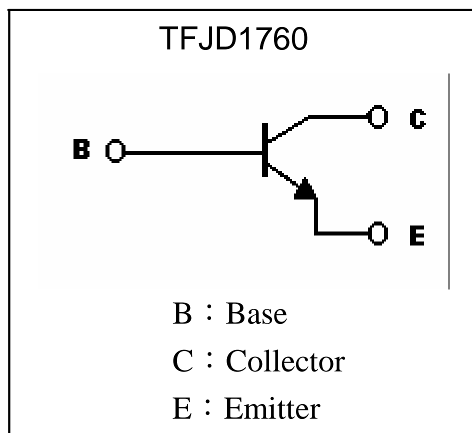
TFJD1760

BV_{CEO}	50V
I_C	3A
R_{CESAT}	125mΩ typ.

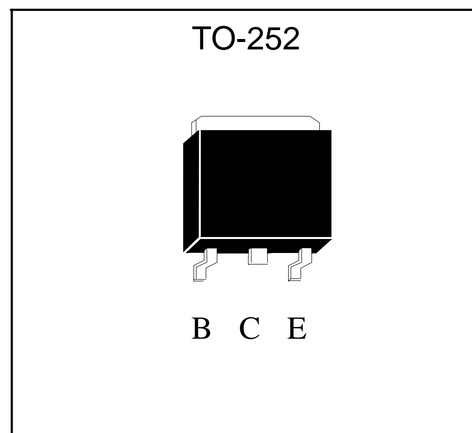
Features

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

Symbol



Outline



Absolute Maximum Ratings (Ta=25℃)

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	A
Power Dissipation(T_A=25℃)	Pd(T_A=25℃)	1	W
Power Dissipation(T_C=25℃)	Pd(T_C=25℃)	15 *2	W
Junction Temperature	Tj	150	℃
Storage Temperature	Tstg	-55~+150	℃

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_{CBO}	50	-	-	V	I_C=50μA, I_E=0
BV_{CEO}	50	-	-	V	I_C=1mA, I_B=0
BV_{EBO}	5	-	-	V	I_E=50μA, I_C=0
I_{CBO}	-	-	1	μA	V_{CB}=30V, I_E=0
I_{EBO}	-	-	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
*$h_{FE}1$	150	-	-	-	V_{CE}=2V, I_C=20mA
*$h_{FE}2$	180	-	560	-	V_{CE}=2V, I_C=0.1A
*$h_{FE}3$	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%

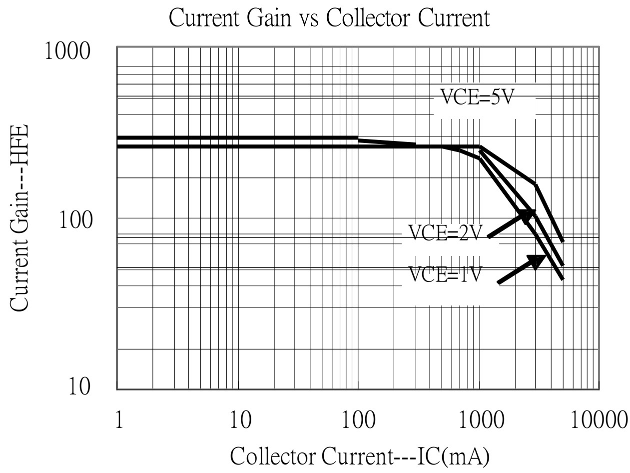
Classification Of $h_{FE}2$

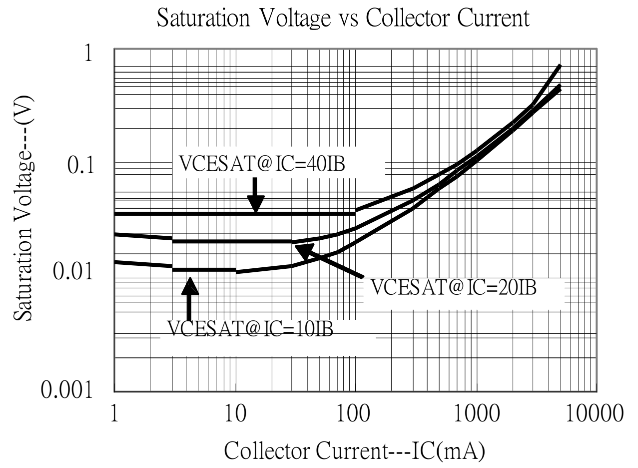
Rank	R	S
Range	180~390	270~560

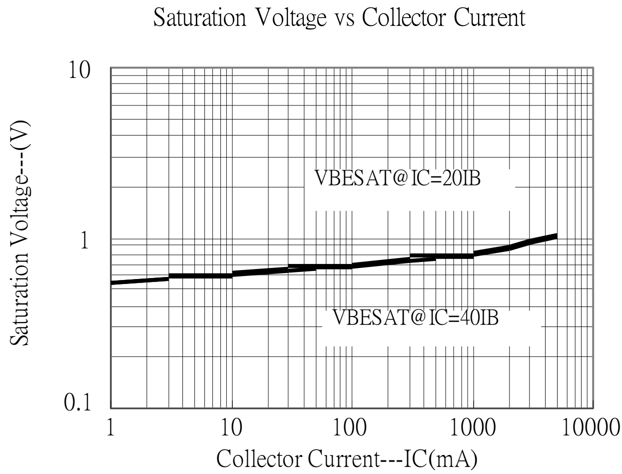
Ordering Information

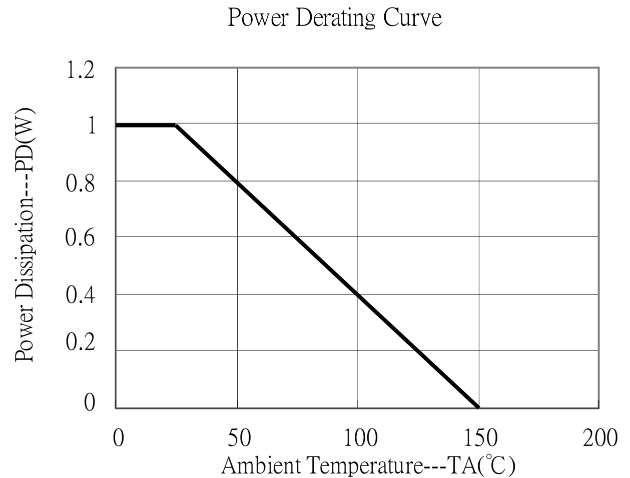
Device	Package	Shipping	Marking
TFJD1760	TO-252 (Pb-free)	2500 pcs / Tape & Reel	D1760

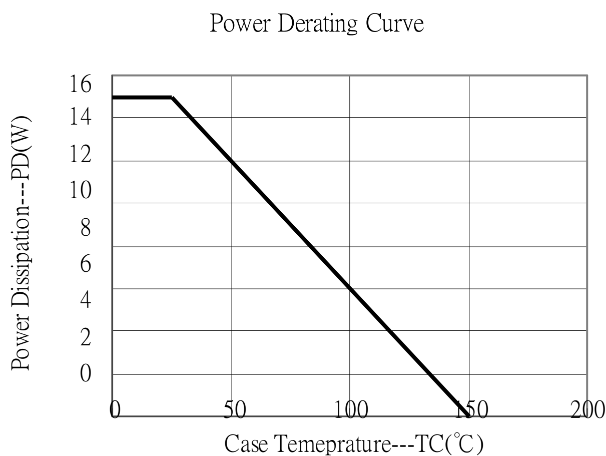
Characteristic Curves



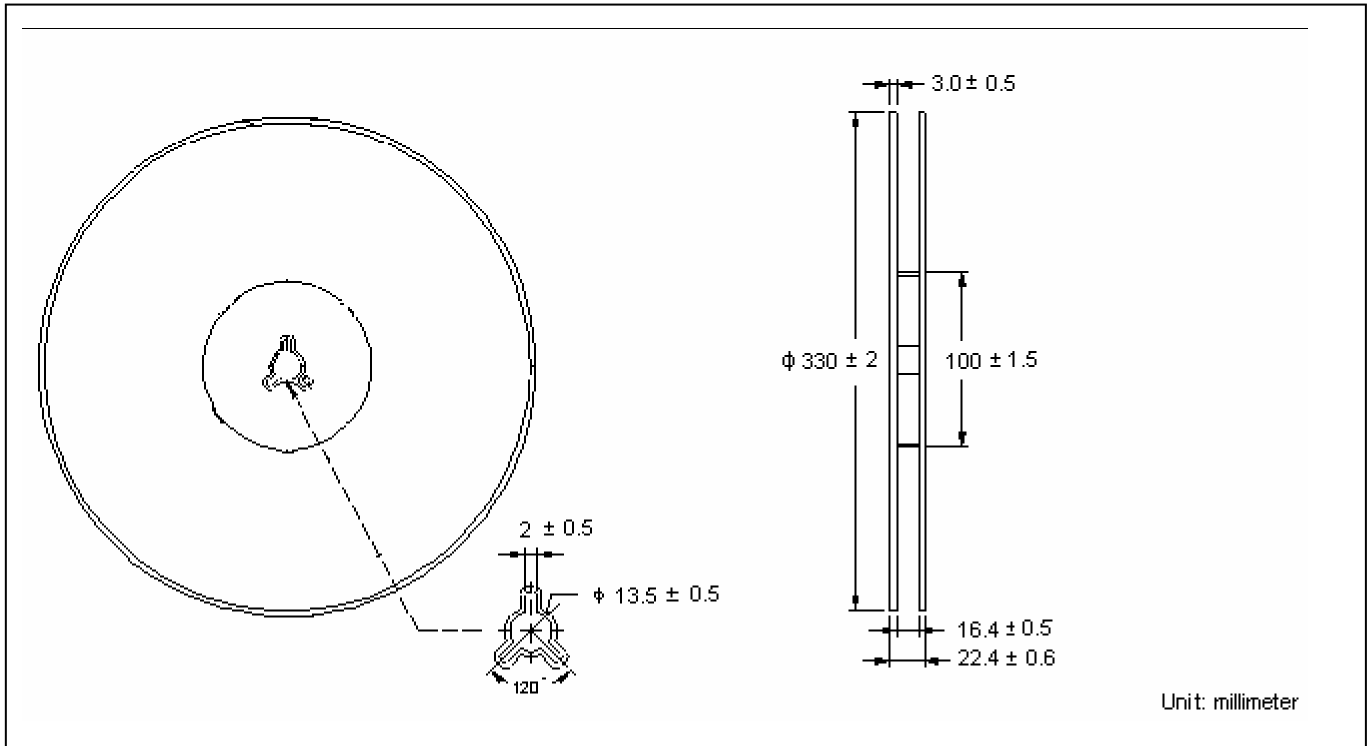




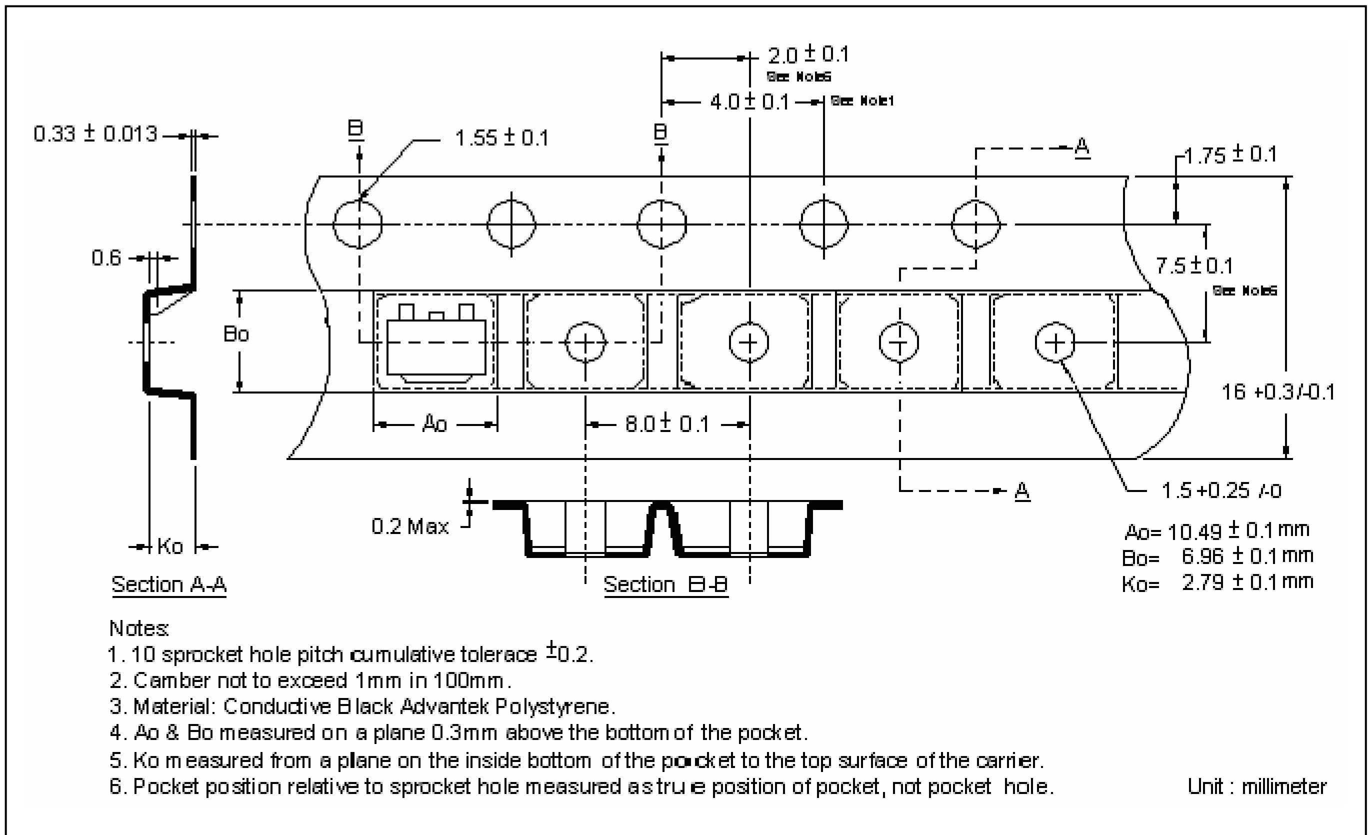




Reel Dimension



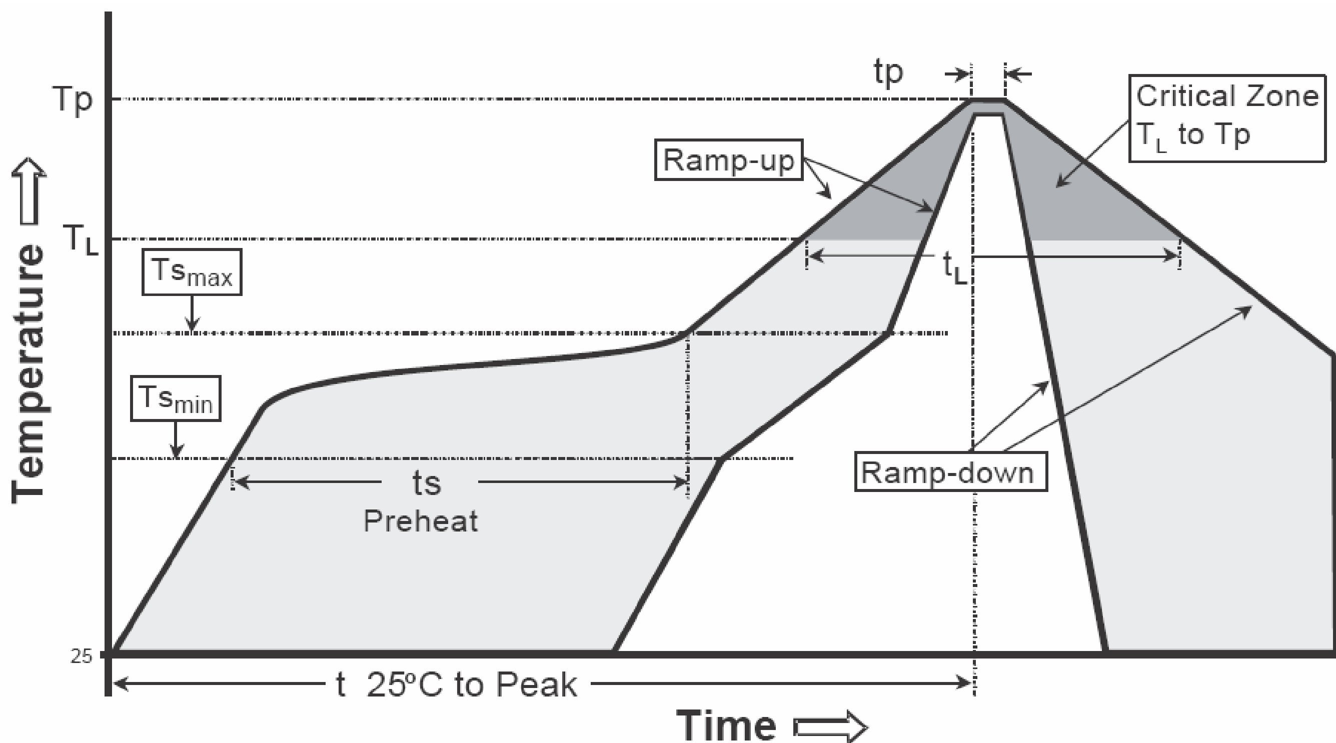
Carrier Tape Dimension



Recommended wave soldering condition

Product	Peak Temperature	Soldering Time
Pb-free devices	260 +0/-5 °C	5 +1/-1 seconds

Recommended temperature profile for IR reflow



Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (Tsmax to Tp)	3°C/second max.	3°C/second max.
Preheat −Temperature Min(T_S min) −Temperature Max(T_S max) −Time(ts min to ts max)	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
Time maintained above: −Temperature (T_L) − Time (t_L)	183°C 60-150 seconds	217°C 60-150 seconds
Peak Temperature(T_P)	240 +0/-5 °C	260 +0/-5 °C
Time within 5°C of actual peak temperature(tp)	10-30 seconds	20-40 seconds
Ramp down rate	6°C/second max.	6°C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

Note : All temperatures refer to topside of the package, measured on the package body surface.

TO-252 Dimension

A B C D L F G E K H I J 3 2 1

Marking:

Device Name → D1760

HFE rank code → □ □□ → Production month : Jan→1, Feb→2,…, Sep→9, Oct→A, Nov→B, Dec→C

Production Year: 2006→6, 2007→7,…, etc

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

3-Lead TO-252 Plastic Surface Mount Package

*: 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	-	0.0449	-	1.14
D	0.0177	0.0236	0.45	0.60	J	-	0.0346	-	0.88
E	0.2441	0.2677	6.20	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 Tin Far sales office.

Material:

- Lead: KFC; pure tin plated
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

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