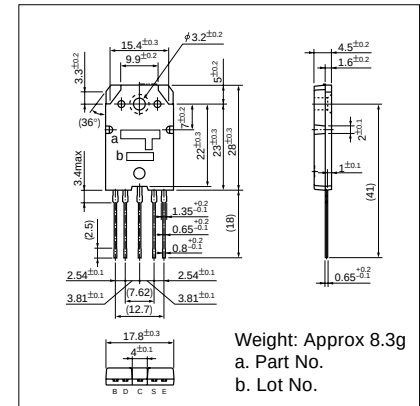
■ Electrical Characteristics ($T_a = 25^\circ\text{C}$)

Symbol	Conditions	Ratings			Unit
		min	typ	max	
I_{CBO}	$V_{CB} = 150\text{V}$			100	μA
I_{EBO}	$V_{EB} = 5\text{V}$			100	μA
V_{CEO}	$I_C = 30\text{mA}$	150			V
h_{FE}^*	$V_{CE} = 4\text{V}$, $I_C = 6\text{A}$	5000		20000	
$V_{CE(sat)}$	$I_C = 6\text{A}$, $I_B = 6\text{mA}$			2.0	V
$V_{BE(sat)}$	$I_C = 6\text{A}$, $I_B = 6\text{mA}$			2.5	V
V_{BE}	$V_{CE} = 20\text{V}$, $I_C = 40\text{mA}$		1220		mV
V_{F1}	$I_F = 2.5\text{mA}$		705		mV
R_E	$I_E = 1\text{A}$	0.176	0.22	0.264	Ω

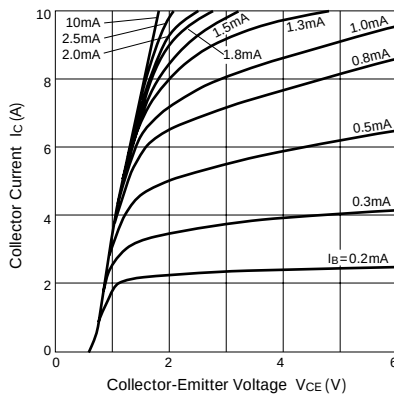
* h_{FE} Rank $\bar{O}$ (5000 to 12000), Y (8000 to 20000)

External Dimensions

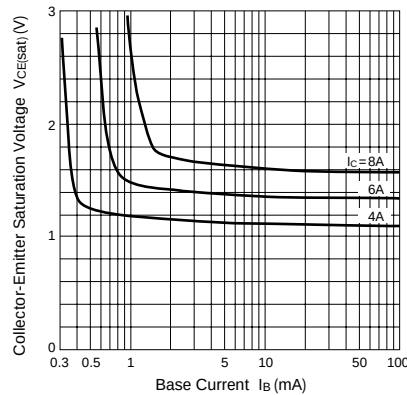
(Unit: mm)



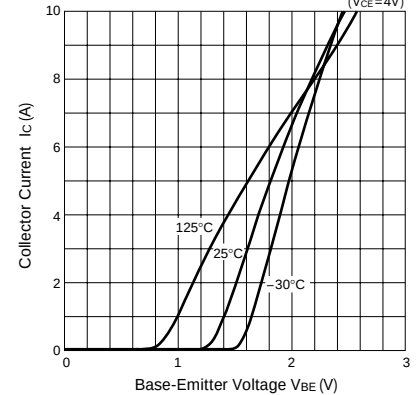
$I_C - V_{CE}$ Characteristics (Typical)



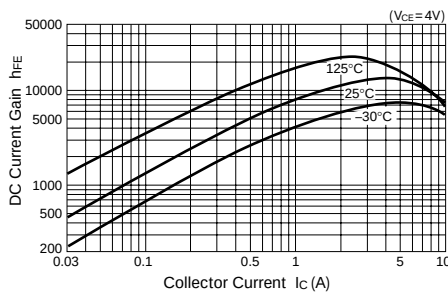
$V_{CE(sat)} - I_B$ Characteristics (Typical)



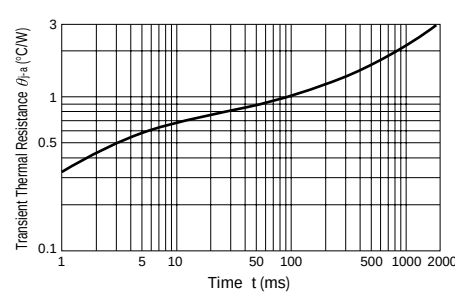
$I_C - V_{BE}$ Temperature Characteristics



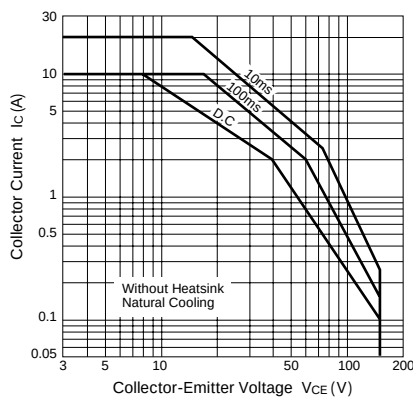
$h_{FE} - I_C$ Characteristics (Typical)



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



Safe Operating Area (Single Pulse)



$P_C - T_a$ Derating

