

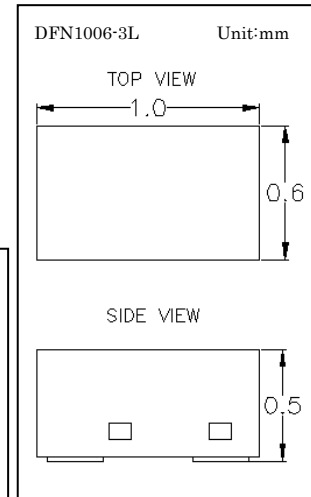
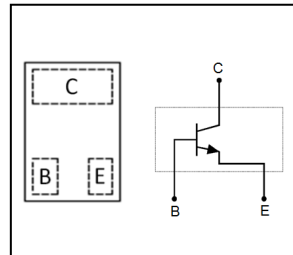
DATA SHEET ``` (preliminary) ```

BC846A/BD2

- ◇ For Complementary PNP Type BC856
- ◇ Epoxy Meets UL 94 V-0 Flammability Rating
- ◇ RoHS compliant / Green EMC

Device Marking Code	
BC846AD2	1A
BC846BD2	1B

Circuit Diagram



Maximum Ratings (Ta=25°C Unless Otherwise Noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	65	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	100	mA
P_C	Collector Power Dissipation*	225	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	556	°C/W
T_j	Junction Temperature	150	°C
T_{stg}	Storage Temperature	-55~+150	°C

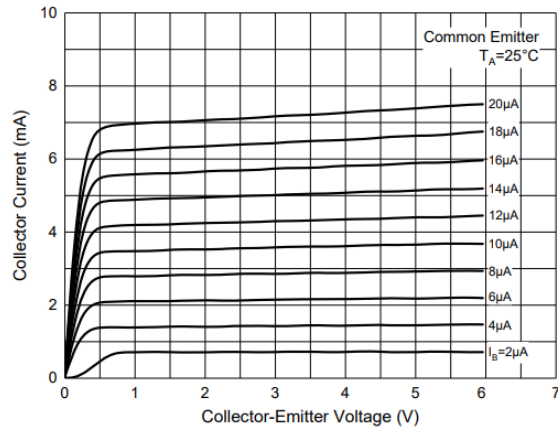
*Device mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint.

Electrical Characteristics @25°C Unless Otherwise Noted

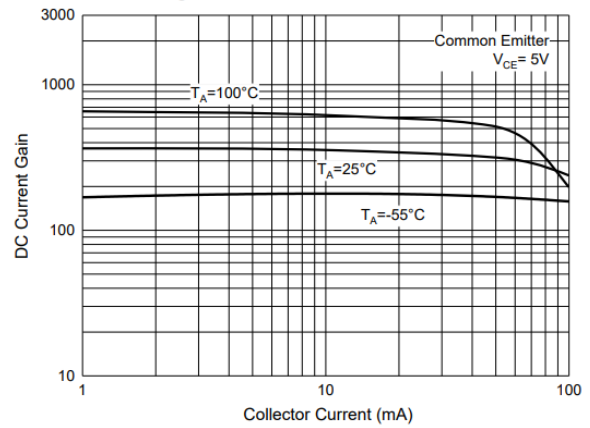
Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=10mA, I_B=0$	65			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=10\mu A, I_E=0$	80			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=10\mu A, I_C=0$	6.0			V
I_{CBO}	Collector-Base Cutoff Current	$V_{CB}=30V, I_E=0V$			15	nA
I_{CEO}	Collector-Emitter Cutoff Current	$V_{CE}=30V, I_B=0$			1	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5V, I_C=0$			100	nA
h_{FE}	DC Current Gain*	$V_{CE}=5V$ $I_C=2mA$	BC846AD2 110		220	
			BC846BD2 200		450	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=10mA, I_B=0.5mA$		0.09	0.3	V
		$I_C=100mA, I_B=5mA$		0.2	0.6	
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=10mA, I_B=0.5mA$		0.7	0.9	V
		$I_C=100mA, I_B=5mA$		0.9	1.1	
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE}=5V, I_C=2mA$	0.54		0.7	V
		$V_{CE}=5V, I_C=10mA$			0.77	
f_T	Transition frequency	$I_C=10mA,$ $V_{CE}=5V, f=100MHz$	100			MHZ
Cob	Collector Output Capacitance	$V_{CB}=10V, f=1MHz$			4.5	pF

* Pluse Width $\leq 300\mu s$, Duty Cycle $\leq 2.0\%$

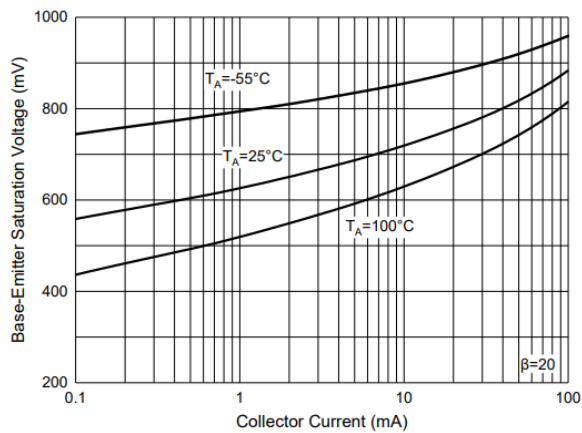
Typical Characteristics



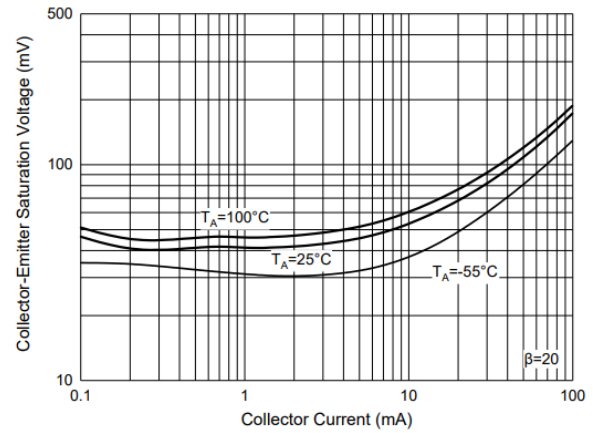
Static Characteristics



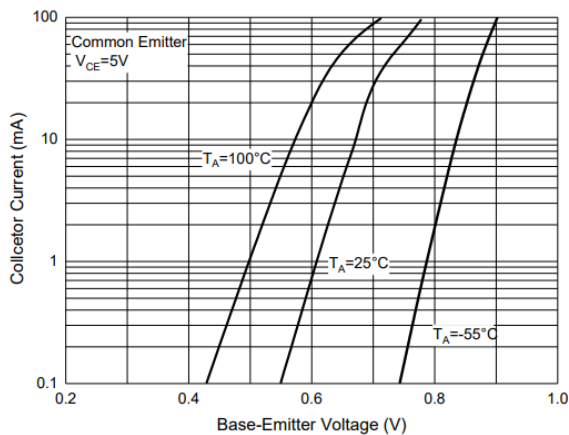
DC Current Gain Characteristics



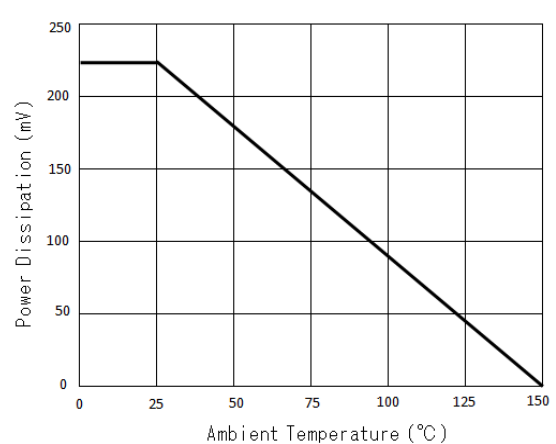
Base-Emitter Saturation Voltage Characteristics



Collector-Emitter Saturation Voltage Characteristics



Base-Emitter Voltage Characteristics

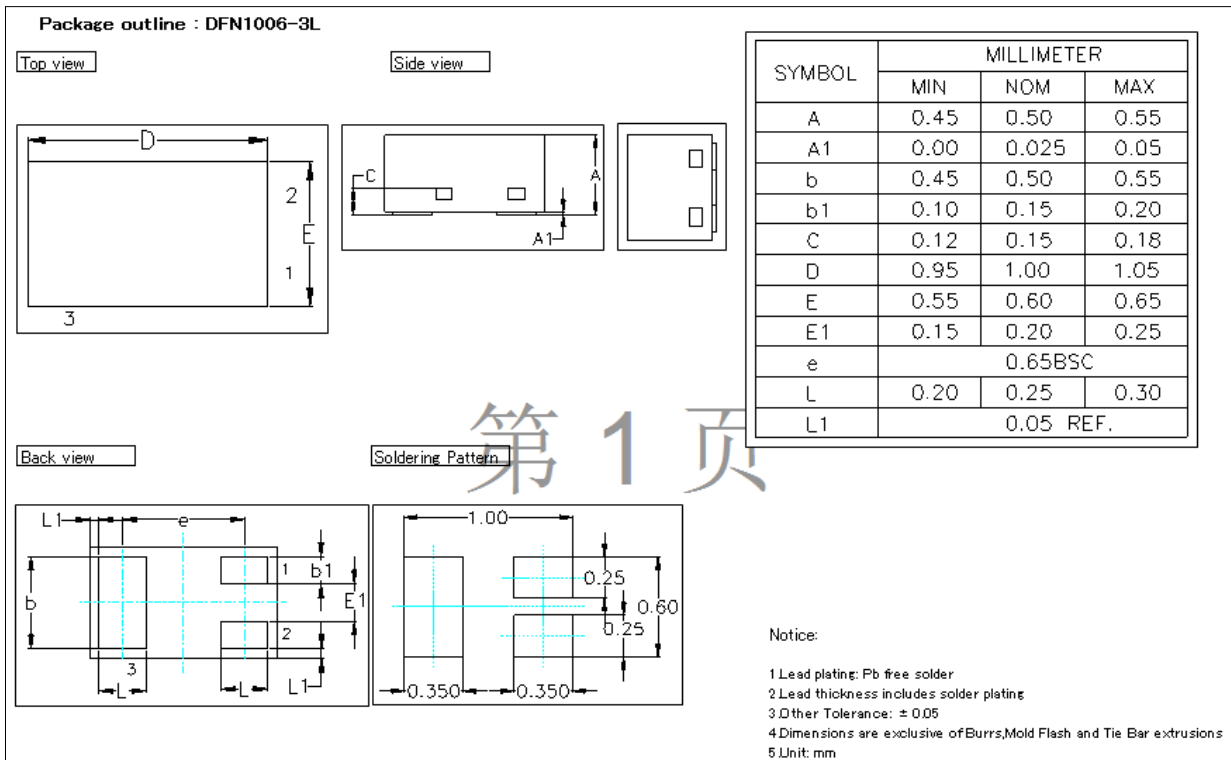


Collector Power Derating Curve

Ordering Information

Device	Package	Shipping	Tape wide	Emboss pitch	Tape specification	Notes
BC846A/BD2	DFN1006-3L	Tape & Reel 10000pcs /7" Reel	8mm	4mm	Conductive	

Package Dimensions



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