

**Descriptions**

- High current application
- Audio power amplifier

**Features**

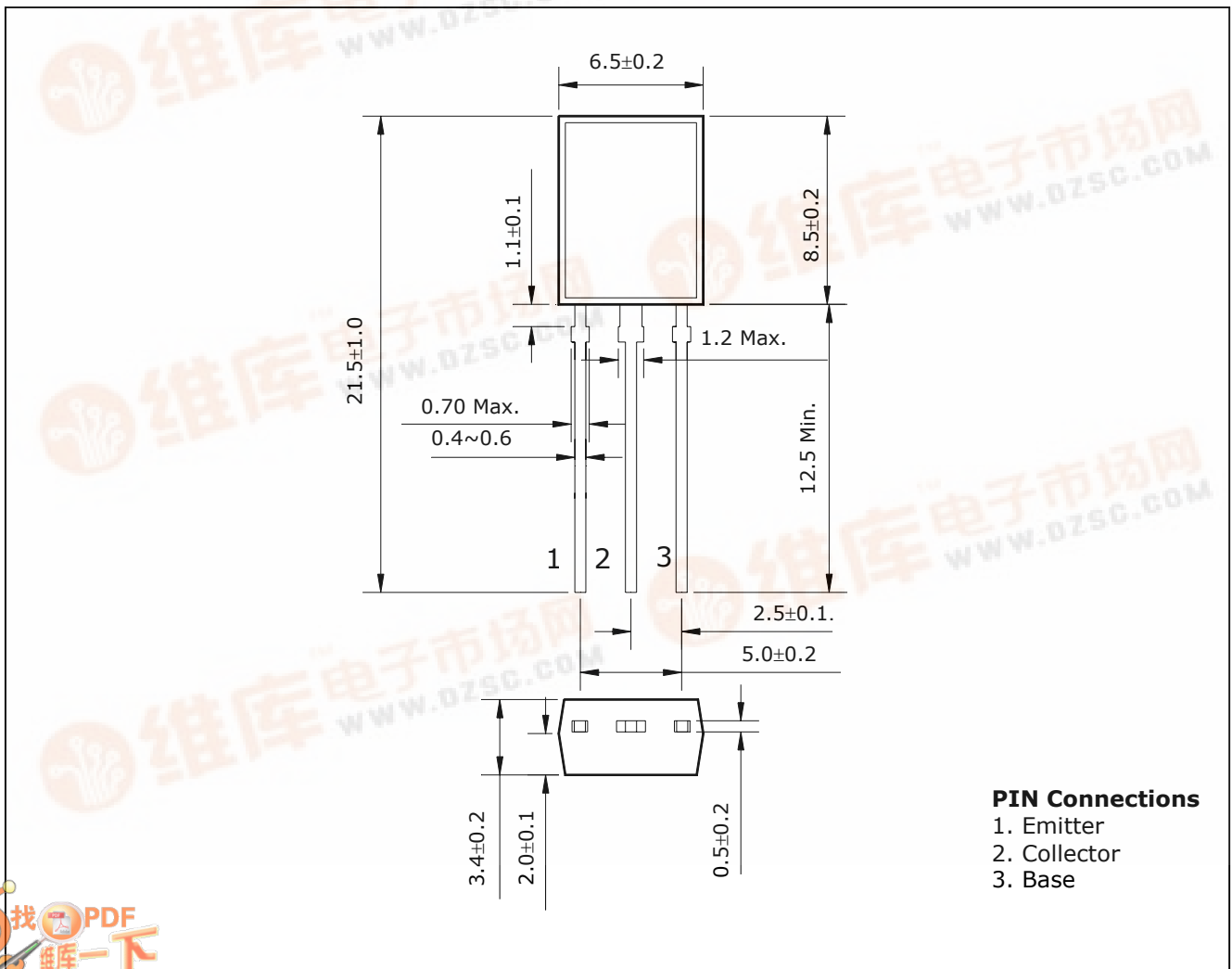
- High current :  $I_C = -2A$
- Complementary pair with STC352

**Ordering Information**

Type NO.	Marking	Package Code
STA353	STA353	MPT

**Outline Dimensions**

unit : mm



# STA353

## 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	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=-5\text{V}$ , $I_C=0$	-	-	-0.1	$\mu\text{A}$
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  $P_C - T_A$

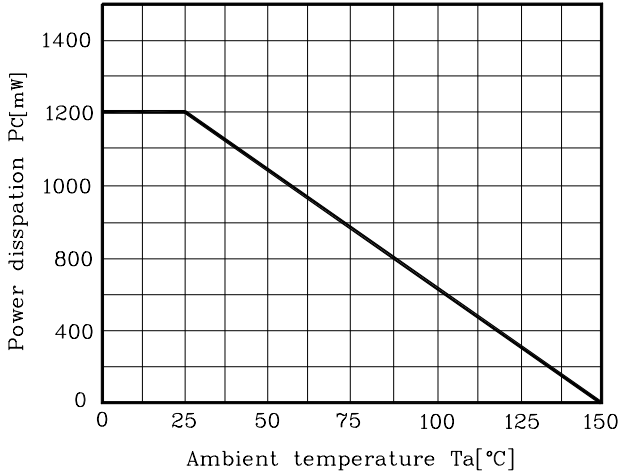


Fig. 2  $V_{CE(sat)} - I_C$

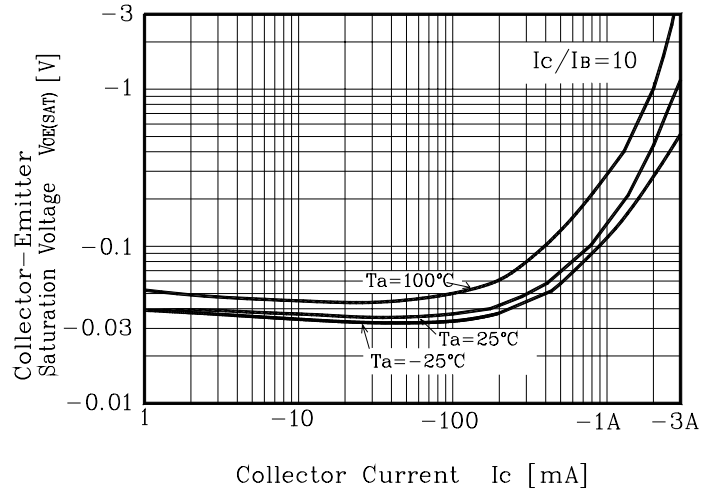


Fig. 3  $f_T - I_C$

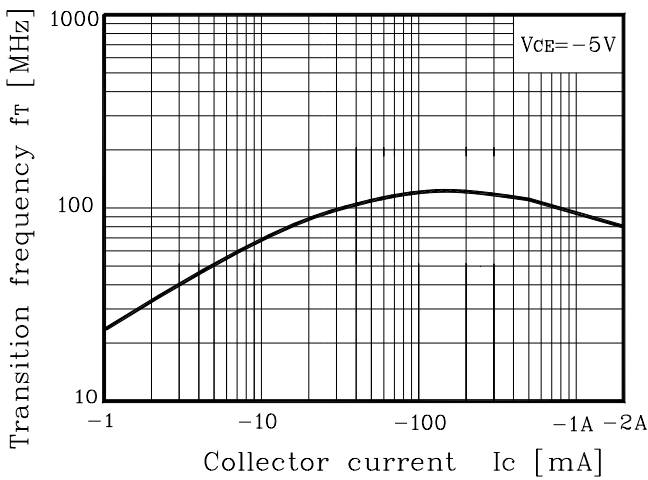


Fig. 4  $C_{ob} - V_R$

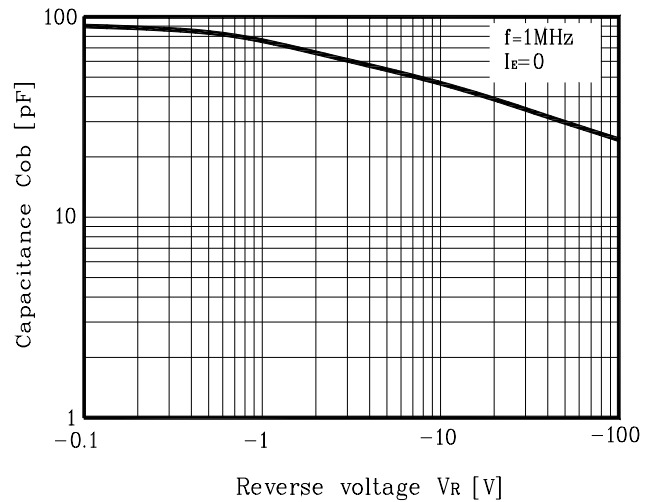


Fig. 5  $h_{FE} - I_C$

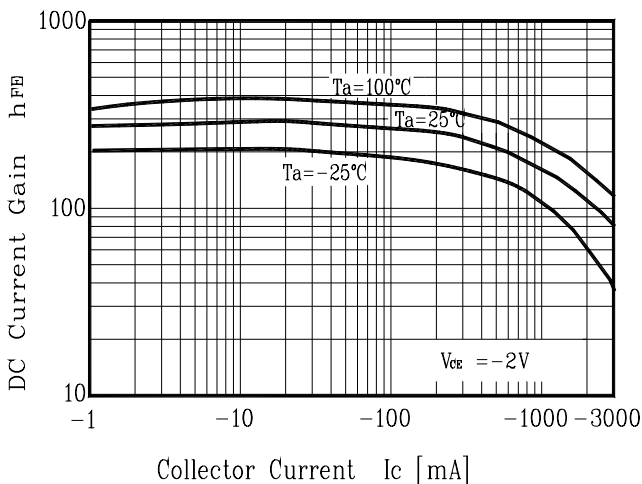
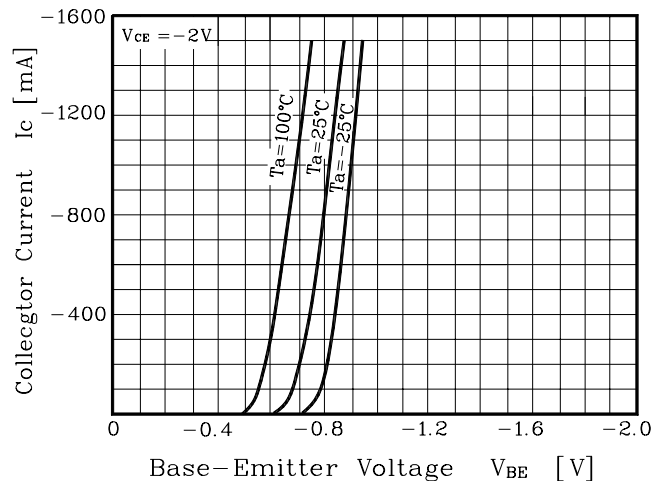
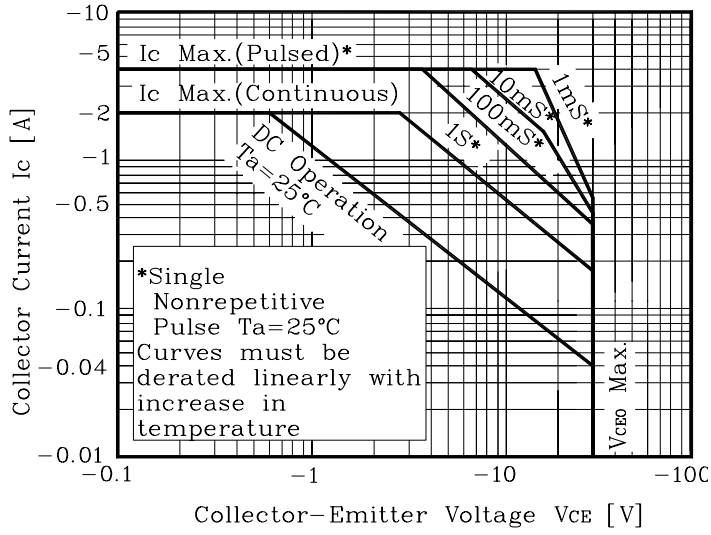


Fig. 6  $I_C - V_{BE}$



**Fig. 7 Safe Operating Area**



**Fig. 8  $P_c - T_c$**

