KODENSHI AUK

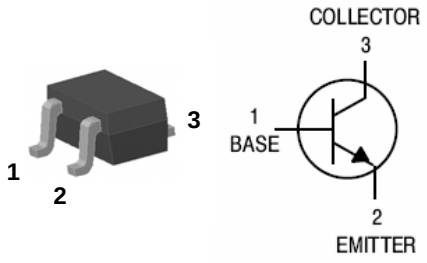
DN030U

NPN Silicon Transistor

Features

- Extremely low collector-to-emitter saturation voltage
  ($V_{CE(SAT)}$= 0.1V Typ. @I_C/I_B= 100mA/10mA)
- Suitable for low voltage large current drivers
- Complementary pair with DP030U
- Switching Application

PIN Connection



SOT-323

Ordering Information

Type NO.	Marking	Package Code
DN030U	NO1 □ ① ②	SOT-323F

①Device Code ② Year&Week Code

Absolute Maximum Ratings (Ta=25°C)

Characteristic	Symbol	Rating	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	300	mA
Collector power dissipation	P_C	200	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	12	-	-	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= 300mA※	70	-	-	-
Collector-emitter saturation voltage	$V_{CE(sat1)}$	I_C= 100mA, I_B= 10mA	-	-	0.2	V
	$V_{CE(sat2)}$	I_C= 300mA, I_B= 30mA※	-	-	0.5	
Base-emitter saturation voltage	$V_{BE(sat1)}$	I_C= 100mA, I_B= 10mA	-	-	1.2	V
	$V_{BE(sat2)}$	I_C= 300mA, I_B= 30mA※	-	-	1.7	V
Transition frequency	f_T	V_{CE}= 5V, I_C= 10mA	-	300	-	MHz
Collector output capacitance	C_{ob}	V_{CB}= 10V, I_E= 0, f= 1MHz	-	3	-	PF

※ Pulse test : $t_P \leq 250\mu s$, Duty cycle≤ 2%

Electrical Characteristic Curves

Fig. 1 P_C - T_a

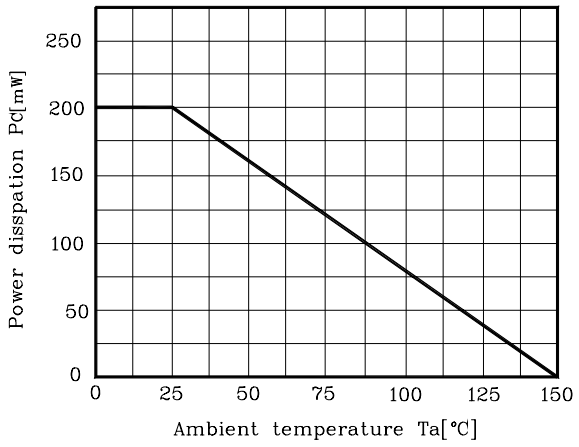


Fig. 2 I_C - V_{BE}

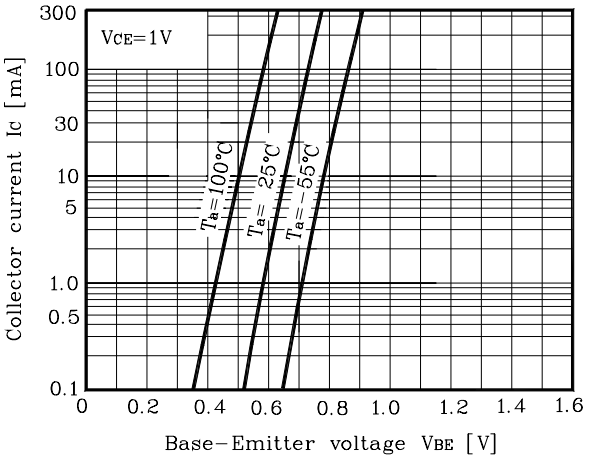


Fig. 3 I_C - V_{CE}

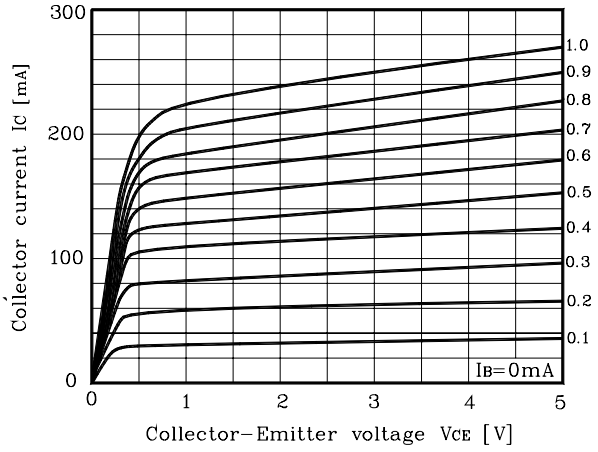


Fig. 4 h_{FE} - I_C

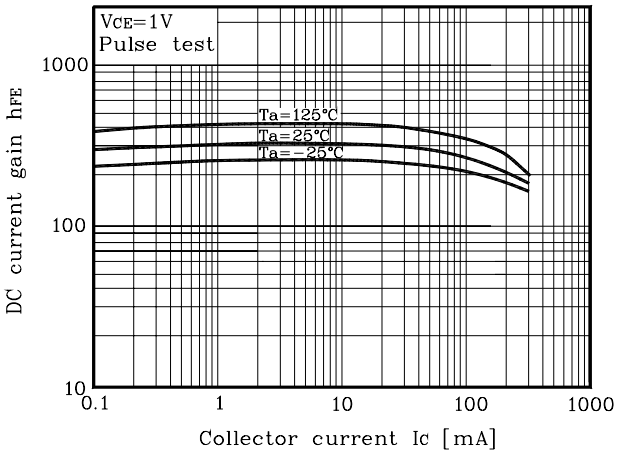
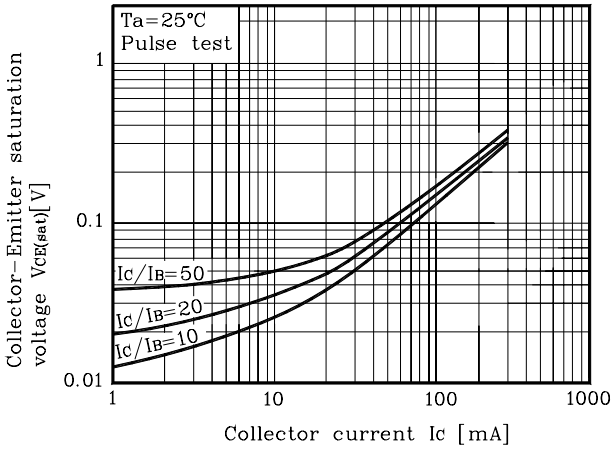
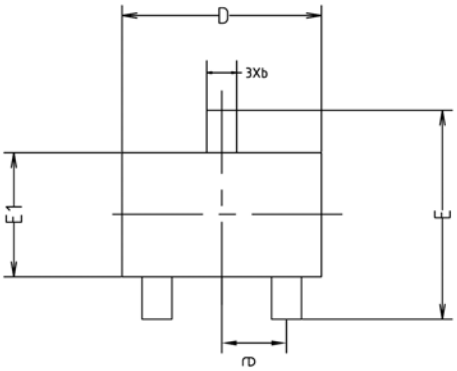
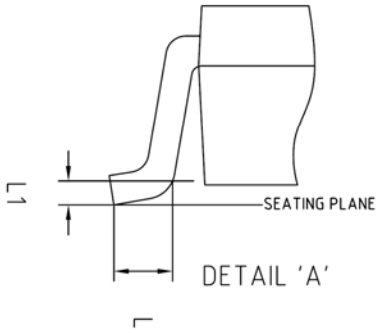


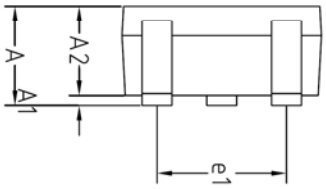
Fig. 5 $V_{CE(sat)}$ - I_C

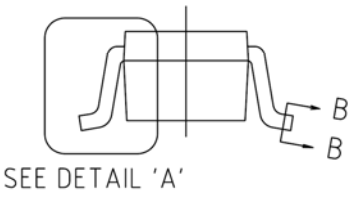


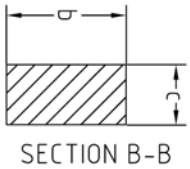
Outline Dimension





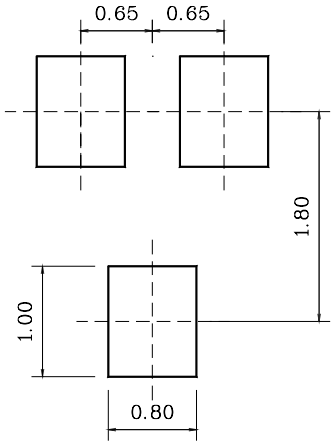






SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	0.90	-	1.25	
A1	0.00	-	0.10	
A2	0.85	0.90	0.95	
b	0.30	-	0.40	
c	0.10	-	0.25	
D	1.90	2.00	2.10	
E	1.95	2.10	2.25	
E1	1.15	1.25	1.35	
e	0.65BSC			
e1	1.20	-	1.40	
L	0.10	-	-	
L1	0.12BSC			

※Recommend PCB solder land [Unit: mm]



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