



# STD1664

NPN Silicon Transistor

## Description

- Medium power amplifier application

## Features

- $P_C$  (Collector dissipation) = 2W (Ceramic substate of 40×40×0.8mm used)
- Low collector saturation voltage :  $V_{CE(sat)} = 0.15V$  (Typ.)
- Complementary pair with STB1132

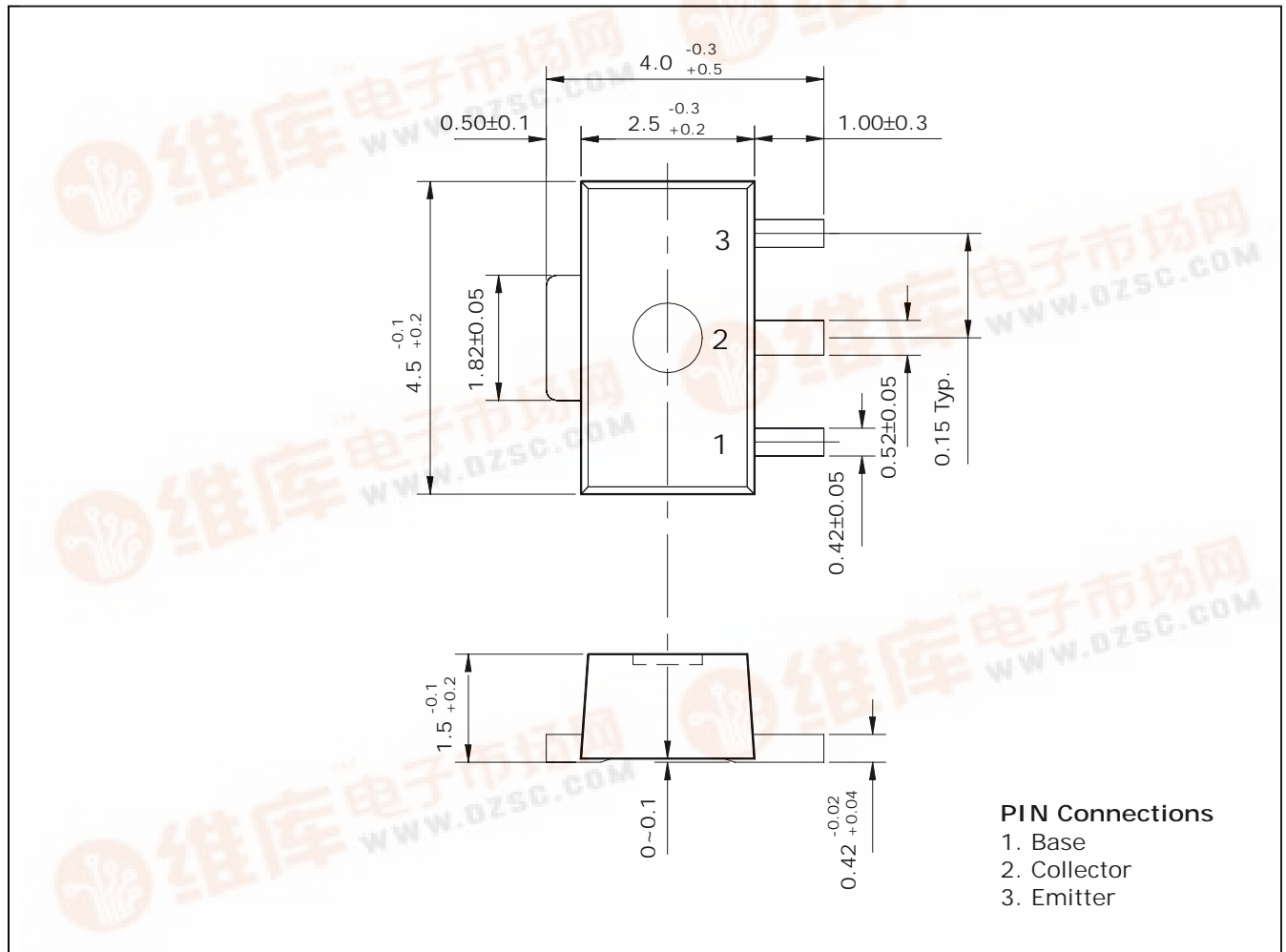
## Ordering Information

Type NO.	Marking	Package Code
STD1664	A2□□	SOT-89

□□ :  $h_{FE}$  rank, monthly code

## Outline Dimensions

unit : mm



## Absolute maximum ratings

(Ta=25°C)

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	$V_{CBO}$	40	V
Collector-Emitter voltage	$V_{CEO}$	32	V
Emitter-Base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	1	A
Collector dissipation	$P_C$	0.5	W
	$P_C^*$	2	
Junction temperature	$T_J$	150	°C
Storage temperature	$T_{stg}$	-55 ~ 150	°C

\* : When mounted on 40×40×0.8mm ceramic substrate

## Electrical Characteristics

(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	$BV_{CBO}$	$I_C=50\mu A, I_E=0$	40	-	-	V
Collector-Emitter breakdown voltage	$BV_{CEO}$	$I_C=1mA, I_B=0$	32	-	-	V
Emitter-Base breakdown voltage	$BV_{EBO}$	$I_E=50\mu A, I_C=0$	5	-	-	V
Collector cut-off current	$I_{CBO}$	$V_{CB}=20V, I_E=0$	-	-	0.5	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=4V, I_C=0$	-	-	0.5	$\mu A$
DC current gain	$h_{FE}^*$	$V_{CE}=3V, I_C=0.1A$	100	-	320	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=50mA$	-	0.15	0.4	V
Transition frequency	$f_T$	$V_{CE}=5V, I_C=50mA$	-	150	-	MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=10V, I_E=0, f=1MHz$	-	15	-	pF

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

Electrical Characteristic Curves

Fig. 1  $P_C - T_a$

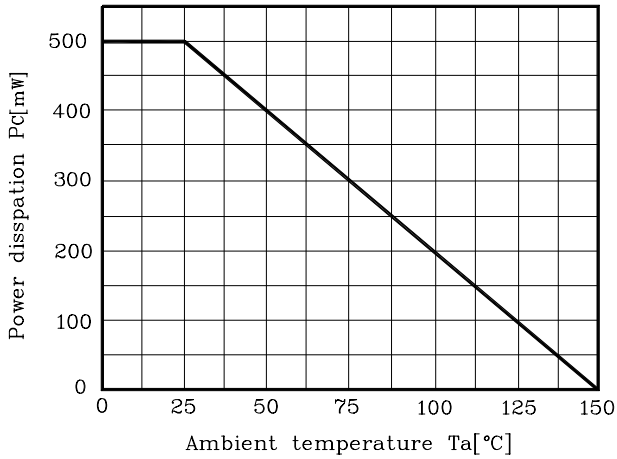


Fig. 2  $I_C - V_{BE}$

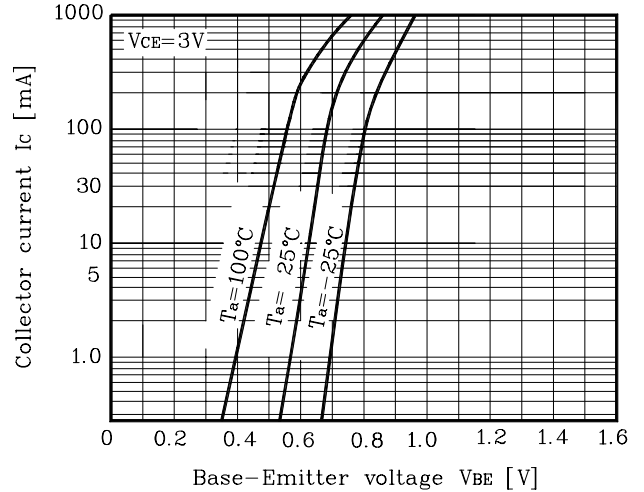


Fig. 3  $I_C - V_{CE}$

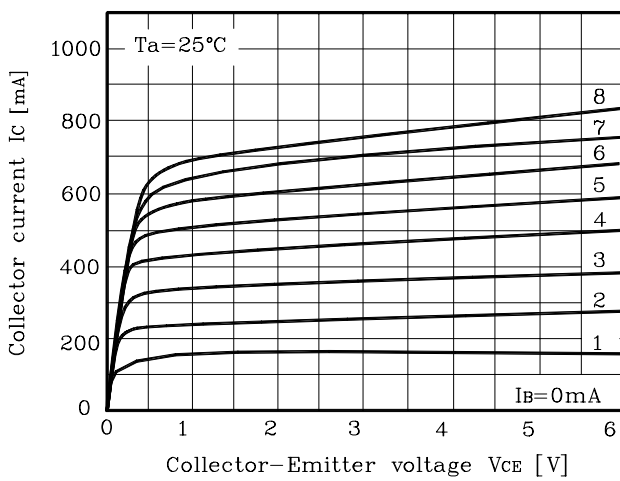


Fig. 4  $V_{CE(sat)} - I_C$

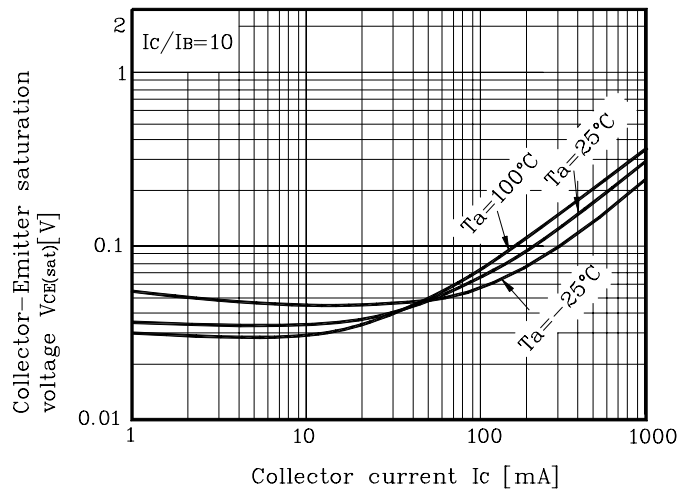


Fig. 5  $h_{FE} - I_C$

