AUK Semiconductor

DN100

NPN Silicon Transistor

Features

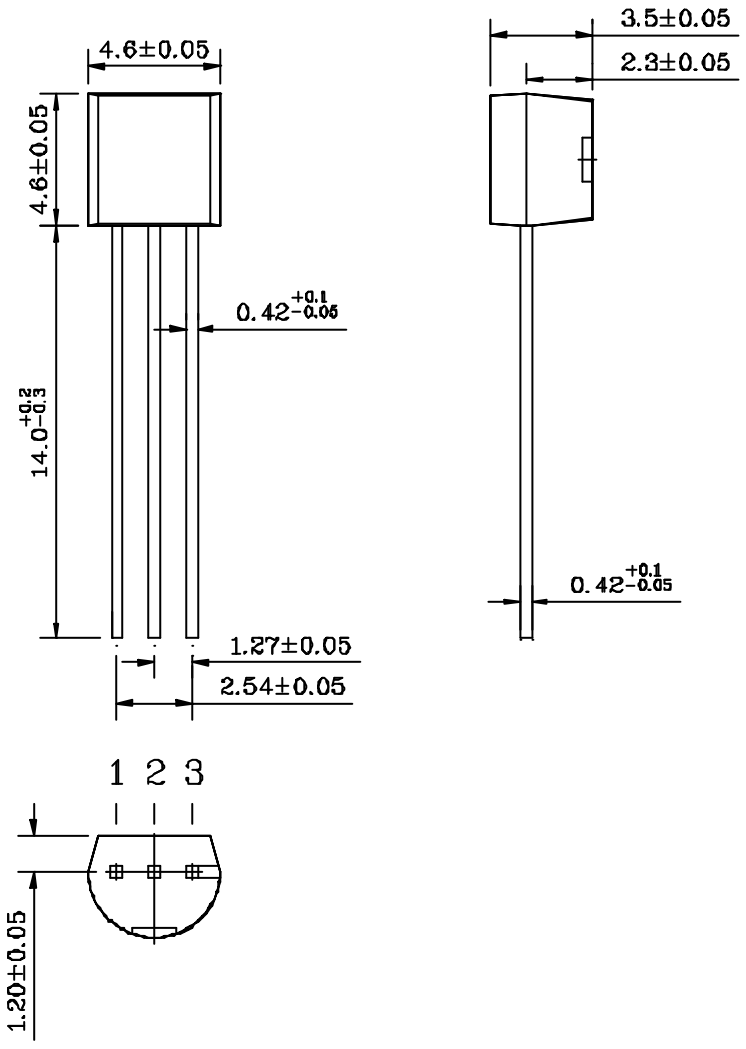
- Extremely low collector-to-emitter saturation voltage
  ($V_{CE(SAT)}$= 0.15V Typ. @I_C / I_B =400mA/20mA)
- Suitable for low voltage large current drivers
- Complementary pair with DP100
- Switching Application

Ordering Information

Type NO.	Marking	Package Code
DN100	DN100	TO-92

Outline Dimensions

unit : mm



PIN Connections
1. Emitter
2. Collector
3. Base

Absolute maximum ratings (Ta=25°C)

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V_{CBO}	15	V
Collector-Emitter voltage	V_{CEO}	12	V
Emitter-Base voltage	V_{EBO}	5	V
Collector current	I_C	1	A
Collector dissipation	P_C	625	mW
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=50μA, I_E=0	15	-	-	V
Collector-Emitter breakdown voltage	BV_{CEO}	I_C=1mA, I_B=0	12	-	-	V
Emitter-Base breakdown voltage	BV_{EBO}	I_E=50μA, I_C=0	5	-	-	V
Collector cut-off current	I_{CBO}	V_{CB}=12V, 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_{FE1}	V_{CE}=1V, I_C=100mA	200	-	450	-
	h_{FE2}	V_{CE}=1V, I_C=1A	70	-	-	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	I_C=400mA, I_B=20mA	-	-	0.25	V
Base-Emitter saturation voltage	$V_{BE(sat)}$	I_C=400mA, I_B=20mA	-	-	1.2	V
Transition frequency	f_T	V_{CE}=5V, I_C=50mA	-	260	-	MHz
Collector output capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz	-	5	-	pF

Electrical Characteristic Curves

Fig. 1 P_C - T_a

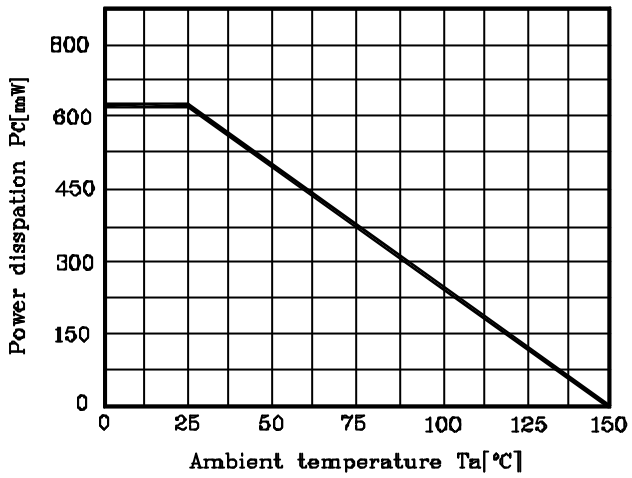


Fig. 2 I_C - V_{BE}

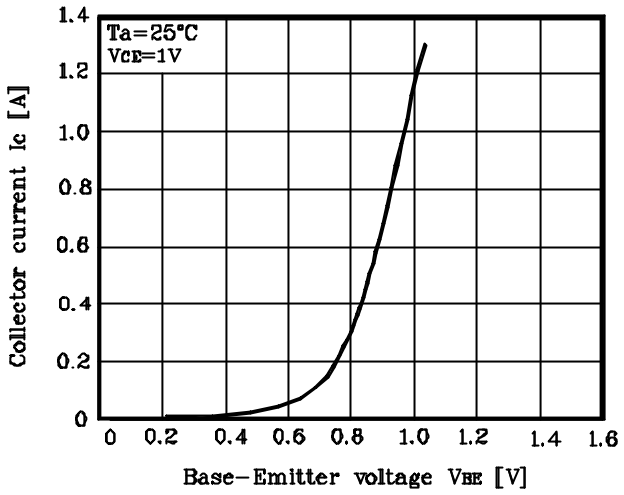


Fig. 3 h_{FE}- I_C

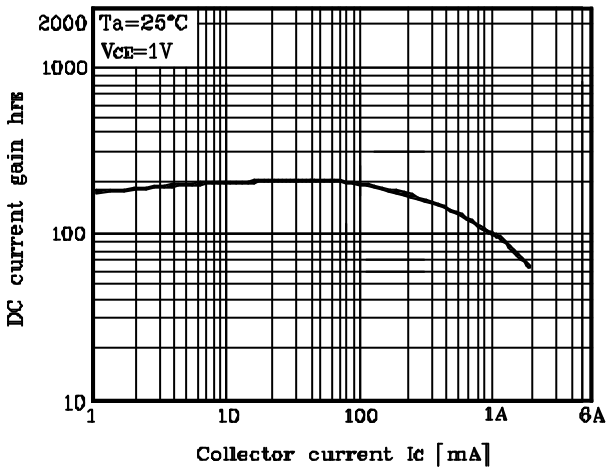
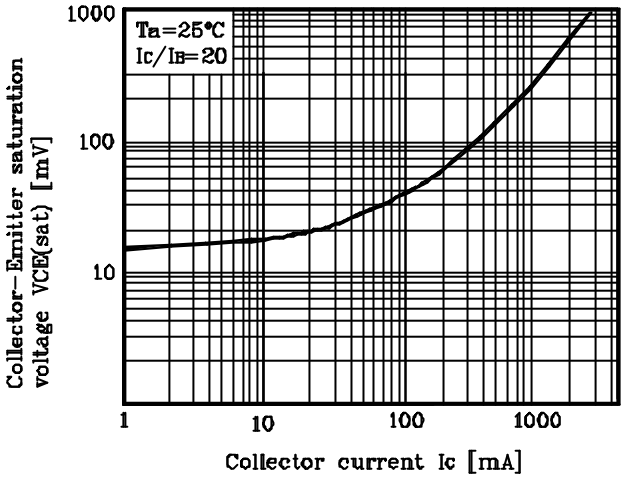



Fig. 4 $V_{CE(sat)}$-I_C