

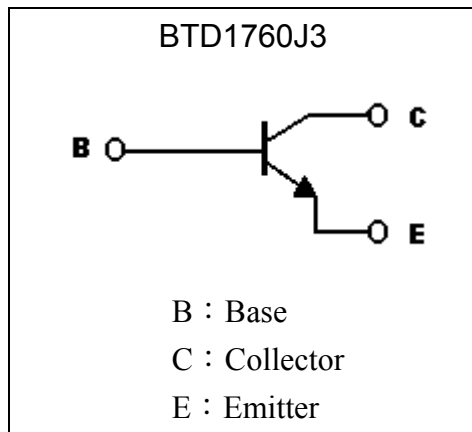
Low Vcesat NPN Epitaxial Planar Transistor

BTD1760J3

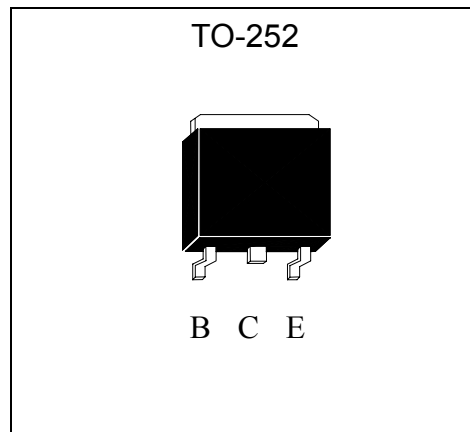
Features

- Low $V_{CE(sat)}$, $V_{CE(sat)}=0.25\text{ V}$ (typical), at $I_C / I_B = 2\text{A} / 0.2\text{A}$
- Excellent current gain characteristics
- Complementary to BTB1184J3
- Pb-free package

Symbol



Outline



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current(DC)	I_C	3	A
Collector Current(Pulse)	I_{CP}	7 *1	
Power Dissipation(TA=25°C)	$P_d(T_A=25^\circ\text{C})$	1	W
Power Dissipation(Tc=25°C)	$P_d(T_C=25^\circ\text{C})$	15 *2	
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55~+150	°C

Note : *1. Single Pulse Pw=10ms

*2 Printed circuit board, 1.7mm thick, collector copper plating 10mm*10mm or larger

Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV _{CB0}	50	-	-	V	I _C =50μA, I _E =0
BV _{CE0}	50	-	-	V	I _C =1mA, I _B =0
BV _{EB0}	5	-	-	V	I _E =50μA, I _C =0
I _{CB0}	-	-	1	μA	V _{CB} =30V, I _E =0
I _{EB0}	-	-	1	μA	V _{EB} =4V, I _C =0
*V _{CE(sat)}	-	0.25	0.5	V	I _C =2A, I _B =0.2A
*V _{BE(sat)}	-	-	2	V	I _C =2A, I _B =0.2A
*h _{FE1}	52	-	-	-	V _{CE} =2V, I _C =20mA
*h _{FE2}	82	-	560	-	V _{CE} =2V, I _C =0.1A
*h _{FE3}	82	-	-	-	V _{CE} =2V, I _C =1A
f _T	-	90	-	MHz	V _{CE} =5V, I _C =0.5A, f=100MHz
Cob	-	45	-	pF	V _{CB} =10V, f=1MHz

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

Classification Of h_{FE2}

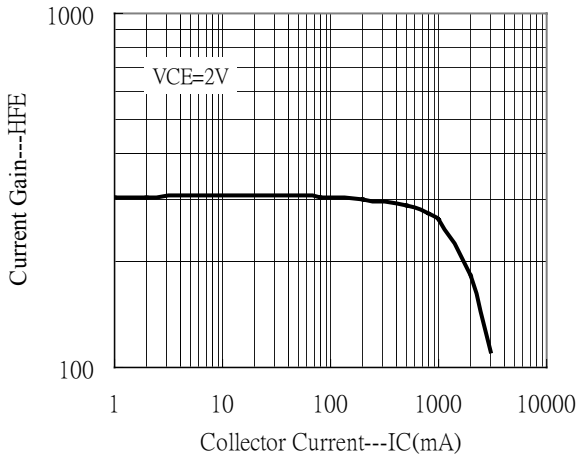
Rank	P	Q	R	S
Range	82~180	120~270	180~390	270~560

Ordering Information

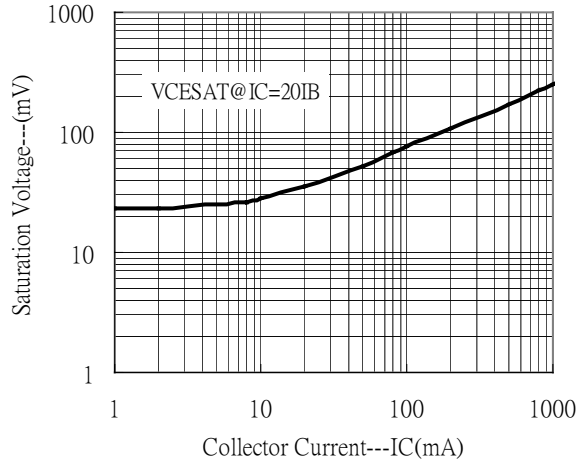
Device	Package	Shipping	Marking
BTD1760J3	TO-252 (Pb-free)	2500 pcs / Tape & Reel	D1760

Characteristic Curves

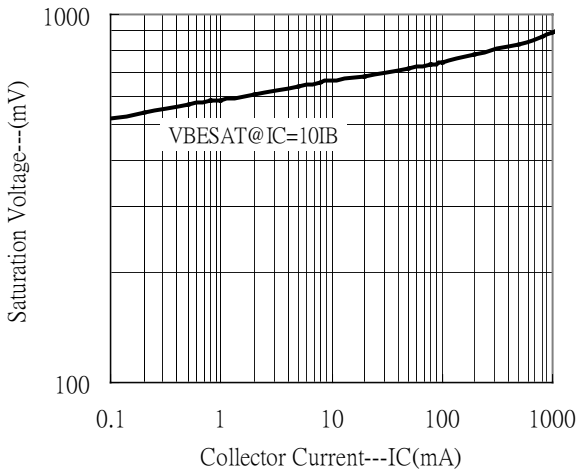
Current Gain vs Collector Current



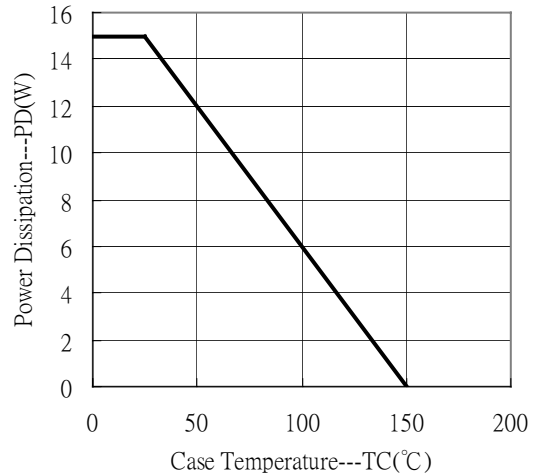
Saturation Voltage vs Collector Current



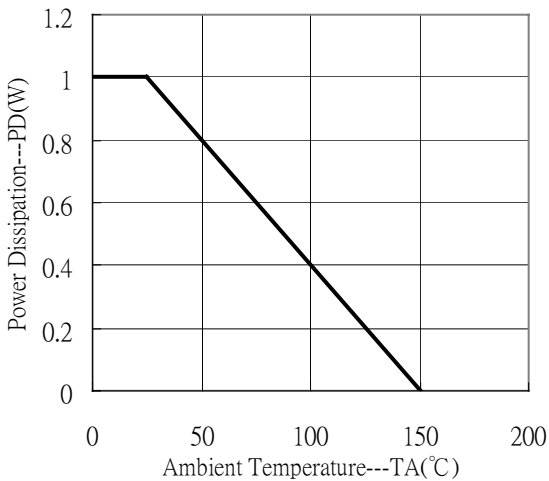
Saturation Voltage vs Collector Current



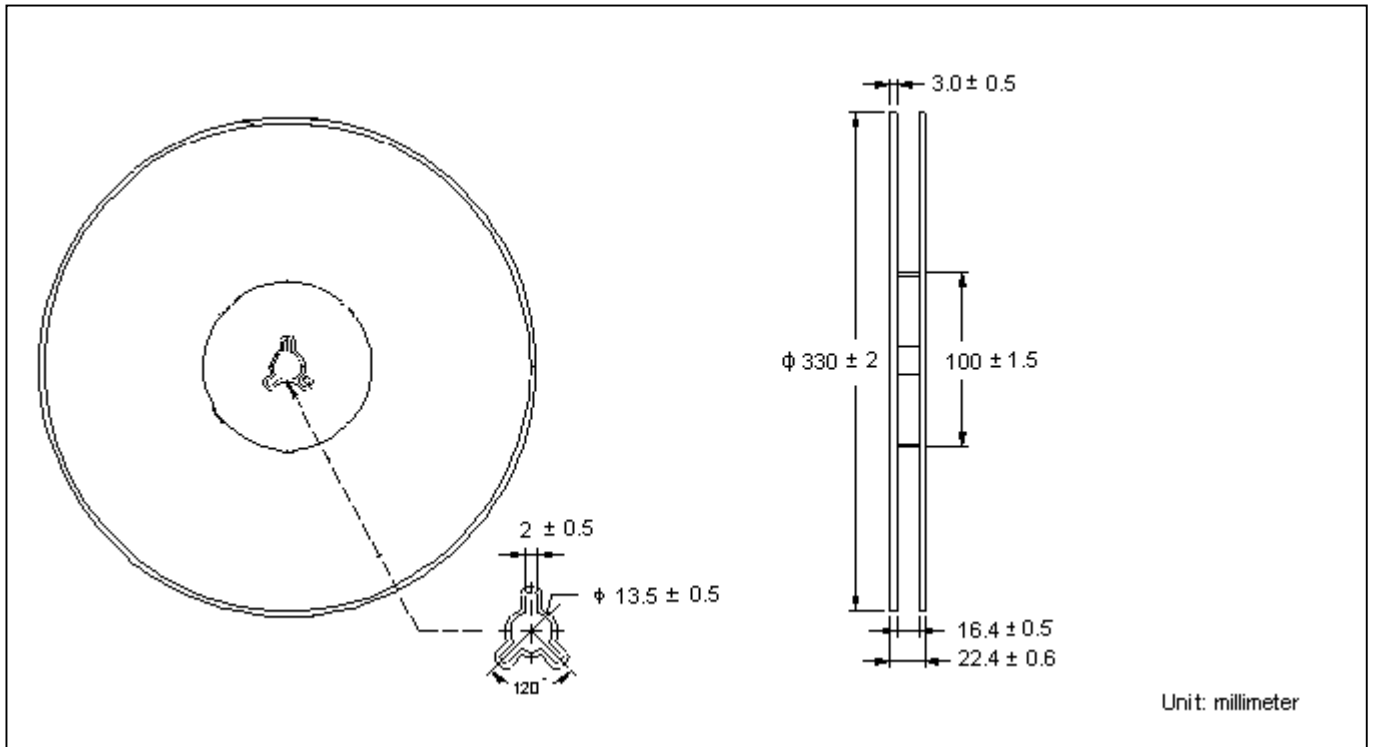
Power Derating Curve



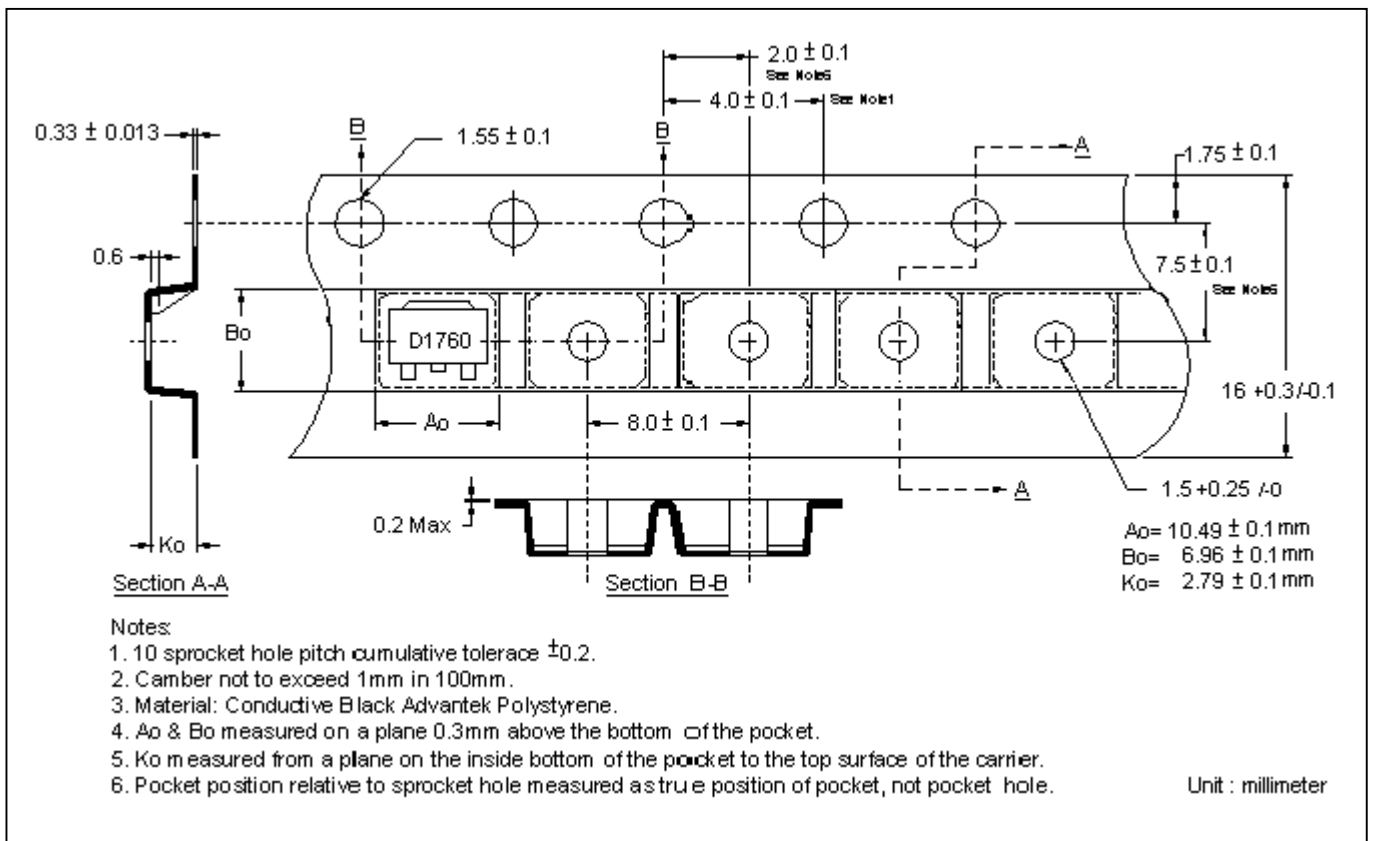
Power Derating Curve



Reel Dimension



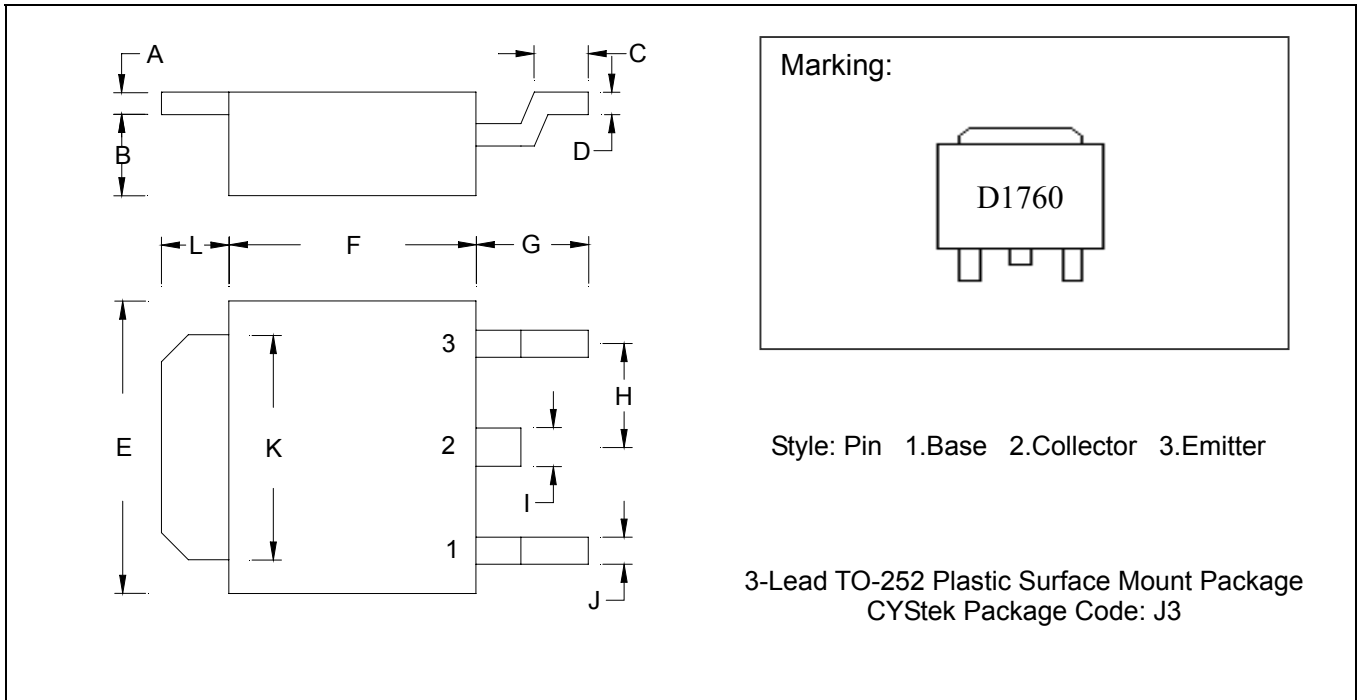
Carrier Tape Dimension



Notes:

1. 10 sprocket hole pitch cumulative tolerance ± 0.2 .
2. Camber not to exceed 1mm in 100mm.
3. Material: Conductive Black Advantek Polystyrene.
4. A_0 & B_0 measured on a plane 0.3mm above the bottom of the pocket.
5. K_0 measured from a plane on the inside bottom of the pocket to the top surface of the carrier.
6. Pocket position relative to sprocket hole measured as true position of pocket, not pocket hole.

TO-252 Dimension



*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.0177	0.0217	0.45	0.55	G	0.0866	0.1102	2.20	2.80
B	0.0650	0.0768	1.65	1.95	H	-	*0.0906	-	*2.30
C	0.0354	0.0591	0.90	1.50	I	-	0.0354	-	0.90
D	0.0177	0.0236	0.45	0.60	J	-	0.0315	-	0.80
E	0.2520	0.2677	6.40	6.80	K	0.2047	0.2165	5.20	5.50
F	0.2125	0.2283	5.40	5.80	L	0.0551	0.0630	1.40	1.60

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: 42 Alloy; solder plating
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

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