

Description

- General small signal amplifier

Features

- Low collector saturation voltage : $V_{CE(sat)}=0.15V(\text{Max.})$
- Extremely small size package: $0.8 \times 0.6 \times 0.4 \text{ mm Typ.}$
- Complementary pair with NT332

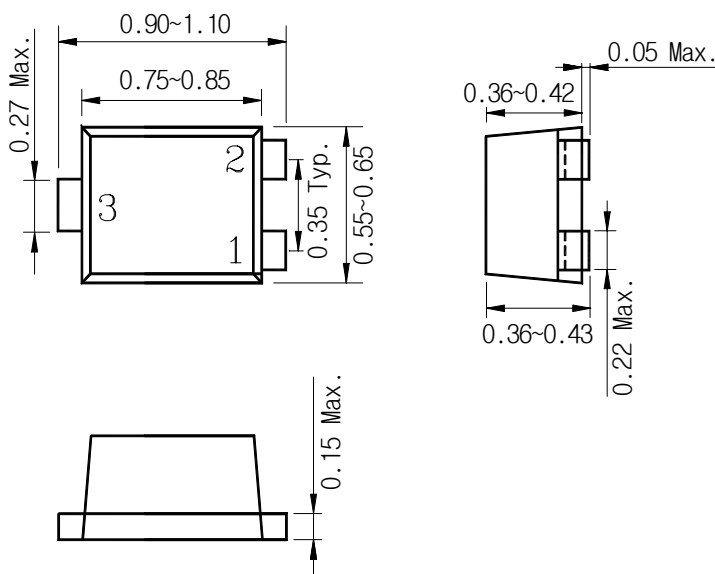
Ordering Information

Type NO.	Marking	Package Code
NT331	N□	SOT-923

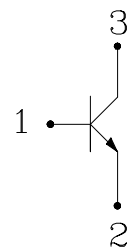
□: h_{FE} rank

Outline Dimensions

unit : mm



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}	30	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}	$I_C=1mA, I_B=0$	20	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB}=30V, I_E=0$	-	-	0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5V, I_C=0$	-	-	0.1	μA
DC current gain	h_{FE}^*	$V_{CE}=6V, I_C=2mA$	120	-	400	-
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=50mA, I_B=5mA$	-	-	0.15	V
Base-emitter voltage	V_{BE}	$V_{CE}=6V, I_C=2mA$	-	0.7	0.9	V
Transition frequency	f_T	$V_{CE}=10V, I_C=10mA$	-	200	-	MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$	-	2	-	pF

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

Electrical Characteristic Curves

Fig. 1 $P_C - T_a$

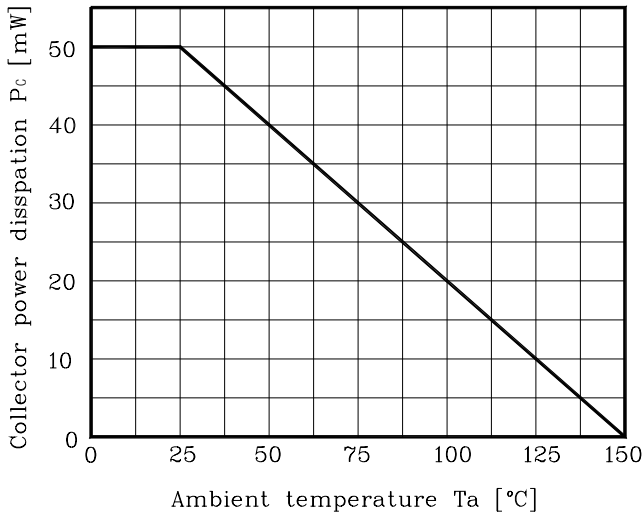


Fig. 2 $I_C - V_{BE}$

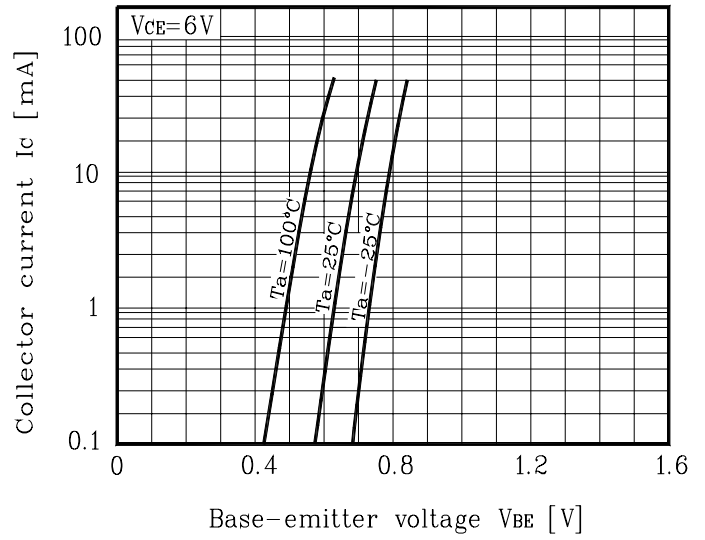


Fig. 3 $I_C - V_{CE}$

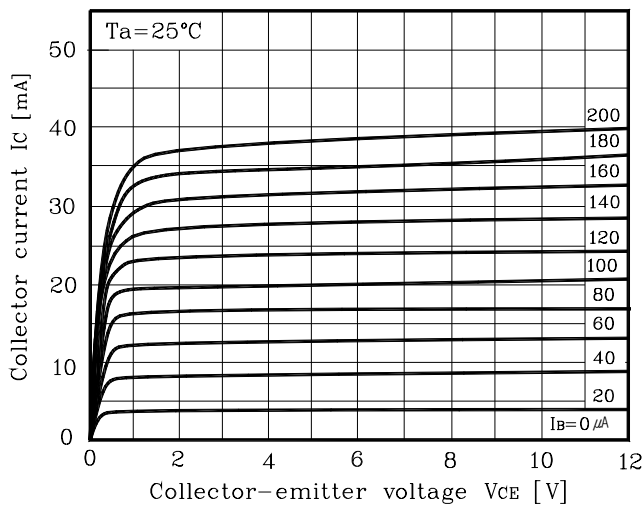


Fig. 4 $h_{FE} - I_C$

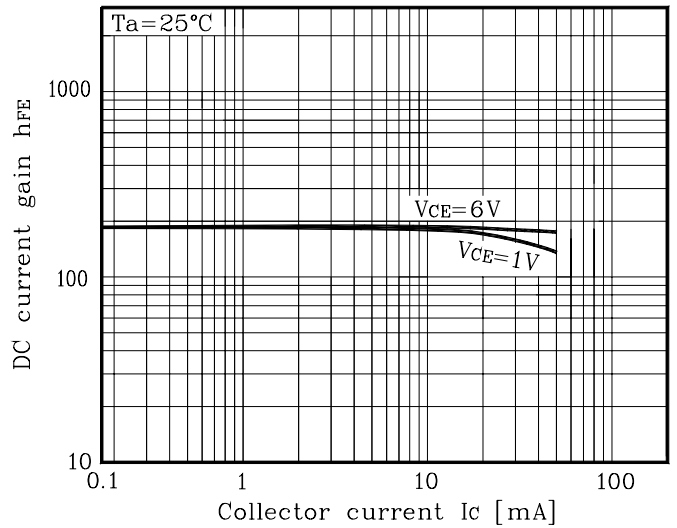


Fig. 5 $V_{CE(sat)} - I_C$

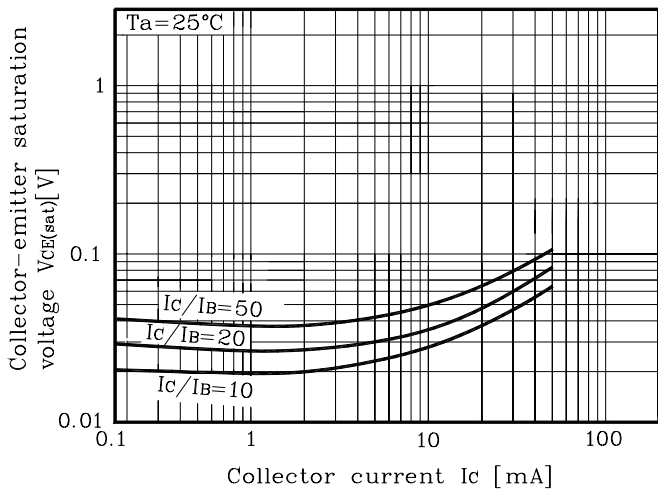
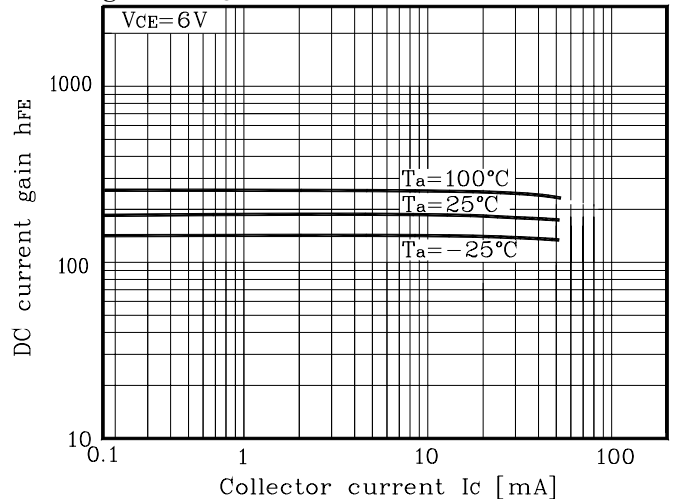


Fig. 6 $h_{FE} - I_C$



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