

BC846U

NPN Silicon Transistor

COLLECTOR

EMITTER

SOT-323

PIN Connection

Descriptions

- General purpose application
- Switching application

Features

• High Voltage: V_{CEO}=55V

• Complementary pair with BC856U

Ordering Information

Type NO.	Marking	Package Code
BC846U	<u>AS</u> □ □ ① ② ③	SOT-323

①Device Code ②hFE Rank ③Year&Week Code

Absolute maximum ratings

 $(Ta=25^{\circ}C)$

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V_{CBO}	80	V
Collector-Emitter voltage	V_{CEO}	55	V
Emitter-Base voltage	V_{EBO}	5	V
Collector current	Ic	100	mA
Collector dissipation	P _C	200	mW
Junction temperature	Tj	150	°C
Storage temperature	T _{stg}	-55~150	°C

Electrical Characteristics

(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Тур.	Max.	Unit
Collector-Emitter breakdown voltage	BV _{CEO}	$I_C=1$ mA, $I_B=0$	55	-	-	V
Base-Emitter turn on voltage	V _{BE(ON)}	$V_{CE}=5V$, $I_{C}=2mA$	550	-	700	mV
Base-Emitter saturation voltage	V _{BE(sat)}	$I_C=100\text{mA}, I_B=5\text{mA}$	-	900	-	mV
Collector-Emitter saturation voltage	V _{CE(sat)}	$I_C=100$ mA, $I_B=5$ mA	-	-	600	mV
Collector cut-off current	I _{CBO}	$V_{CB} = 35V, I_{E} = 0$	-	1	15	nA
DC current gain	h _{FE} *	$V_{CE}=5V$, $I_{C}=2mA$	110	-	800	-
Transition frequency	f _T	$V_{CE}=5V$, $I_{C}=10mA$	-	150	-	MHz
Collector output capacitance	C _{ob}	V _{CB} =10V, I _E =0, f=1MHz	-	-	4.5	pF
Noise figure	NF	V_{CE} =5V, I_{C} =200 μ A, f =1KHz, Rg =2K Ω	-	-	10	dB

^{* :} h_{FE} rank / A : 110 ~ 220, B : 200 ~ 450, C : 420 ~ 800

KSD-T5D029-000

Electrical Characteristic Curves

Fig. 1 $P_C - T_a$

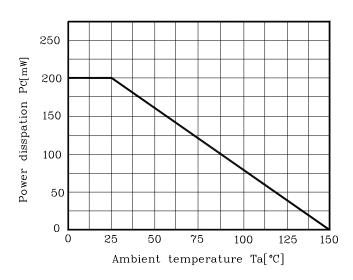


Fig. 2 I_C - V_{BE}

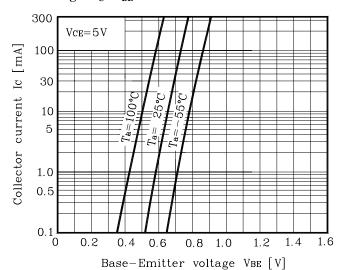


Fig. 3 I_C - V_{CE}

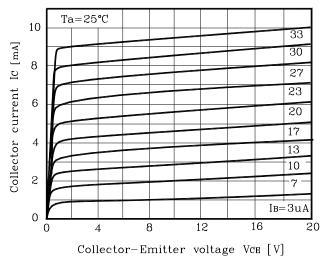


Fig. 4 h_{FE} - I_C

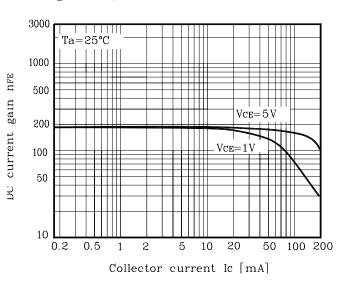
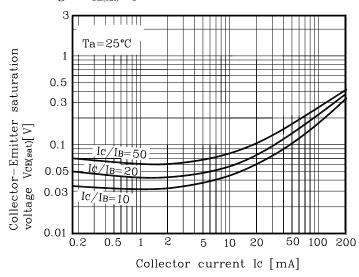
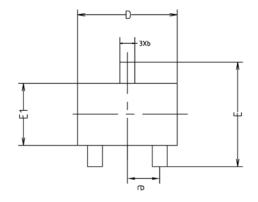
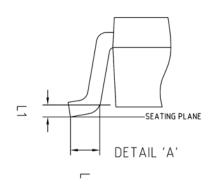


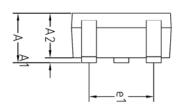
Fig. 5 $V_{CE(sat)}$ - I_C

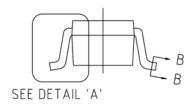


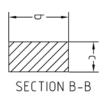
Outline Dimension





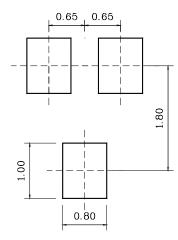






SYMBOL	1	NOTE			
STRIBOL	MINIMUM	NOMINAL	MAXIMUM	NUTE	
Α	0.90	-	1.25		
A1	0.00	-	0.10		
A2	0.85	0.90	0.95		
Ь	0.30	-	0.40		
С	0.10	-	0.25		
D	1.90	2.00	2.10		
Ε	1.95	2.10	2.25		
E1	1.15	1.25	1.35		
е	0.65BSC				
e1	1.20	-	1.40		
L	0.10	-	-		
11	0.12BSC				

*Recommend PCB solder land [Unit: mm]



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