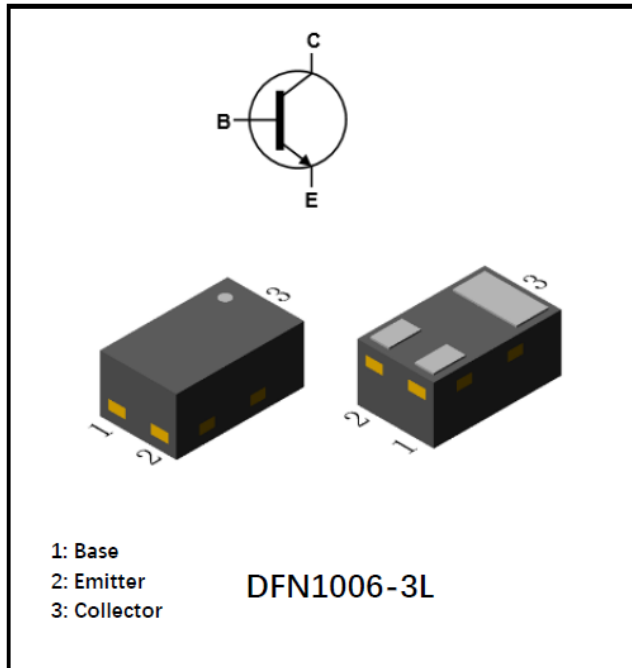


## NPN General Purpose Transistor



### Features

- Lead Free Finish/RoHS Compliant
- Small package saves board space
- Moisture Sensitivity Level 3

### Mechanical Data

- **Package:** DFN1006-3L
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** D5

### ■Maximum Ratings (Ta=25°C Unless otherwise specified)

Symbol	Parameter	Value	Unit
VCBO	Collector-Base Voltage	50	V
VCEO	Collector-Emitter Voltage	45	V
VEBO	Emitter-Base Voltage	6	V
IC	Collector Current	100	mA
PC	Collector Power Dissipation	100	mW
Tj	Junction Temperature	-55~+150	°C
Tstg	Storage Temperature	-55~+150	°C

### ■Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BC847BM	Approximate 0.89	10K	100K	400K	Tape & Reel

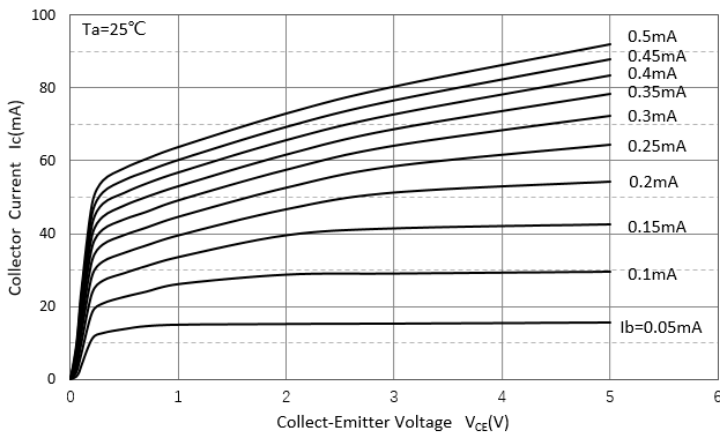
**■Electrical Characteristics** (T<sub>a</sub>=25°C Unless otherwise specified)

Parameter	Symbol	Test conditions	Min	TYP	Max	Unit
Collector-base breakdown voltage	V <sub>CBO</sub>	IC= 10μA, IE=0	50	-	-	V
Collector-emitter breakdown voltage	V <sub>CEO</sub>	IC= 10mA, IB=0	45	-	-	V
Emitter-base breakdown voltage	V <sub>EBO</sub>	IE= 10μA, IC=0	6	-	-	V
Collector-base cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =30 V ,IE=0	-	-	15	nA
Emitter-base cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =5 V , IC=0	-	-	100	nA
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> = 5V, IC= 2mA	200	-	450	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	IC=10mA, IB= 0.5mA	-	-	200	mV
	V <sub>CE(sat)</sub>	IC=100mA, IB= 5mA	-	-	400	mV
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	IC=100mA, IB= 5mA	-	0.9	1.1	V
Base-emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> = 5V, IC= 2mA	580	-	700	mV
	V <sub>BE</sub>	V <sub>CE</sub> =5V, IC= 10mA	-	-	770	mV
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =5V, IC= 10mA f=100MHz	100	-	-	MHz
Collector-base output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V,f=1MHz	-	-	4.5	pF

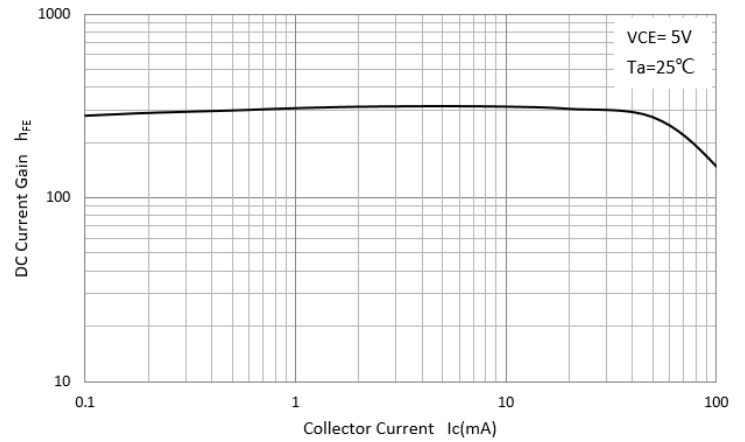


## ■ Characteristics (Typical)

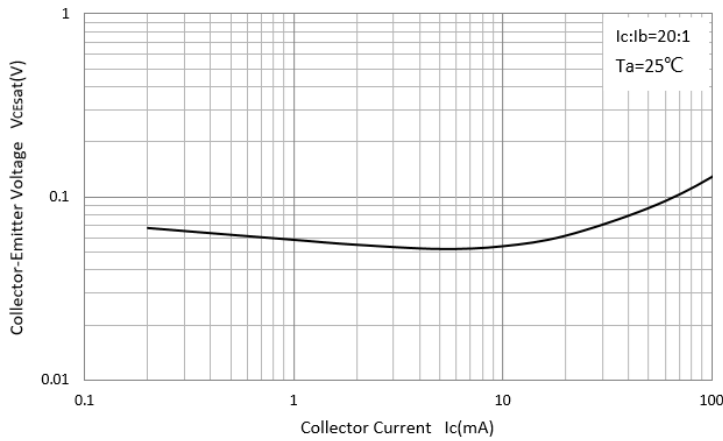
### Static Characteristic



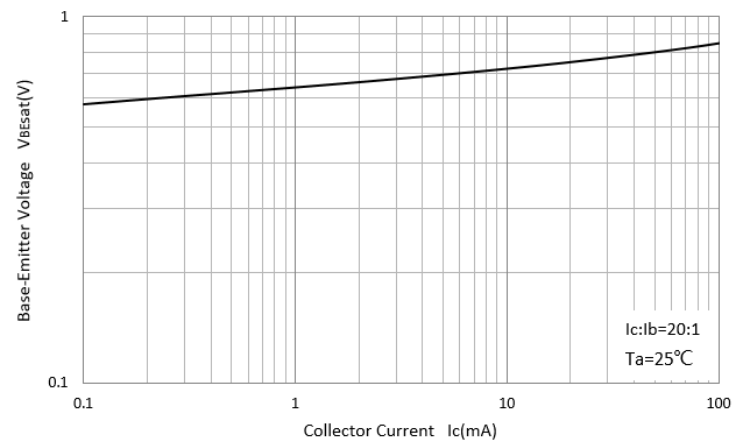
### DC Current Gain



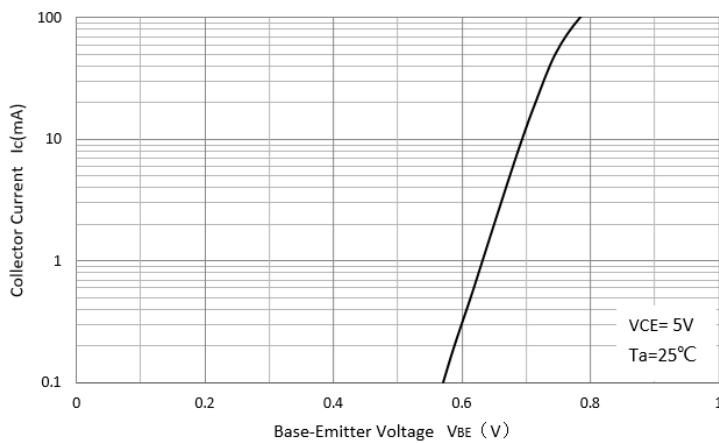
### Collector-Emitter Saturation Voltage



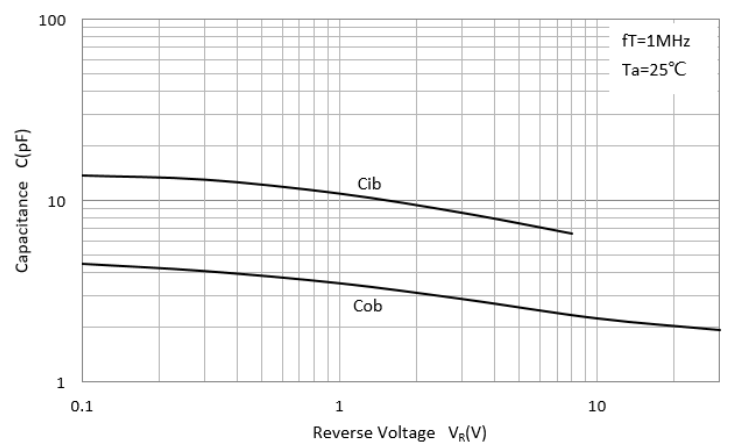
### Base-Emitter Saturation Voltage



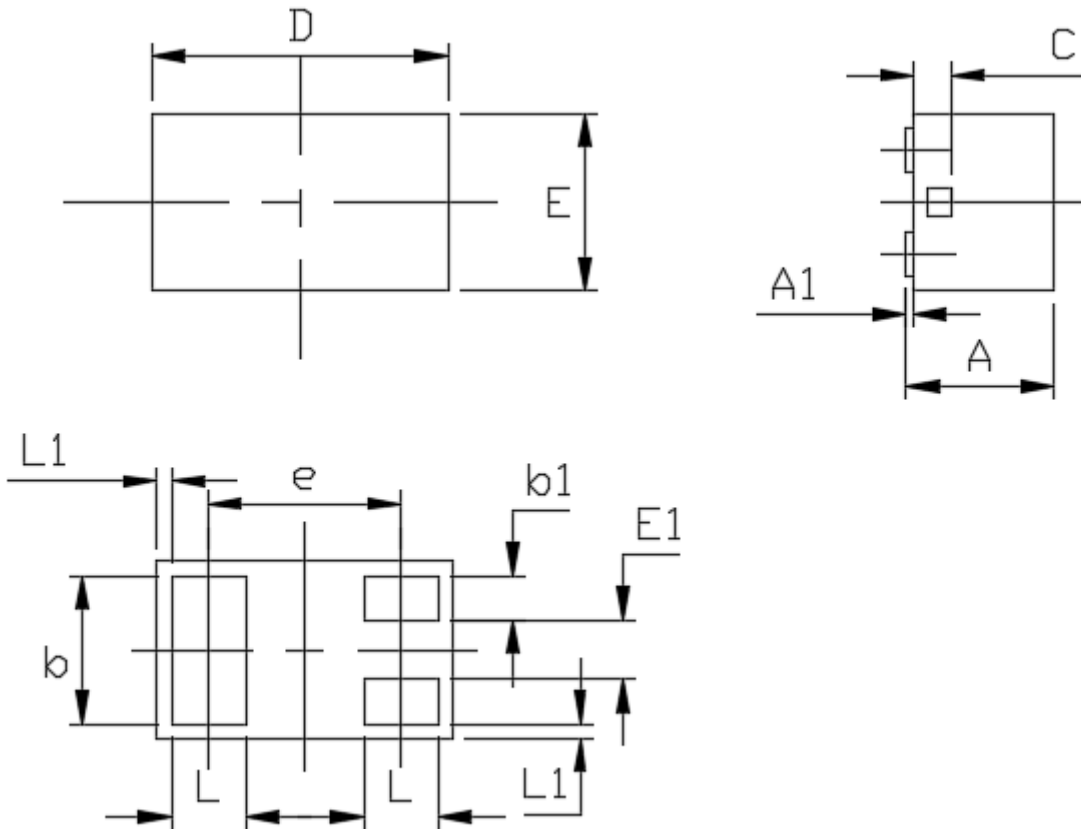
### Base-Emitter On Voltage



### $C_{ob}/C_{ib}-V_{CB}/V_{EB}$

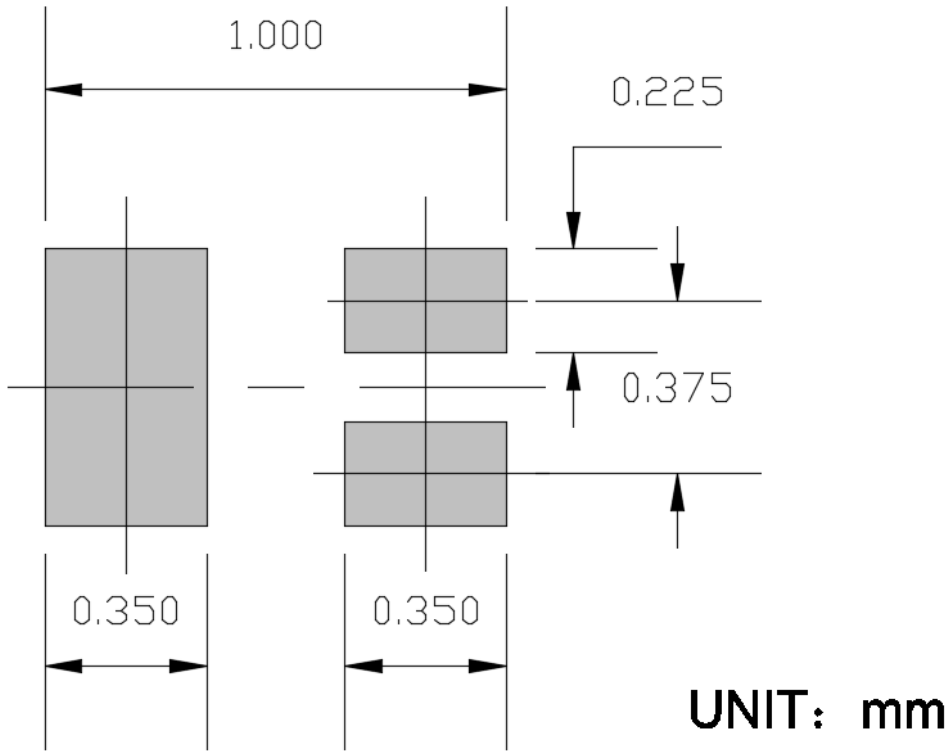


## ■Outline Dimensions



DIMENSIONS				
SYMBOL	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.017	0.022	0.420	0.550
A1	0.001REF		0.025REF	
b	0.018	0.022	0.450	0.550
b1	0.004	0.008	0.100	0.200
C	0.005	0.007	0.120	0.180
D	0.037	0.041	0.950	1.050
E	0.022	0.026	0.550	0.650
E1	0.006	0.010	0.150	0.250
e	0.026BSC		0.650BSC	
L	0.008	0.012	0.200	0.300
L1	0.002REF		0.050REF	

■ Soldering Footprint





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