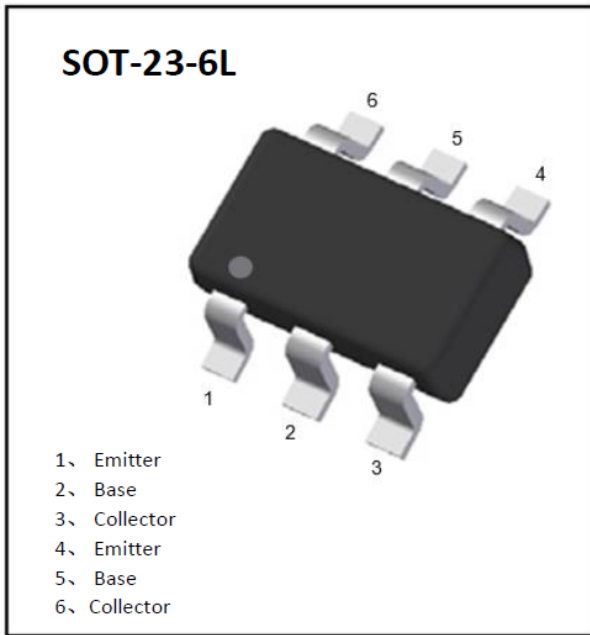


NPN+PNP Transistor



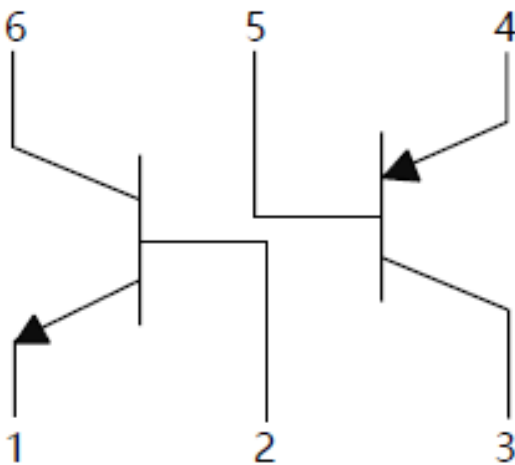
Features

- Epoxy meets UL-94 V-0 flammability rating
- Surface mount package ideally Suited for Automatic Insertion
- NPN+PNP

Mechanical Data

- **Package:** SOT-23-6L
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** 8017

■Equivalent circuit



■ Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BC817DPN	F2	Approximate 0.009g	3000	30000	120000	7" reel



BC817DPN

■ NPN Transistor (Pin1、2、6) Maximum Ratings (Ta=25°C Unless otherwise specified)

Item	Symbol	Unit	Value
Collector-Base Voltage	V_{CBO}	V	50
Collector-Emitter Voltage	V_{CEO}	V	45
Emitter -Base Voltage	V_{EBO}	V	5
Collector Current	I_C	mA	500
Collector Power Dissipation	P_C	mW	330
Operation Junction Temperature	T_j	°C	150
Storage Temperature	T_{stg}	°C	-55 to +150

■ PNP Transistor (Pin3、4、5) Maximum Ratings (Ta=25°C Unless otherwise specified)

Item	Symbol	Unit	Value
Collector-Base Voltage	V_{CBO}	V	-50
Collector-Emitter Voltage	V_{CEO}	V	-45
Emitter -Base Voltage	V_{EBO}	V	-5
Collector Current	I_C	mA	-500
Collector Power Dissipation	P_C	mW	330
Operation Junction Temperature	T_j	°C	150
Storage Temperature	T_{stg}	°C	-55 to +150

■ NPN Transistor (Pin1、2、6) Electrical Characteristics (Ta=25°C unless otherwise specified)

Item	Symbol	Unit	Conditions	MIN	MAX
Collector-Emitter Voltage	V_{CEO}	V	$I_C=10\text{mA}, I_B=0$	45	-
Collector-Base Voltage	V_{CBO}	V	$I_C=10\text{mA}, I_E=0$	50	-
Emitter-Base Voltage	V_{EBO}	V	$I_E=1\text{mA}, I_C=0$	5.0	-
Emitter-base Cut-off Current	I_{EBO}	nA	$V_{EB}=5\text{Vdc}, I_C=0$	-	100
Collector-base Cut-off Current	I_{CBO}	nA	$V_{CB}=20\text{Vdc}, I_E=0$	-	100
DC Current Gain	h_{FE1}		$I_C=100\text{mA}, V_{CE}=1.0\text{Vdc}$	160	400
	h_{FE2}		$I_C=500\text{mA}, V_{CE}=1.0\text{Vdc}$	40	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	$I_C=500\text{mA}, I_B=50\text{mA}$	-	0.7
Base-Emitter Saturation Voltage	V_{BE}	V	$I_C=500\text{mA}, V_{CE}=1.0\text{Vdc}$	-	1.2
Transition frequency	f_T	MHz	$I_C=10\text{mA}, V_{CE}=5.0\text{V}, f=100\text{MHz}$	100	-

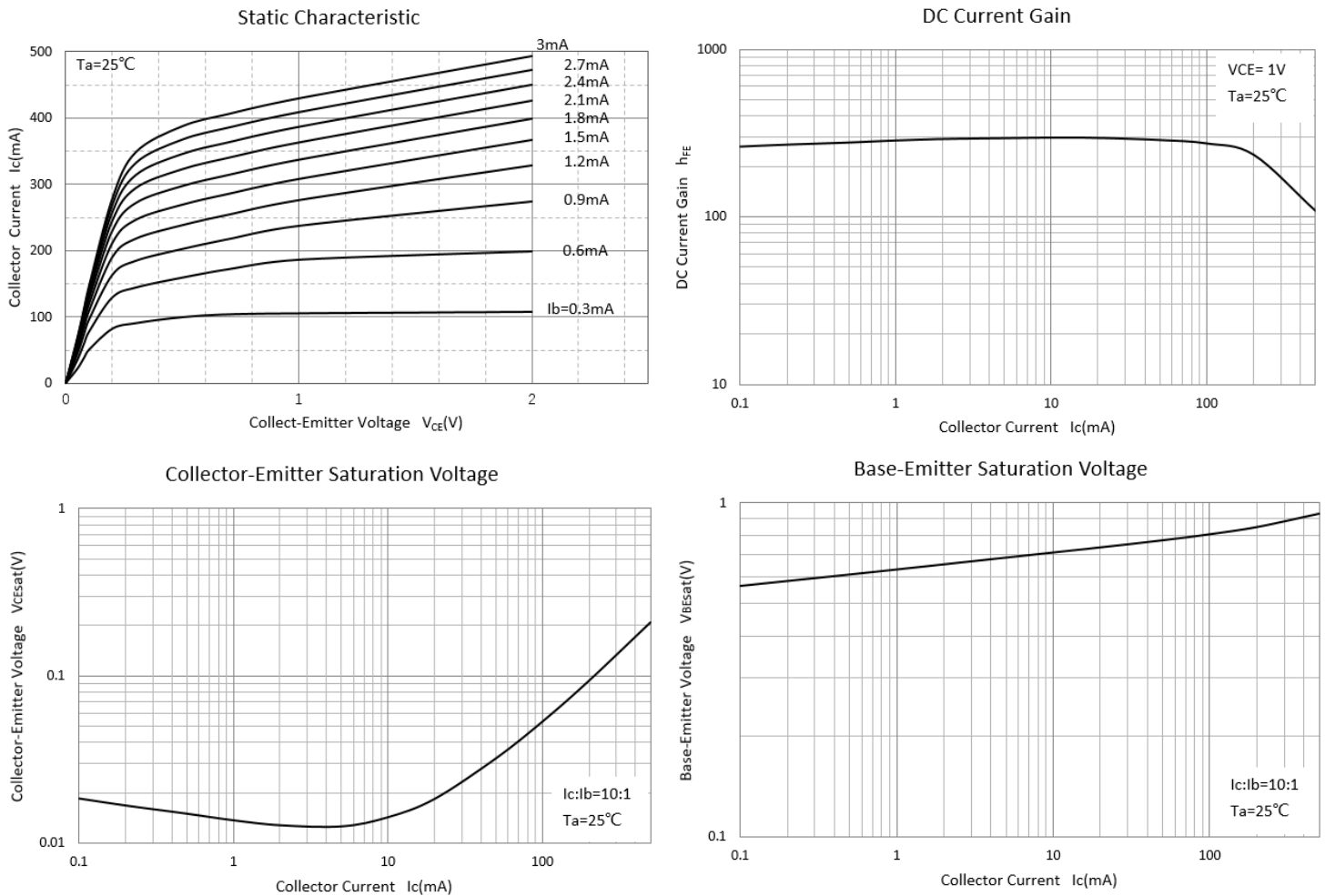


BC817DPN

■PNP Transistor (Pin3、4、5) Electrical Characteristics (Ta=25°C unless otherwise specified)

Item	Symbol	Unit	Conditions	MIN	MAX
Collector-Emitter Voltage*	V_{CE0}	V	$I_C=-10\text{mAdc}$, $I_B=0$	-45	-
Collector-Base Voltage	V_{CBO}	V	$I_C=-10\text{uAdc}$, $I_E=0$	-50	-
Emitter-Base Voltage	V_{EBO}	V	$I_E=-1\text{uAdc}$, $I_C=0$	-5.0	-
Emitter-base Cut-off Current	I_{EBO}	nA	$V_{EB}=-5\text{Vdc}$, $I_C=0$	-	-100
Collector-base Cut-off Current	I_{CBO}	nA	$V_{CB}=-20\text{Vdc}$, $I_E=0$	-	-100
DC Current Gain	h_{FE1}		$I_C=-100\text{mAdc}$, $V_{CE}=-1.0\text{Vdc}$	160	400
	h_{FE2}		$I_C=-500\text{mAdc}$, $V_{CE}=-1.0\text{Vdc}$	40	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	$I_C=-500\text{mAdc}$, $I_B=-50\text{mAdc}$	-	-0.7
Base-Emitter Saturation Voltage	V_{BE}	V	$I_C=-500\text{mAdc}$, $V_{CE}=-1.0\text{Vdc}$	-	-1.2
Transition frequency	f_T	MHz	$I_C=-10\text{mA}$, $V_{CE}=-5.0\text{V}$, $f=100\text{MHz}$	100	-

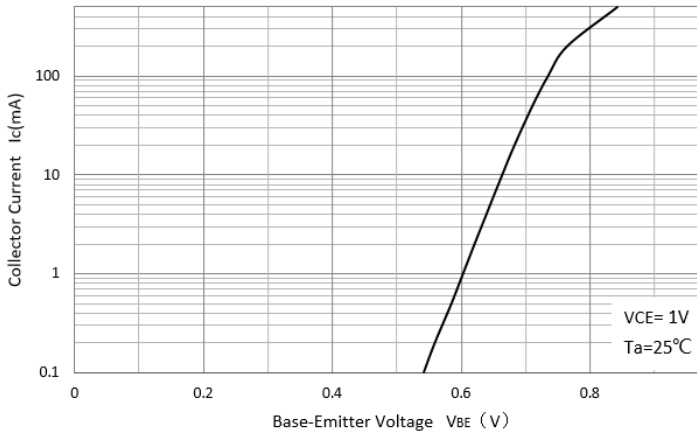
■ NPN Transistor (Pin1、2、6) Characteristics (Typical)



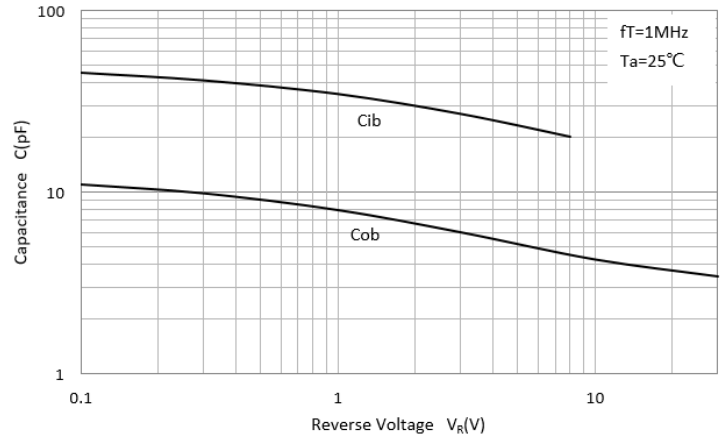


BC817DPN

Base-Emitter On Voltage

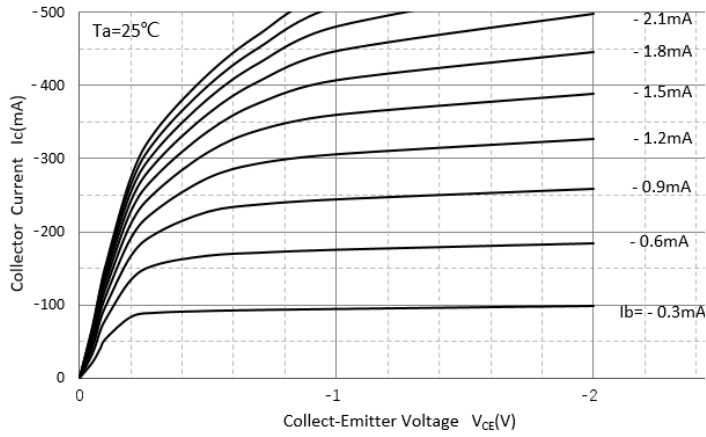


Cob/Cib-VCE/VEB

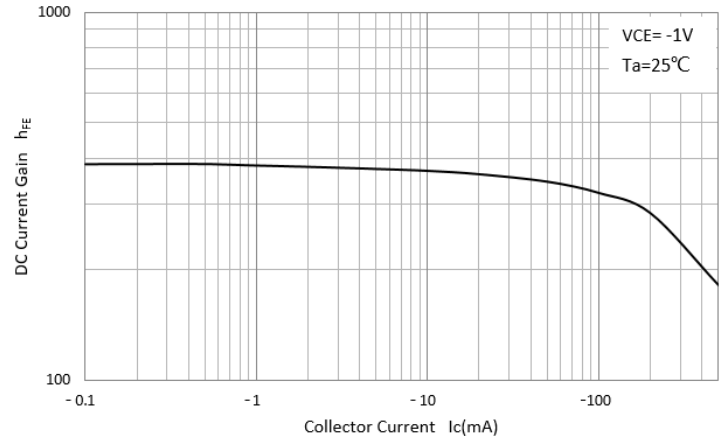


■ PNP Transistor (Pin3、4、5) Characteristics (Typical)

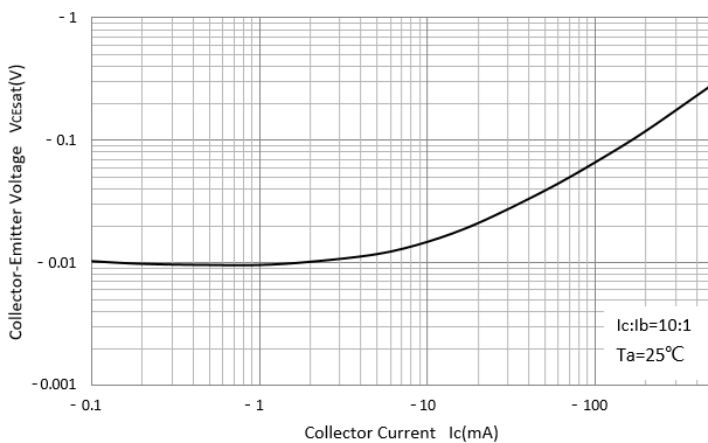
Static Characteristic



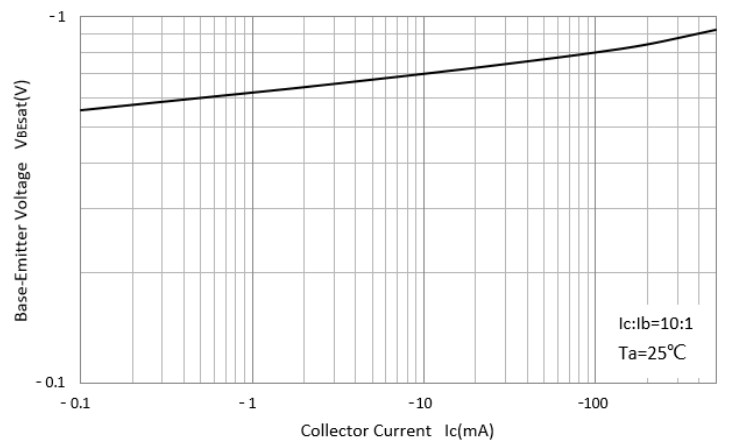
DC Current Gain



Collector-Emittor Saturation Voltage



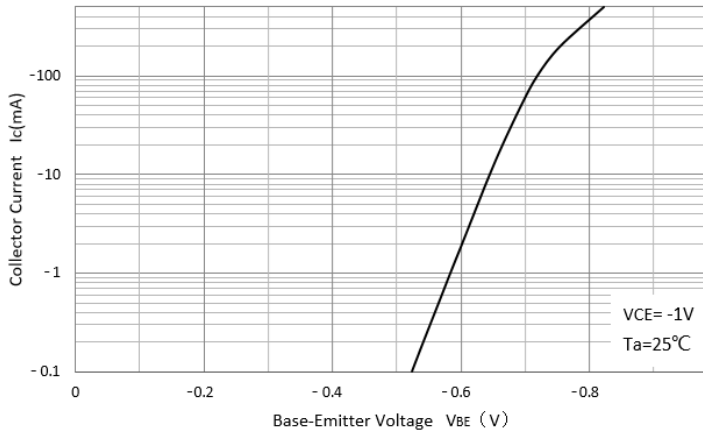
Base-Emittor Saturation Voltage



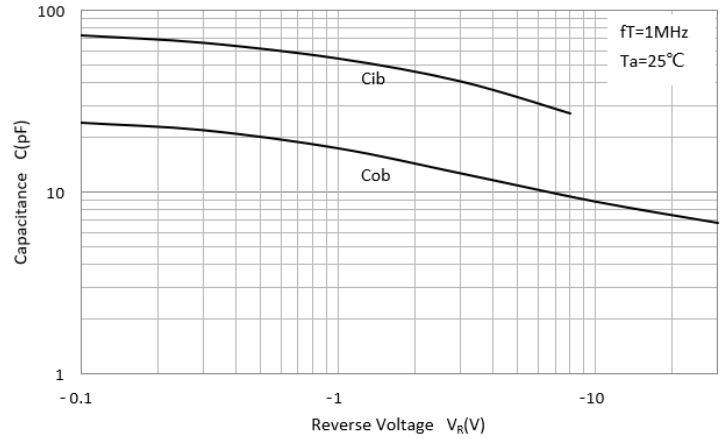


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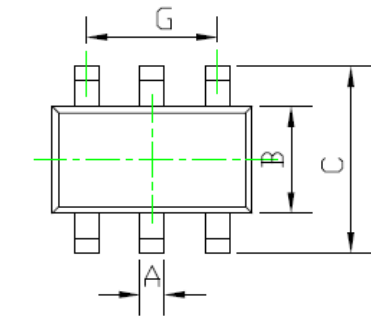
Base-Emitter On Voltage



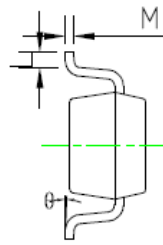
Cob/Cib- V_{CB}/V_{EB}



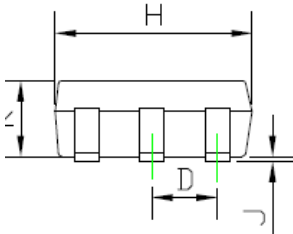
■ SOT-23-6L Package information



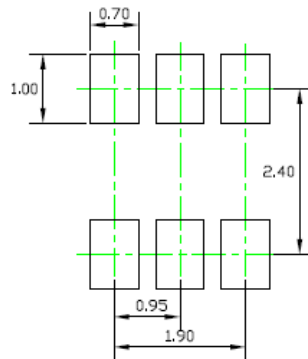
TOP VIEW



SIDE VIEW



SIDE VIEW



Suggested Solder Pad Layout

Note:
 1, Controlling dimension in millimeters,
 2, General tolerance: $\pm 0.05\text{mm}$,
 3, The pad layout is for reference purposes only.

DIMENSIONS				
SYMBOL	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.012	0.020	0.300	0.500
B	0.059	0.067	1.500	1.700
C	0.104	0.116	2.650	2.950
D	0.037BSC		0.950BSC	
G	0.075BSC		1.900BSC	
H	0.111	0.119	2.820	3.020
J	0.000	0.004	0.000	0.100
K	0.041	0.045	1.050	1.150
L	0.012	0.024	0.300	0.600
M	0.004	0.008	0.100	0.200
e	0°	8°	0°	8°



BC817DPN

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