AUK Semiconductor

2N5401N

PNP Silicon Transistor

Description

- General purpose amplifier
- High voltage application

Features

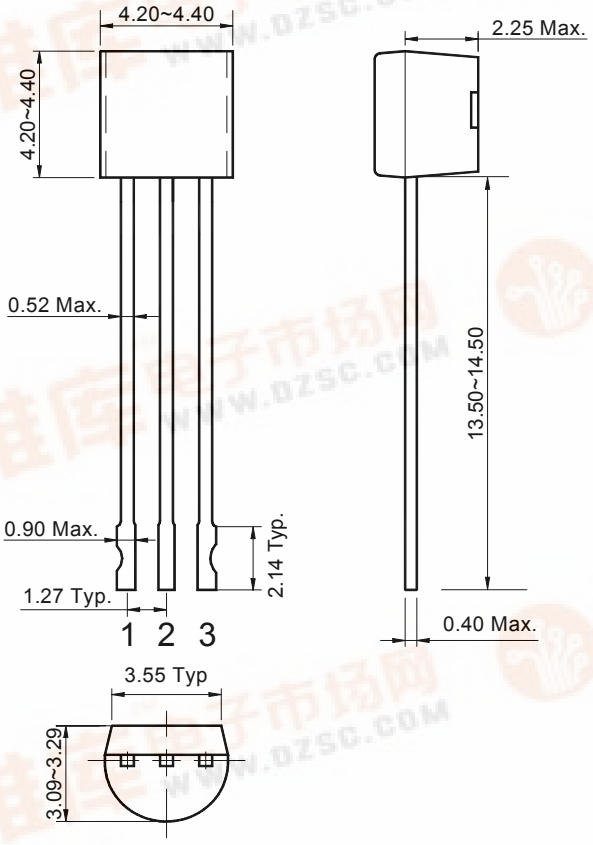
- High collector breakdown voltage : V_{CBO} = -160V, V_{CEO} = -160V
- Low collector saturation voltage : $V_{CE(sat)}$=-0.5V(MAX.)
- Complementary pair with 2N5551N

Ordering Information

Type NO.	Marking	Package Code
2N5401N	2N5401	TO-92N

Outline Dimensions

unit : mm



PIN Connections
1. Emitter
2. Base
3. Collector

Absolute Maximum Ratings (Ta=25°C)

Characteristic	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	-160	V
Collector-emitter voltage	V_{CEO}	-160	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-600	mA
Collector power dissipation	P_C	400	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	-160	-	-	V
Collector cut-off current	I_{CBO}	V_{CB}=-160V, I_E=0	-	-	-100	nA
Emitter cut-off current	I_{EBO}	V_{EB}=-5V, I_C=0	-	-	-100	nA
DC current gain	$h_{FE\ (1)}$	V_{CE}=-5V, I_C=-1mA	50	-		-
DC current gain	$h_{FE\ (2)}$	V_{CE}=-5V, I_C=-10mA	60	-	240	-
DC current gain	$h_{FE\ (3)}$	V_{CE}=-5V, I_C=-50mA	50	-		-
Collector-emitter saturation voltage	$V_{CE(sat)(1)}$*	I_C=-10mA, I_B=-1mA	-	-	-0.2	V
Collector-emitter saturation voltage	$V_{CE(sat)(2)}$*	I_C=-50mA, I_B=-5mA	-	-	-0.5	V
Base-emitter saturation voltage	$V_{BE(sat)(1)}$*	I_C=-10mA, I_B=-1mA	-	-	-1	V
Base-emitter saturation voltage	$V_{BE(sat)(2)}$*	I_C=-50mA, I_B=-5mA	-	-	-1	V
Base-emitter voltage	V_{BE}	V_{CE}=-5V, I_C=-50mA	-	-0.7	-0.9	V
Transition frequency	f_T	V_{CE}=-10V, I_C=-10mA	100	-	400	MHz
Collector output capacitance	C_{ob}	V_{CB}=-10V, I_E=0, f=1MHz	-	-	6	pF

* : Pulse Tester : Pulse Width ≤300μs, Duty Cycle ≤2.0%

Electrical Characteristic Curves

Fig. 1 Pc - Ta

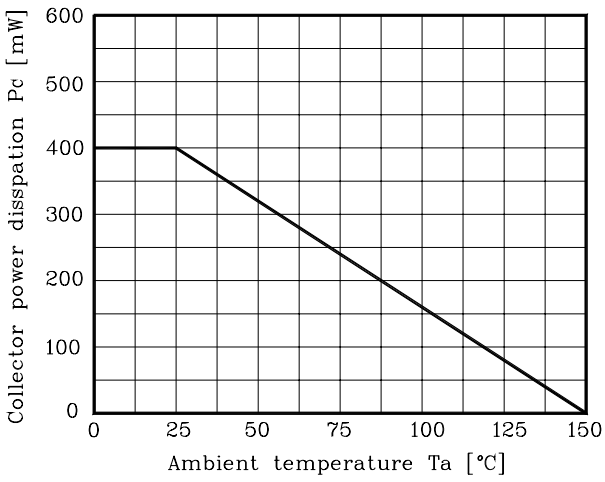


Fig. 2 I_C - V_{BE}

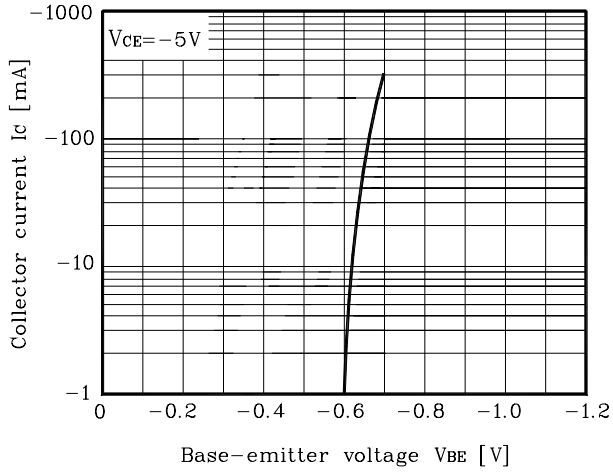


Fig. 3 f_T - I_C

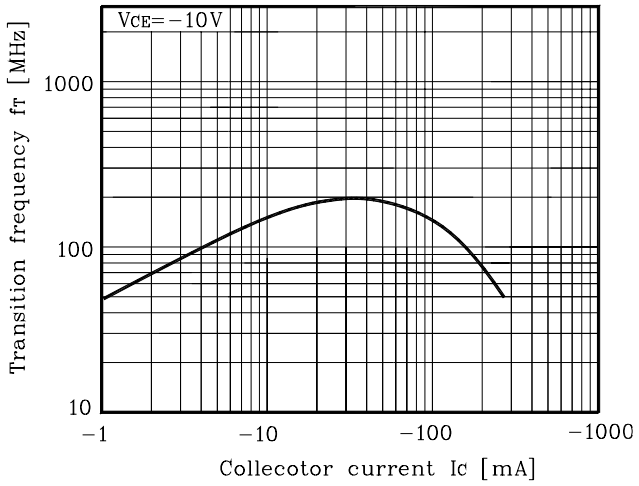


Fig. 4 $V_{CE(sat)}$, $V_{BE(sat)}$ - I_C

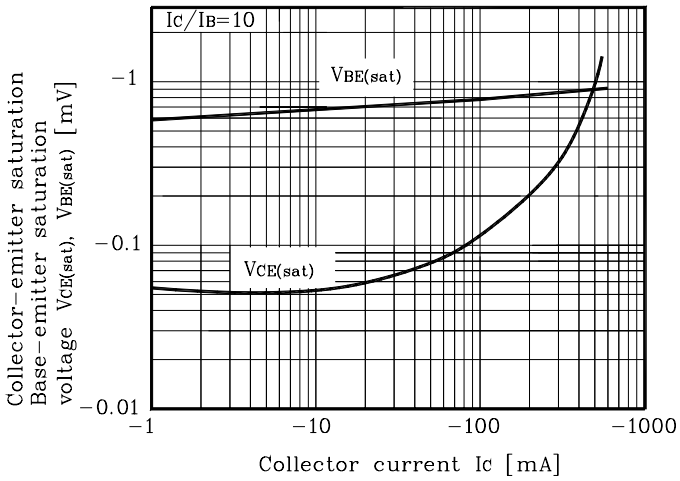
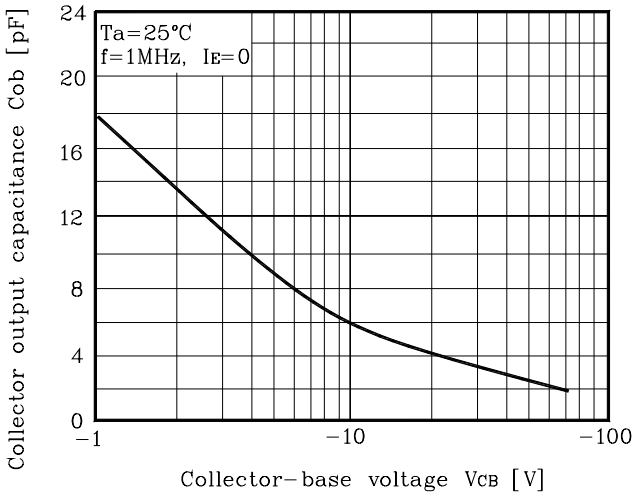


Fig. 5 C_{ob} - V_{CB}



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