

**Description**

- General small signal amplifier

**Features**

- Low collector saturation voltage :  $V_{CE(sat)} = -0.15V(\text{Max.})$
- Extremely small size package: 0.8x0.6x0.4 mm Typ.
- Complementary pair with NT331

**Ordering Information**

Type NO.	Marking	Package Code
NT332	P□	SOT-923

□:h<sub>FE</sub> rank

**Outline Dimensions**

unit : mm

The technical drawing includes three views of the transistor package: a top view, a side view, and a cross-sectional view. The top view shows a rectangular package with dimensions: width 0.90~1.10 mm, length 0.75~0.85 mm, and a height of 0.27 mm Max. Pin 1 is at the bottom center, pin 2 is at the top right, and pin 3 is at the top left. The side view shows a height of 0.05 mm Max. and a width of 0.36~0.42 mm. The cross-sectional view shows a height of 0.15 mm Max. The equivalent circuit is a PNP transistor with pins 1, 2, and 3. The pin connections are: 1. Base, 2. Emitter, 3. Collector.

**Equivalent Circuit**

**PIN Connections**

1. Base
2. Emitter
3. Collector

**Absolute Maximum Ratings**

(Ta=25°C)

Characteristic	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	-20	V
Collector-emitter voltage	$V_{CEO}$	-20	V
Emitter-base voltage	$V_{EBO}$	-5	V
Collector current	$I_C$	-50	mA
Collector power dissipation	$P_C$	50	mW
Junction temperature	$T_J$	150	°C
Storage temperature range	$T_{stg}$	-55~150	°C

**Electrical Characteristics**

(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-emitter breakdown voltage	$BV_{CEO}$	$I_C = -1\text{mA}$ , $I_B = 0$	-20	-	-	V
Collector cut-off current	$I_{CBO}$	$V_{CB} = -20\text{V}$ , $I_E = 0$	-	-	-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	$h_{FE}^*$	$V_{CE} = -6\text{V}$ , $I_C = -2\text{mA}$	120	-	400	-
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -50\text{mA}$ , $I_B = -5\text{mA}$	-	-	-0.15	V
Base-emitter voltage	$V_{BE}$	$V_{CE} = -6\text{V}$ , $I_C = -2\text{mA}$	-	-0.7	-0.9	V
Transition frequency	$f_T$	$V_{CE} = -10\text{V}$ , $I_C = -10\text{mA}$	-	200	-	MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = -10\text{V}$ , $I_E = 0$ , $f = 1\text{MHz}$	-	4	-	pF

\*:  $h_{FE}$  rank / Y : 120~240, G : 200~400

Electrical Characteristic Curves

Fig. 1  $P_C - T_a$

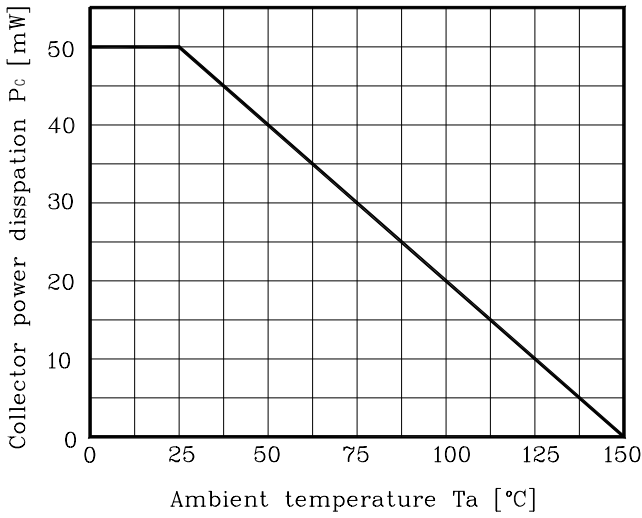


Fig. 2  $I_C - V_{BE}$

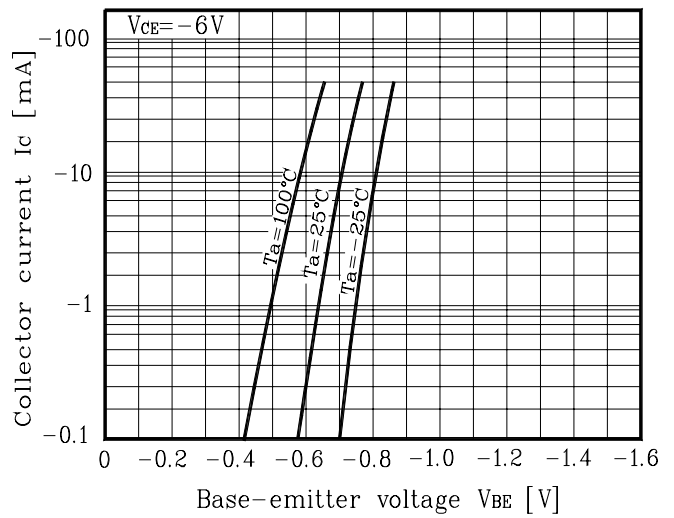


Fig. 3  $I_C - V_{CE}$

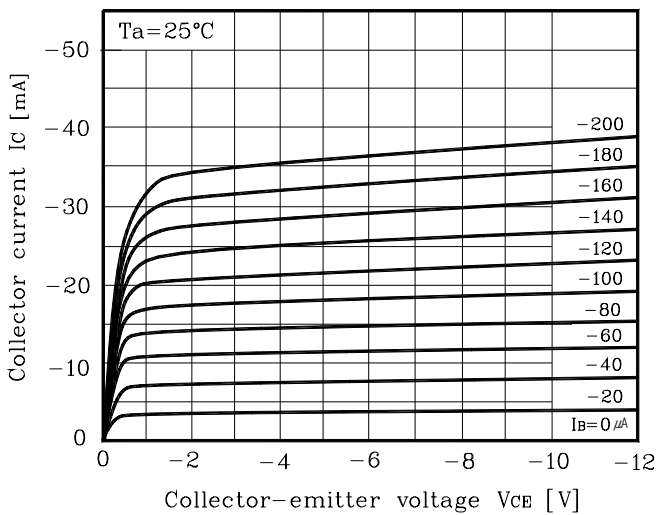


Fig. 4  $h_{FE} - I_C$

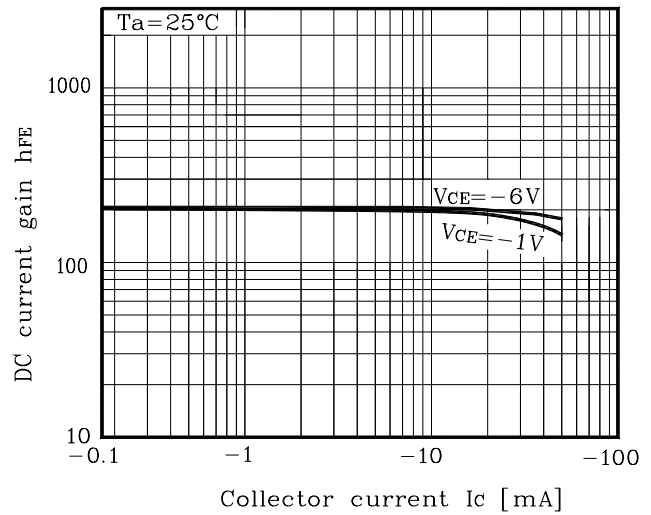


Fig. 5  $V_{CE(sat)} - I_C$

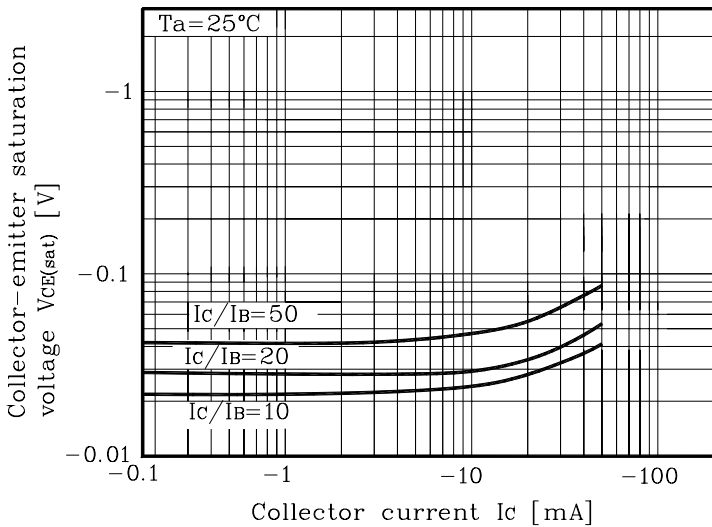
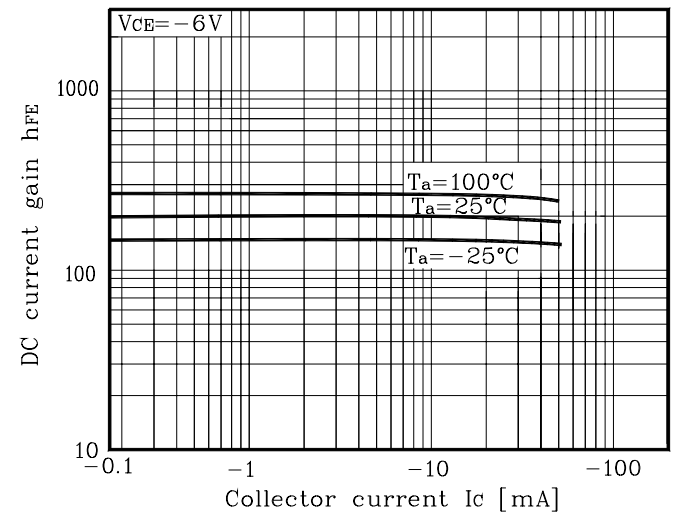


Fig. 6  $h_{FE} - I_C$



**The AUK Corp. products are intended for the use as components in general electronic equipment (Office and communication equipment, measuring equipment, home appliance, etc.).**

**Please make sure that you consult with us before you use these AUK Corp. products in equipments which require high quality and / or reliability, and in equipments which could have major impact to the welfare of human life(atomic energy control, airplane, spaceship, transportation, combustion control, all types of safety device, etc.). AUK Corp. cannot accept liability to any damage which may occur in case these AUK Corp. products were used in the mentioned equipments without prior consultation with AUK Corp..**

**Specifications mentioned in this publication are subject to change without notice.**