Low $V_{CE(sat)}$ NPN Planar Transistor

BTD5765B3

Features

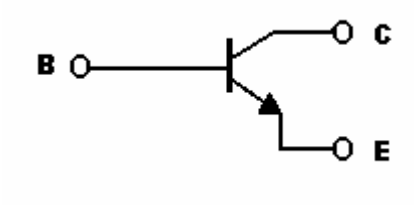
- High current capability
- Low collector-to-emitter saturation voltage
- High allowable power dissipation
- Pb-free lead plating and halogen-free package

Applications

- Relay drivers, lamp drivers, motor drivers, strobes

Symbol

BTD5765B3



B : Base
C : Collector
E : Emitter

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	15	V
Collector-Emitter Voltage	V_{CEO}	10	V
Emitter-Base Voltage	V_{EBO}	7	V
Collector Current (DC)	I_C	5	A
Collector Current (Pulse)	I_{CP}	9	A
Collector Power Dissipation (Note)	P_D	550	mW
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55~+150	°C

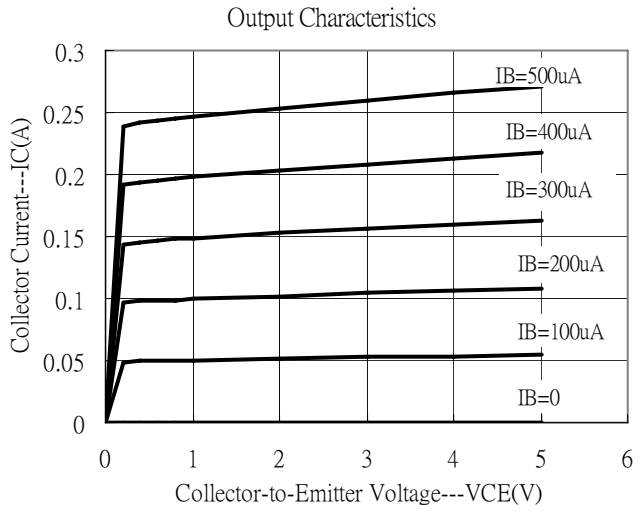
Note : when a device is mounted on a glass epoxy board, measuring 35mm×30mm×1mm.

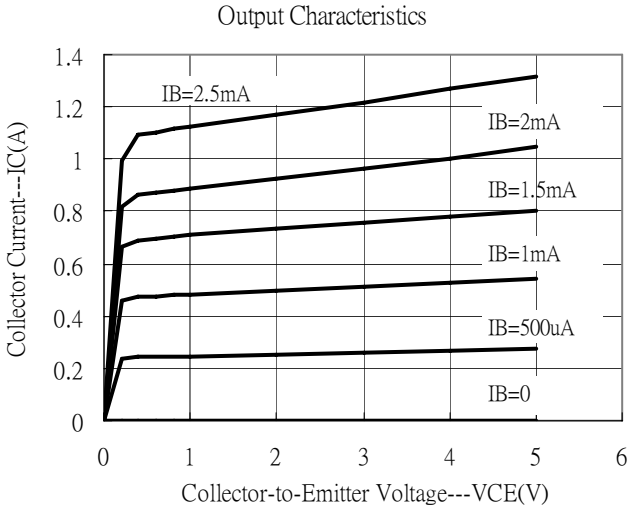
Characteristics (Ta=25°C)

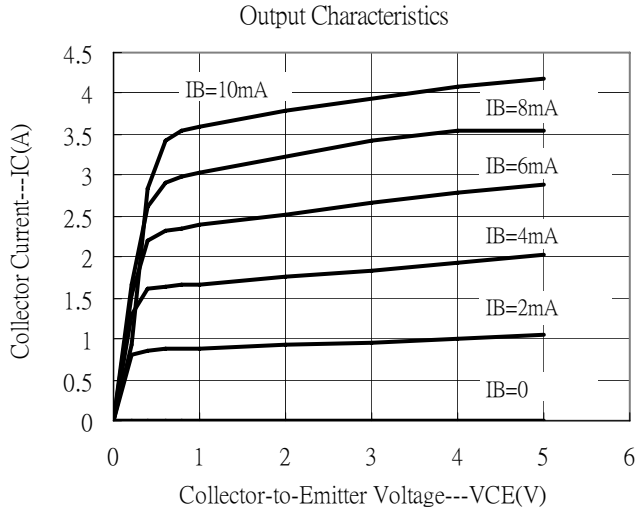
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	15	-	-	V	I_C=100μA, I_E=0
BV_{CEO}	10	-	-	V	I_C=1mA, I_B=0
BV_{EBO}	7	-	-	V	I_E=10μA, I_C=0
I_{CBO}	-	-	100	nA	V_{CB}=15V, I_E=0
I_{EBO}	-	-	100	nA	V_{EB}=5V, I_C=0
*$V_{CE(sat)}$1	-	-	180	mV	I_C=1.5A, I_B=30mA
*$V_{CE(sat)}$2	-	230	350	mV	I_C=3A, I_B=60mA
*$V_{BE(sat)}$	-	-	0.95	1.2V	I_C=1.5A, I_B=30mA
*h_{FE}1	450	-	-	-	V_{CE}=2V, I_C=500mA
*h_{FE}2	400	-	800	-	V_{CE}=2V, I_C=2A
*h_{FE}3	200	-	-	-	V_{CE}=2V, I_C=5A
f_T	-	170	-	MHz	V_{CE}=6V, I_C=50mA, f=100MHz
Cob	-	25	-	pF	V_{CB}=10V, f=1MHz

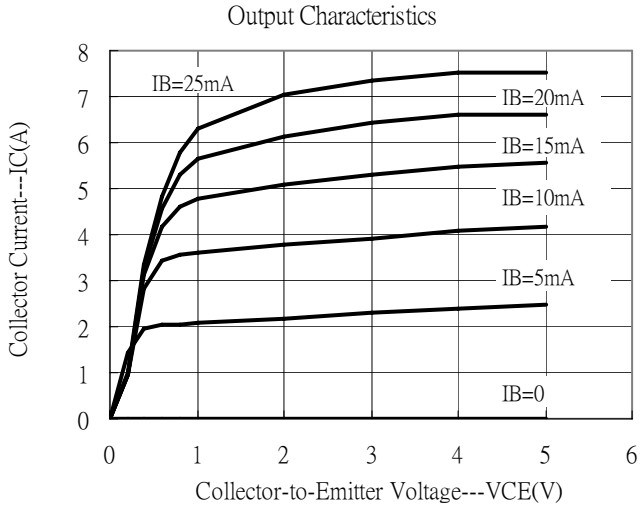
*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

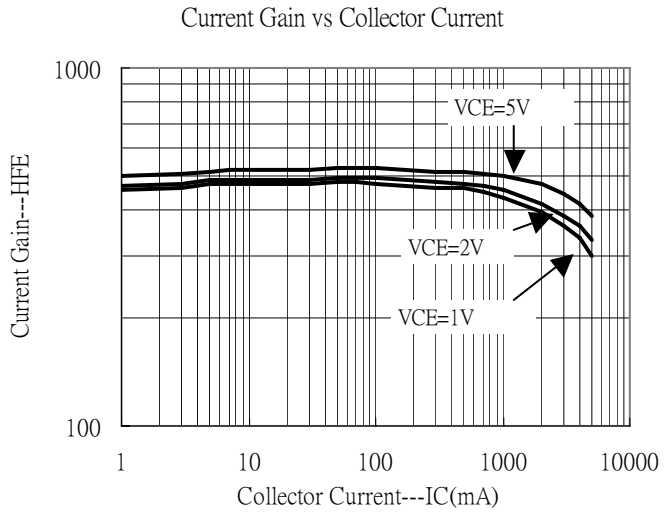
Characteristic Curves

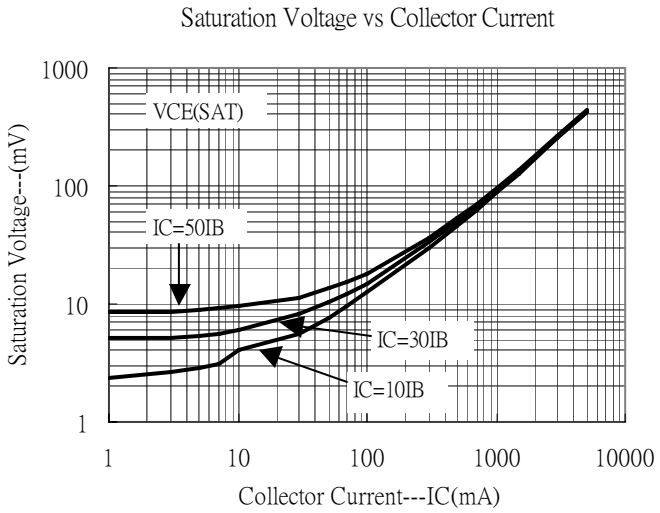




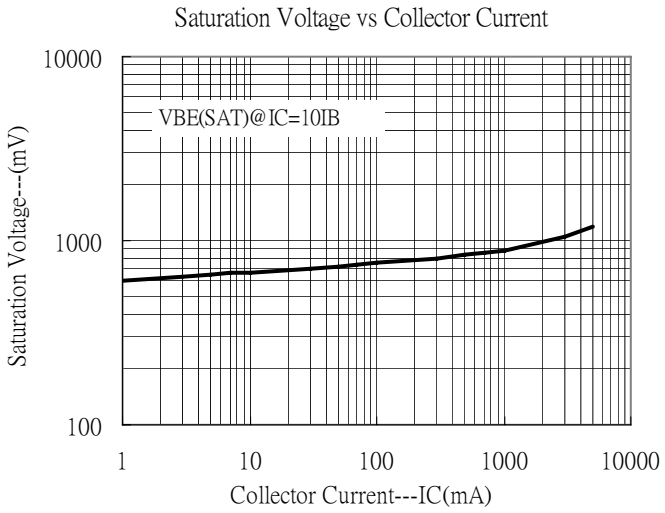


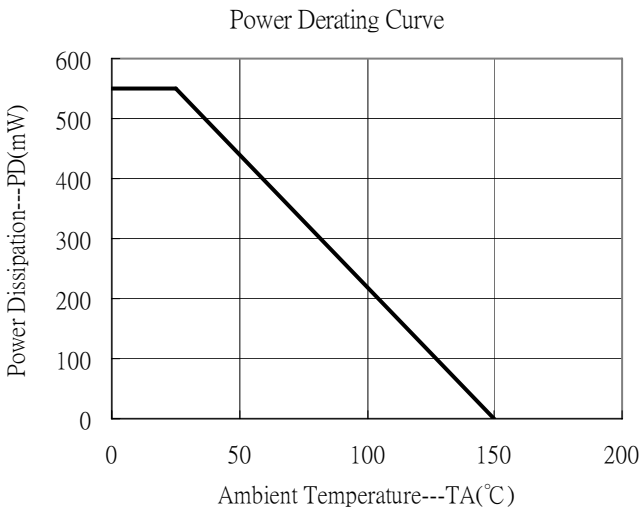




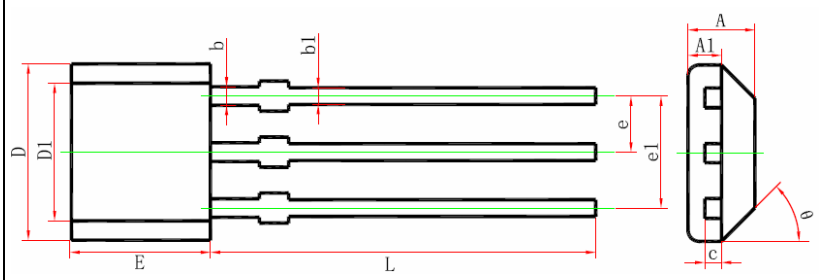


Characteristic Curves(Cont.)

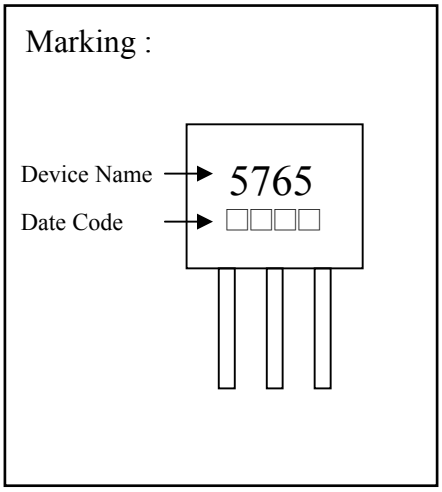




TO-92SP Dimension



3-Lead TO-92SP Plastic Package
CYStek Package Code: B3



Style: Pin 1.Emitter 2.Collector 3.Base

*: Typical

DIM	Millimeters		Inches		DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	1.420	1.620	0.056	0.064	D1	2.970	3.270	0.117	0.129
A1	0.660	0.860	0.026	0.034	E	3.050	3.250	0.120	0.128
b	0.420	0.550	0.017	0.022	e	*1.270		*0.050	
b1	0.360	0.480	0.014	0.019	e1	2.400	2.640	0.096	0.104
c	0.360	0.510	0.014	0.020	L	15.100	15.500	0.594	0.610
D	3.900	4.100	0.154	0.161	θ	*45°		*45°	

Notes: 1.Controlling dimension: millimeters.
2.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.
3.If there is any question with packing specification or packing method, please contact your local CYStek sales office.

Material:

- Lead: Pure tin plated.
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0