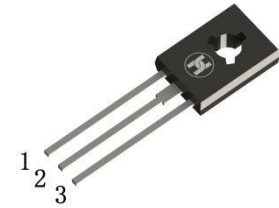


BIPOLAR TRANSISTOR (NPN)
FEATURES

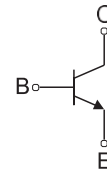
- Complement To BD238
- High Current



1.EMITTER 2.COLLECTOR 3.BASE

TO-126

Equivalent Circuit


MECHANICAL DATA

- Case: TO-126
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.5 grams (approximate)

MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CB0}	100	V
Collector-Emitter Voltage	V _{CEO}	80	V
Emitter-Base Voltage	V _{EBO}	5	V
Collector Current	I _C	2	A
Collector Power Dissipation	P _C	1.25	W
Collector Dissipation (T _C =25 °C)	P _C	25	W
Thermal Resistance From Junction To Ambient	R _{θJA}	100	°C/W
Thermal Resistance from Junction to Case	R _{θJC}	5	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55 ~+150	°C

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Collector-base breakdown voltage	V _{(BR)CBO} *	100			V	I _C =1mA, I _E =0
Collector-emitter breakdown voltage	V _{(BR)CEO} *	80			V	I _C =100mA, I _B =0
Emitter-base breakdown voltage	V _{(BR)EBO}	5			V	I _E =1mA, I _C =0
Collector cut-off current	I _{CBO}			100	μA	V _{CB} =100V, I _E =0
Emitter cut-off current	I _{EBO}			1	mA	V _{EB} =5V, I _C =0
DC current gain	h _{FE} *	40				V _{CE} =2V, I _C =150mA
		25				V _{CE} =2V, I _C =1A
Collector-emitter saturation voltage	V _{CE(sat)} *			0.6	V	I _C =1A, I _B =100mA
Transition frequency	f _T	3			MHz	V _{CE} =10V, I _C =250mA, f=10MHz

*pulse test: pulse width ≤300μs, duty cycle≤ 2.0%.

BIPOLAR TRANSISTOR (NPN)

Typical Characteristics

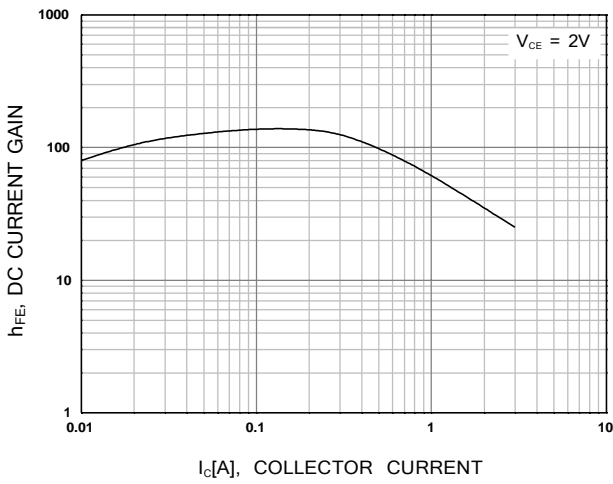
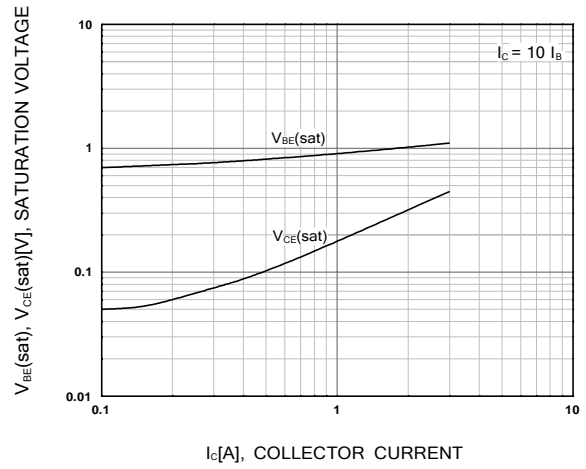


Figure 1. DC current Gain



**Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage**

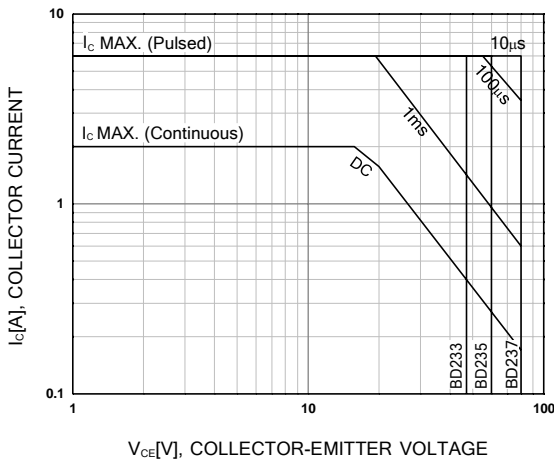


Figure 3. Safe Operating Area

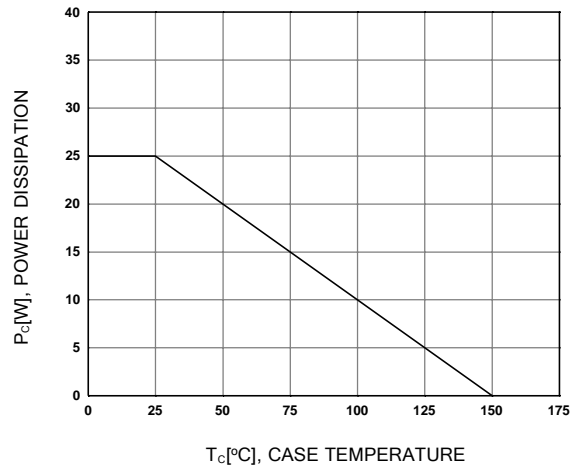
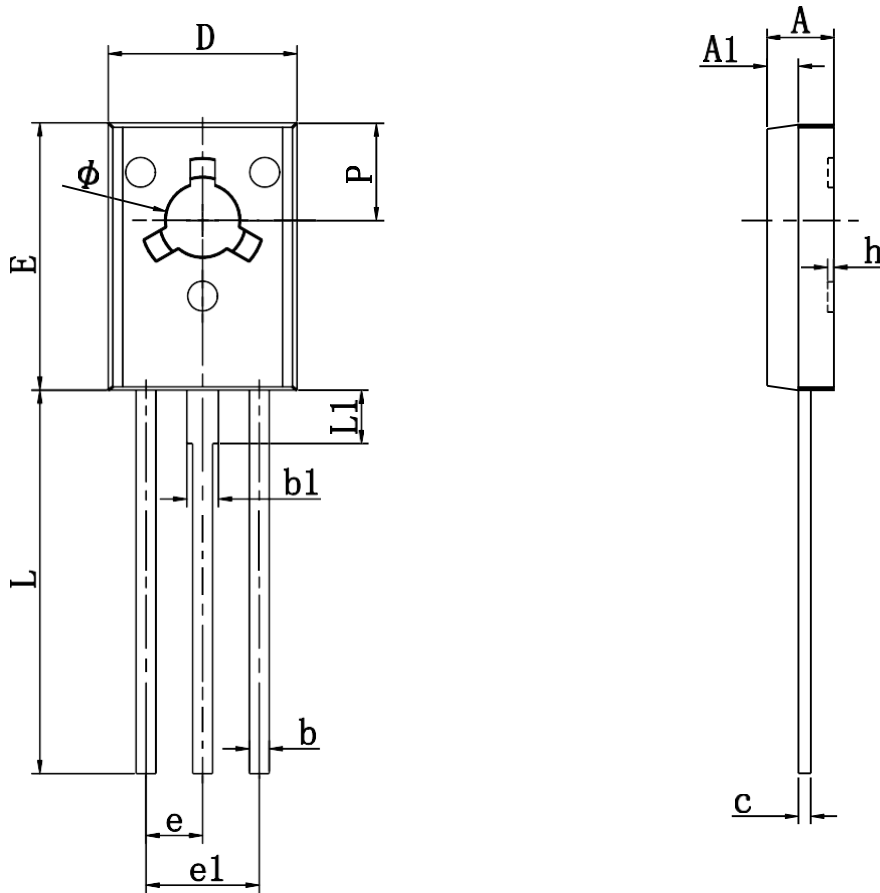


Figure 4. Power Derating

BIPOLAR TRANSISTOR (NPN)

TO-126 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	2.500	2.900	0.098	0.114
A1	1.100	1.500	0.043	0.059
b	0.660	0.860	0.026	0.034
b1	1.170	1.370	0.046	0.054
c	0.450	0.600	0.018	0.024
D	7.400	7.800	0.291	0.307
E	10.600	11.000	0.417	0.433
e	2.290 TYP		0.090 TYP	
e1	4.480	4.680	0.176	0.184
h	0.000	0.300	0.000	0.012
L	15.300	15.700	0.602	0.618
L1	2.100	2.300	0.083	0.091
P	3.900	4.100	0.154	0.161
ϕ	3.000	3.200	0.118	0.126