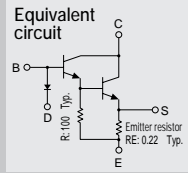


Built-in temperature compensation diodes  
Built-in emitter resistor  
Darlington

# SAP16N



(Complement to type SAP16P)

Application: Audio

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

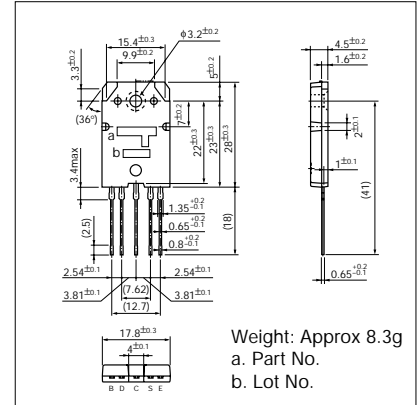
Symbol	Rated	Unit
$V_{CB0}$	160	V
$V_{CEO}$	160	V
$V_{EBO}$	5	V
$I_C$	15	A
$I_B$	1	A
$P_C$	150 ( $T_c=25^\circ\text{C}$ )	W
$D_i I_F$	10	mA
$T_J$	150	$^\circ\text{C}$
$T_{stg}$	-40 to +150	$^\circ\text{C}$

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

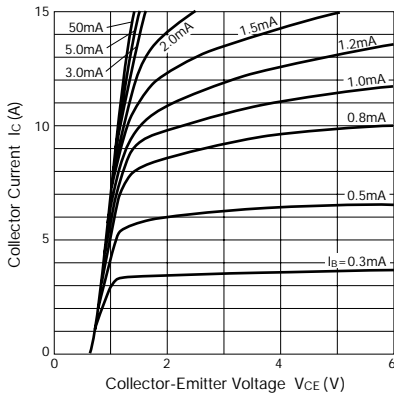
Symbol	Conditions	Ratings			Unit
		min	typ	max	
$I_{CBO}$	$V_{CB} = 160\text{V}$			100	$\mu\text{A}$
$I_{EBO}$	$V_{EB} = 5\text{V}$			100	$\mu\text{A}$
$V_{CEO}$	$I_C = 30\text{mA}$	160			V
$h_{FE}^*$	$V_{CE} = 4\text{V}, I_C = 10\text{A}$	5000		20000	
$V_{CE(sat)}$	$I_C = 10\text{A}, I_B = 10\text{mA}$			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
$D_i V_F$	$I_F = 2.5\text{mA}$		705		mV
$R_E$	$I_E = 1\text{A}$	0.176	0.22	0.264	$\Omega$
$R_{EB}$		90	100	110	$\Omega$

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

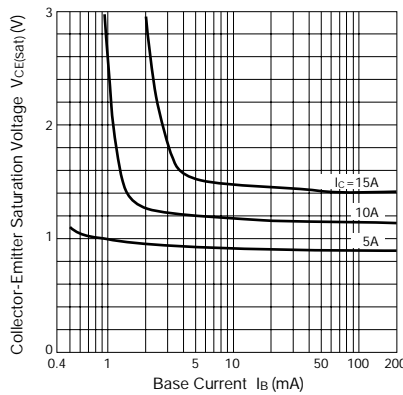
External Dimensions (Unit: mm)



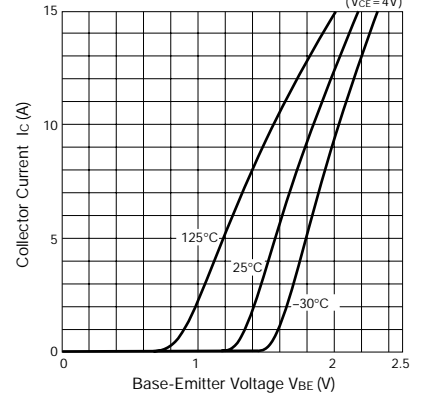
$I_C - V_{CE}$  Characteristics (Typical)



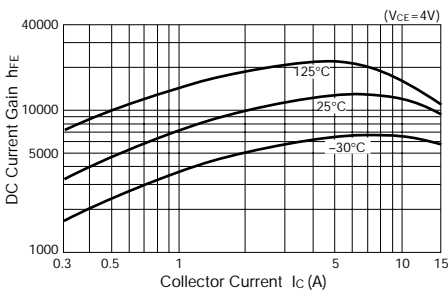
$V_{CE(sat)} - I_B$  Characteristics (Typical)



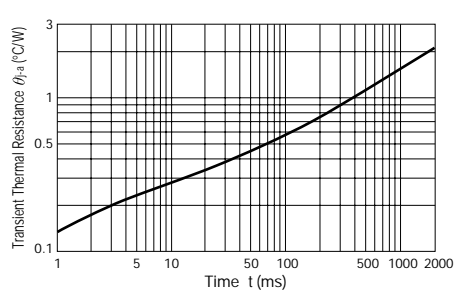
$I_C - V_{BE}$  Temperature Characteristics (Typical)



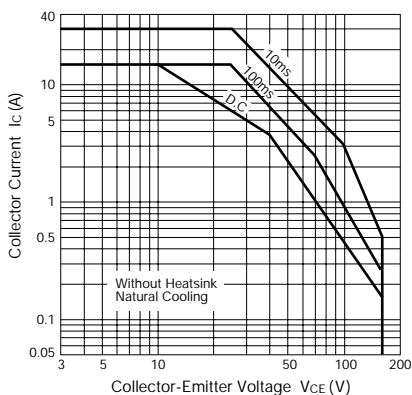
$h_{FE} - I_C$  Characteristics (Typical)



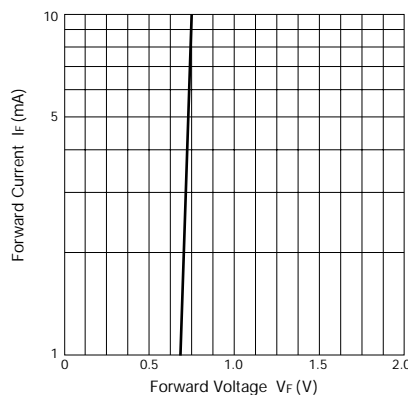
$\theta_{j-a} - t$  Characteristics



Safe Operating Area (Single Pulse)



$D_i I_F - V_F$  Characteristics (Typical)



$P_c - T_a$  Derating

