

Descriptions

- High current application
- Audio power amplifier

Features

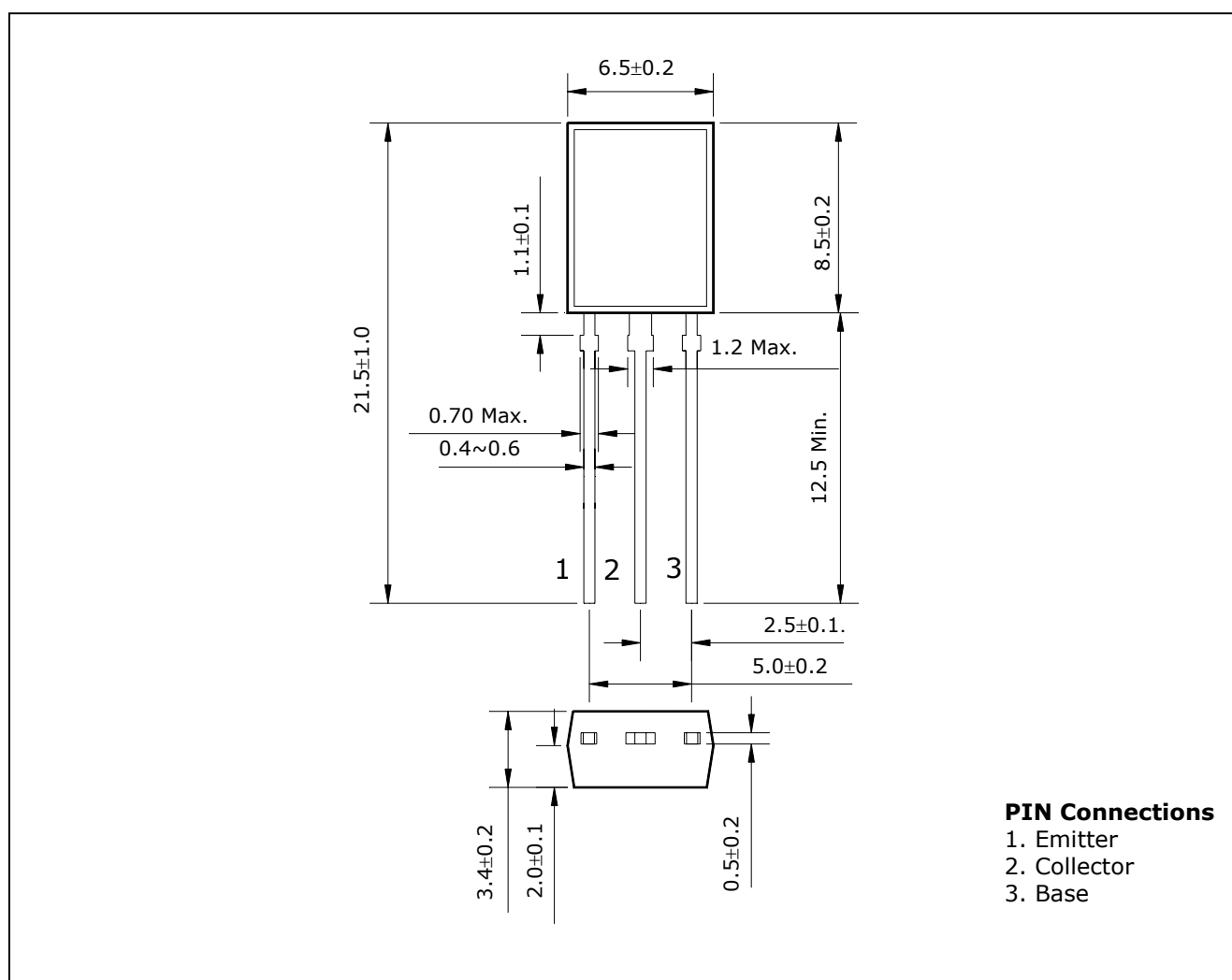
- High current : $I_C = -2A$
- Complementary pair with STC352

Ordering Information

Type NO.	Marking	Package Code
STA353	STA353	MPT

Outline Dimensions

unit : mm



Absolute maximum ratings

(Ta=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base voltage	V_{CBO}	-40	V
Collector-Emitter voltage	V_{CEO}	-30	V
Emitter-Base voltage	V_{EBO}	-5	V
Collector current	I_C	-2	A
Emitter Current	I_E	2	A
Collector Power dissipation	P_C ($T_c=25^\circ\text{C}$)	10	W
	P_C ($T_a=25^\circ\text{C}$)	1.2	
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55~150	°C

Electrical Characteristics

(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	BV_{CBO}	$I_C=-100\mu\text{A}$, $I_E=0$	-40	-	-	V
Collector-Emitter breakdown voltage	BV_{CEO}	$I_C=-10\text{mA}$, $I_B=0$	-30	-	-	V
Emitter-Base breakdown voltage	BV_{EBO}	$I_E=-1\text{mA}$, $I_C=0$	-5	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB}=-40\text{V}$, $I_E=0$	-	-	-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-5\text{V}$, $I_C=0$	-	-	-0.1	μA
DC current gain	h_{FE}^*	$V_{CE}=-2\text{V}$, $I_C=-500\text{mA}$	100	-	320	-
Base-Emitter on voltage	$V_{BE(ON)}$	$V_{CE}=-2\text{V}$, $I_C=-500\text{mA}$	-	-	-1	V
Collector-Emitter saturation voltage	$V_{CE(sat)1}$	$I_C=-2\text{A}$, $I_B=-0.2\text{A}$	-	-	-0.8	V
	$V_{CE(sat)2}$	$I_C=-1.5\text{A}$, $I_B=-0.03\text{A}$	-	-	-2	
Transition frequency	f_T	$V_{CE}=-5\text{V}$, $I_C=-500\text{mA}$	-	120	-	MHz
Collector output capacitance	C_{ob}	$V_{CB}=-10\text{V}$, $I_E=0$, $f=1\text{MHz}$	-	48	-	pF

* : h_{FE} rank / O : 100~200, Y : 160~320

Electrical Characteristic Curves

Fig. 1 $P_C - T_A$

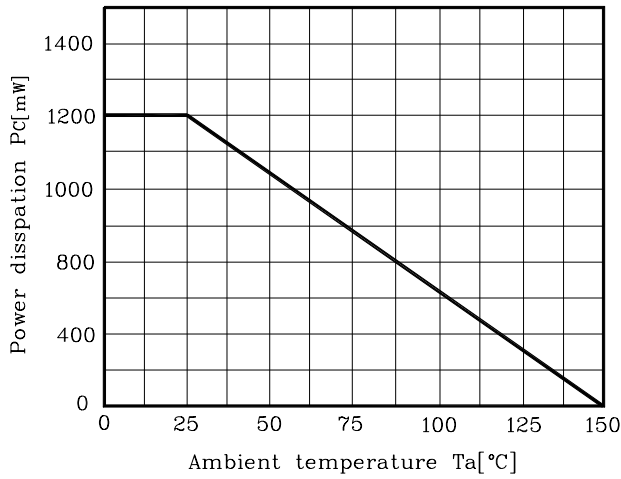


Fig. 2 $V_{CE(sat)} - I_C$

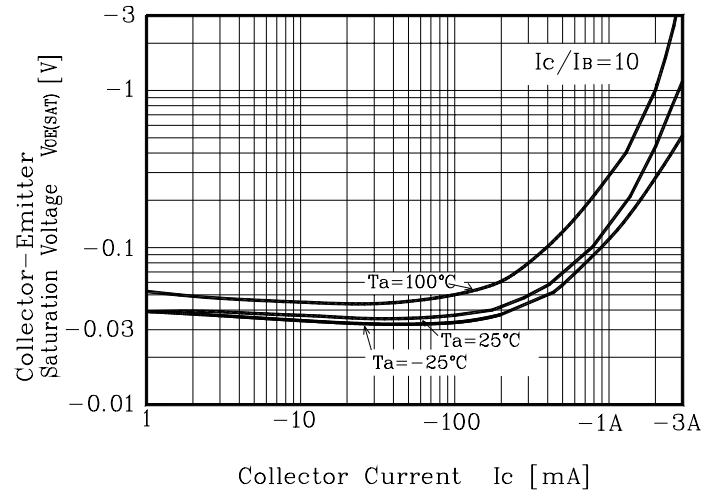


Fig. 3 $f_T - I_C$

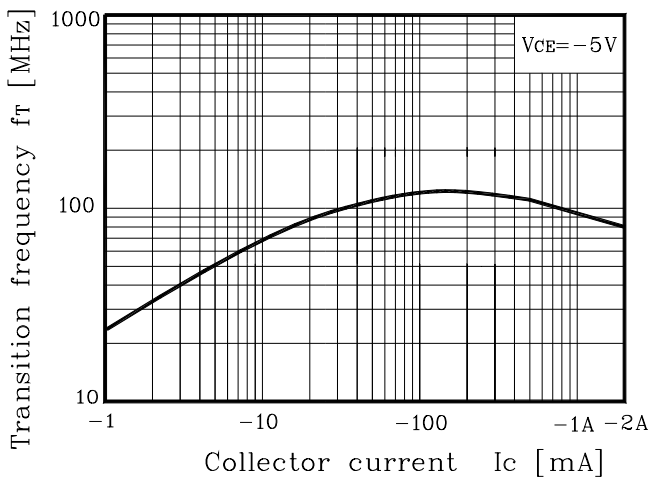


Fig. 4 $C_{ob} - V_R$

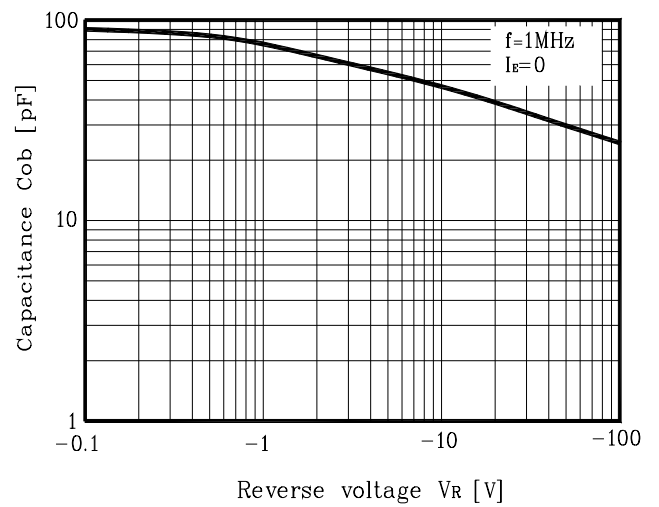


Fig. 5 $h_{FE} - I_C$

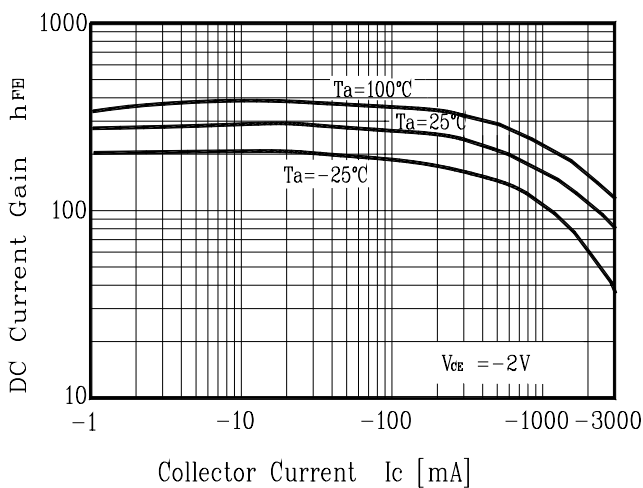


Fig. 6 $I_C - V_{BE}$

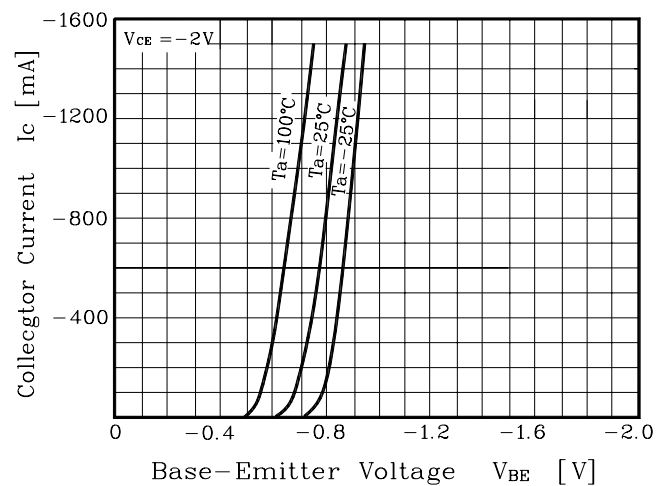


Fig. 7 Safe Operating Area

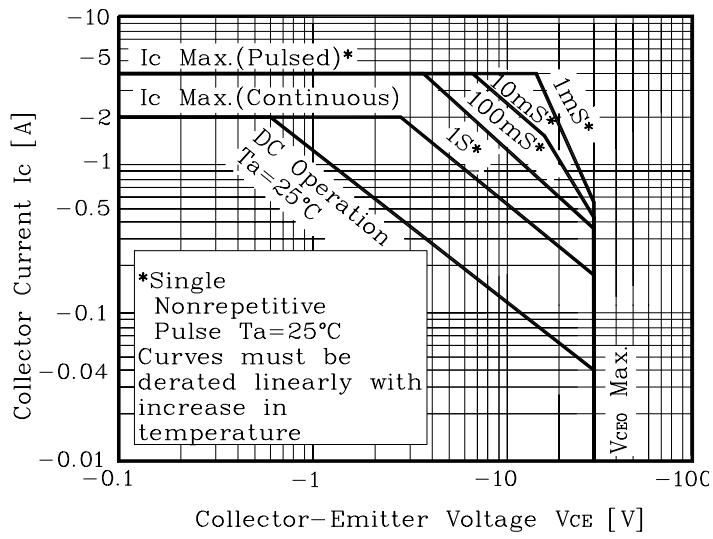


Fig. 8 $P_C - T_C$

