

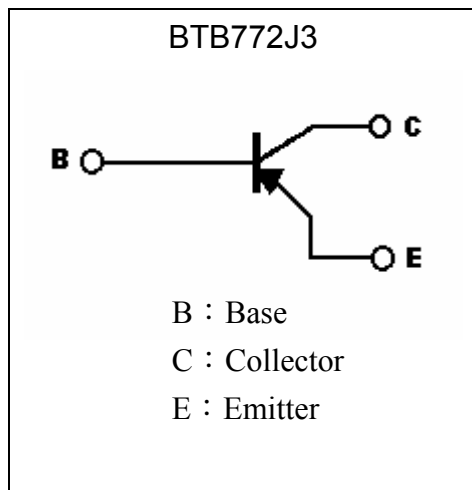
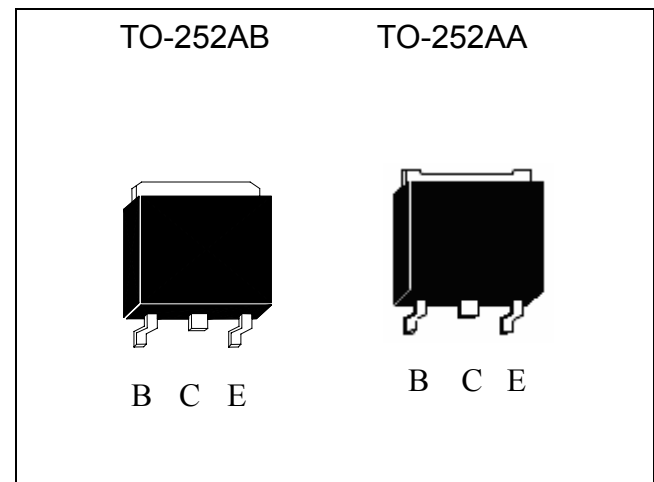
**Low Vcesat PNP Epitaxial Planar Transistor**

# BTB772J3

$BV_{CEO}$	-30V
$I_C$	-3A
$R_{CE(SAT)}$	225m $\Omega$ typ.

**Features**

- Low  $V_{CE(sat)}$
- Excellent current gain characteristics
- Complementary to BTD882J3
- RoHS compliant package

**Symbol**

**Outline**

**Absolute Maximum Ratings** ( $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Limit	Unit
Collector-Base Voltage	$V_{CBO}$	-40	V
Collector-Emitter Voltage	$V_{CEO}$	-30	V
Emitter-Base Voltage	$V_{EBO}$	-6	V
Collector Current	$I_C(\text{DC})$	-3	A
	$I_C(\text{pulse})$	-5 *1	A
Power Dissipation	$P_d(T_a=25^\circ\text{C})$	1.25	W
	$P_d(T_c=25^\circ\text{C})$	10	
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55~+150	$^\circ\text{C}$

 Note : \*1. Single Pulse  $P_w \leq 350\mu\text{s}$ , Duty  $\leq 2\%$ .

**Characteristics (Ta=25°C)**

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV <sub>CBO</sub>	-40	-	-	V	I <sub>C</sub> =-50μA, I <sub>E</sub> =0
BV <sub>CEO</sub>	-30	-	-	V	I <sub>C</sub> =-1mA, I <sub>B</sub> =0
BV <sub>EBO</sub>	-6	-	-	V	I <sub>E</sub> =-50μA, I <sub>C</sub> =0
I <sub>CBO</sub>	-	-	-1	μA	V <sub>CB</sub> =-40V, I <sub>E</sub> =0
I <sub>EBO</sub>	-	-	-1	μA	V <sub>EB</sub> =-6V, I <sub>C</sub> =0
*V <sub>CE(sat)</sub>	-	-0.45	-0.6	V	I <sub>C</sub> =-2A, I <sub>B</sub> =-0.2A
*V <sub>BE(sat)</sub>	-	-1	-1.5	V	I <sub>C</sub> =-2A, I <sub>B</sub> =-0.2A
*h <sub>FE 1</sub>	120	-	-	-	V <sub>CE</sub> =-2V, I <sub>C</sub> =-20mA
*h <sub>FE 2</sub>	180	-	500	-	V <sub>CE</sub> =-2V, I <sub>C</sub> =-500mA
f <sub>T</sub>	-	80	-	MHz	V <sub>CE</sub> =-5V, I <sub>E</sub> =-0.1A, f=100MHz
C <sub>ob</sub>	-	55	-	pF	V <sub>CB</sub> =-10V, f=1MHz

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

**Classification Of hFE 2**

Rank	P	E
Range	180~390	250~500

**Ordering Information**

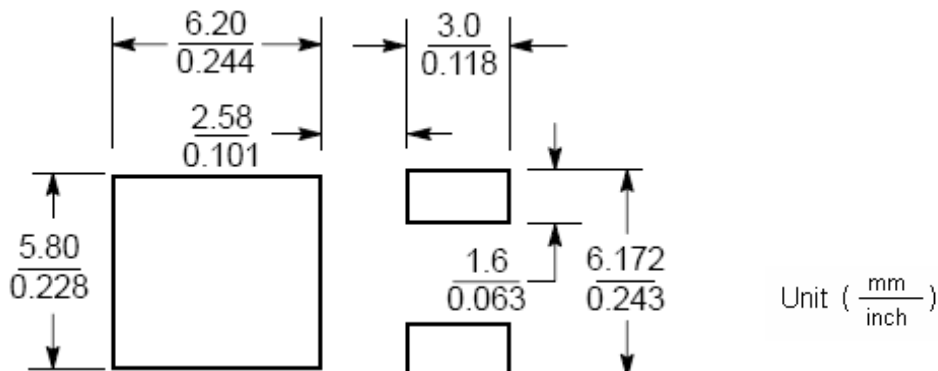
Device	Package	Shipping	Marking
BTB772J3	TO-252 (RoHS compliant package)	2500 pcs / Tape & Reel	B772

**Recommended Storage Condition:**

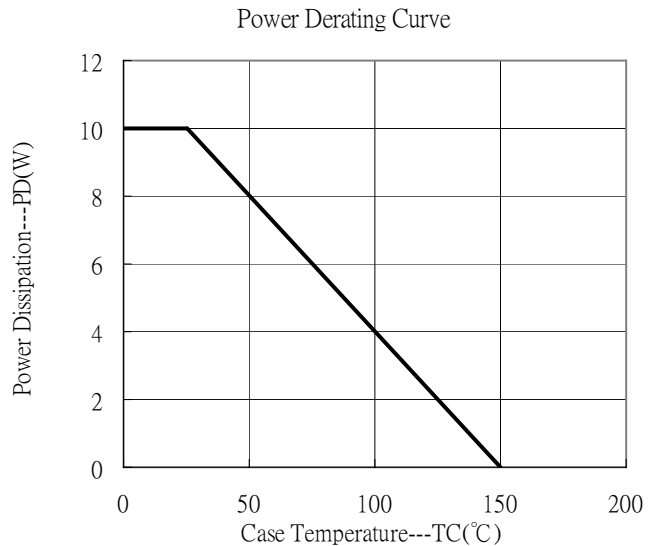
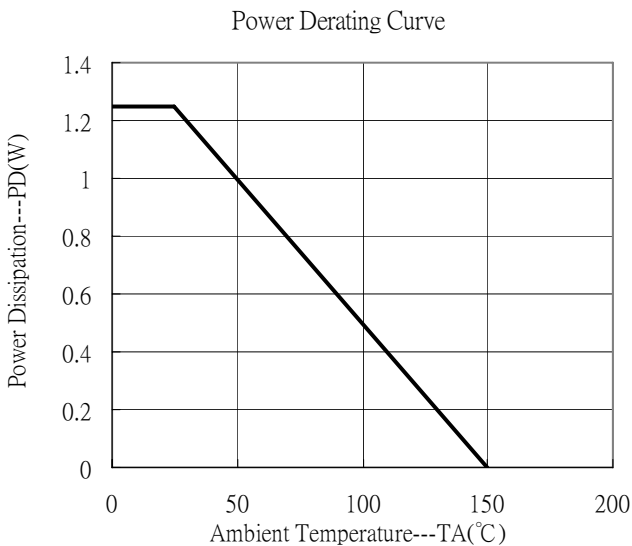
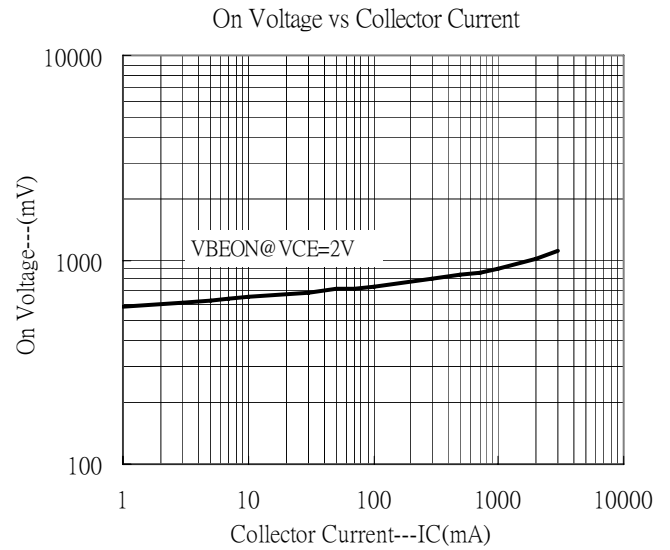
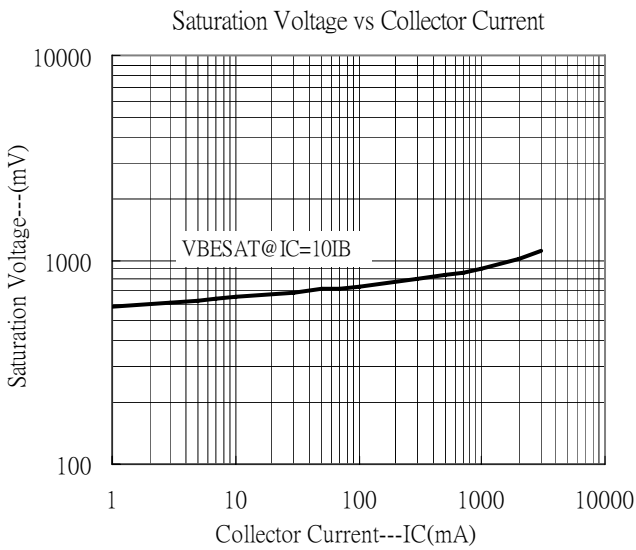
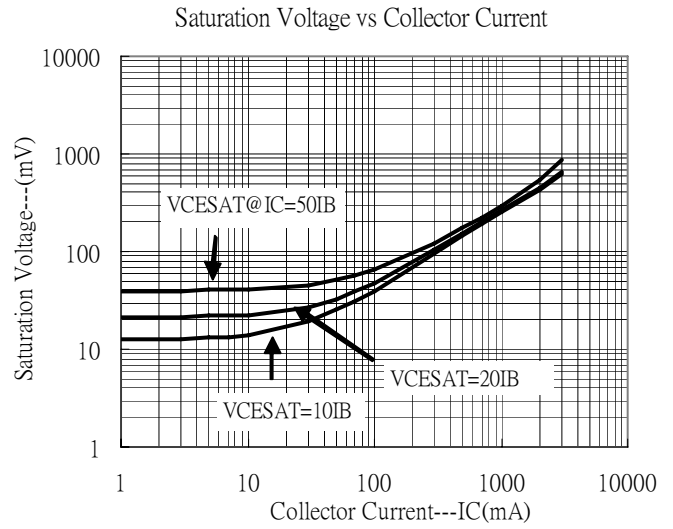
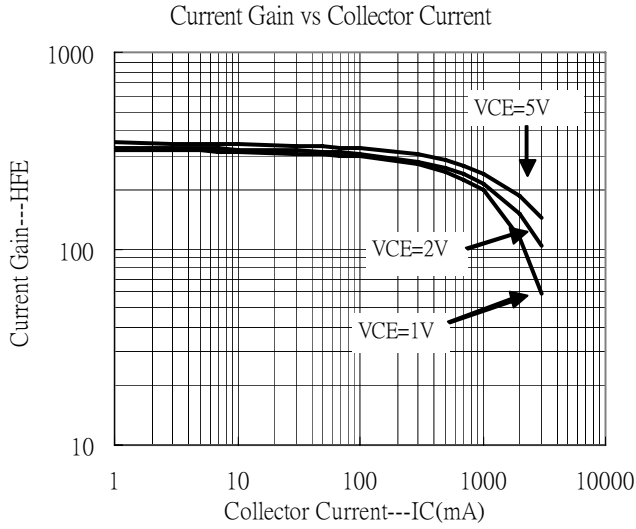
Temperature : 10~ 35 °C

Humidity : 30~ 60% RH

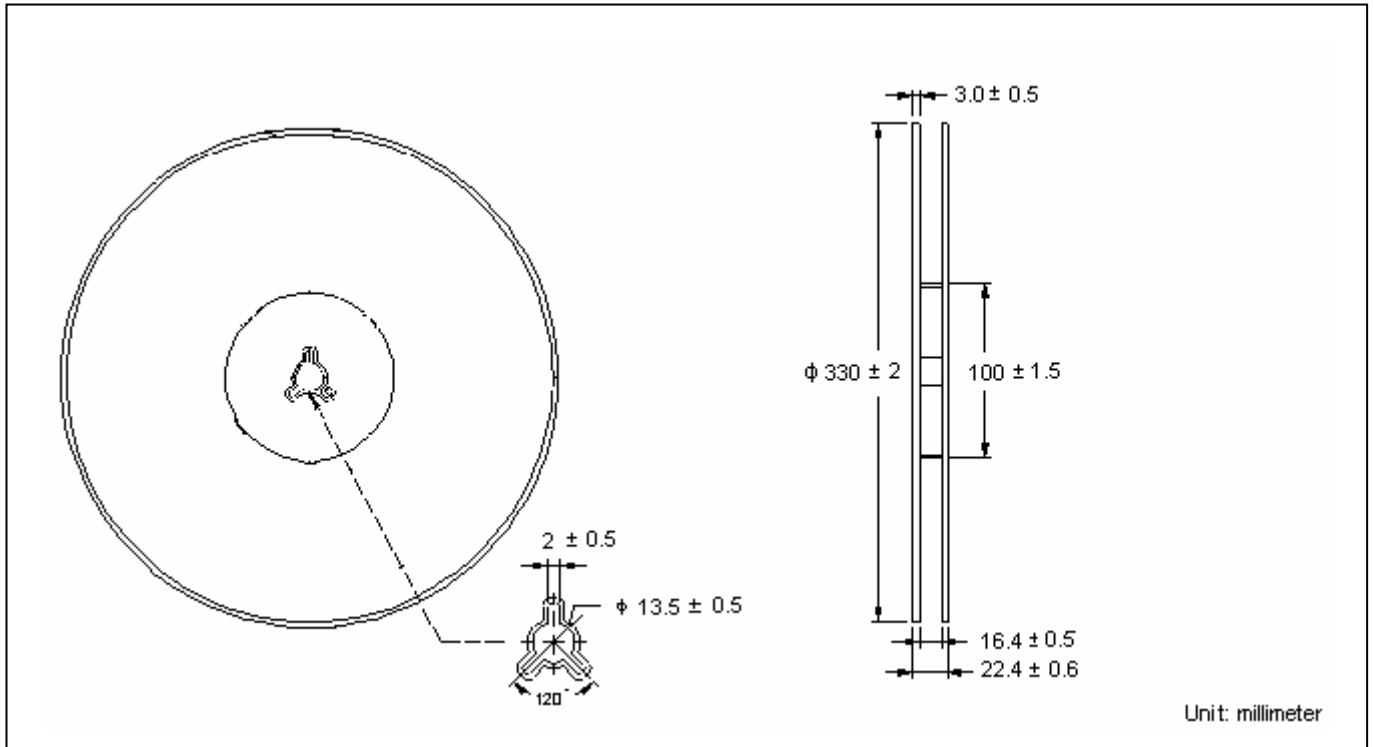
**Recommended soldering footprint**



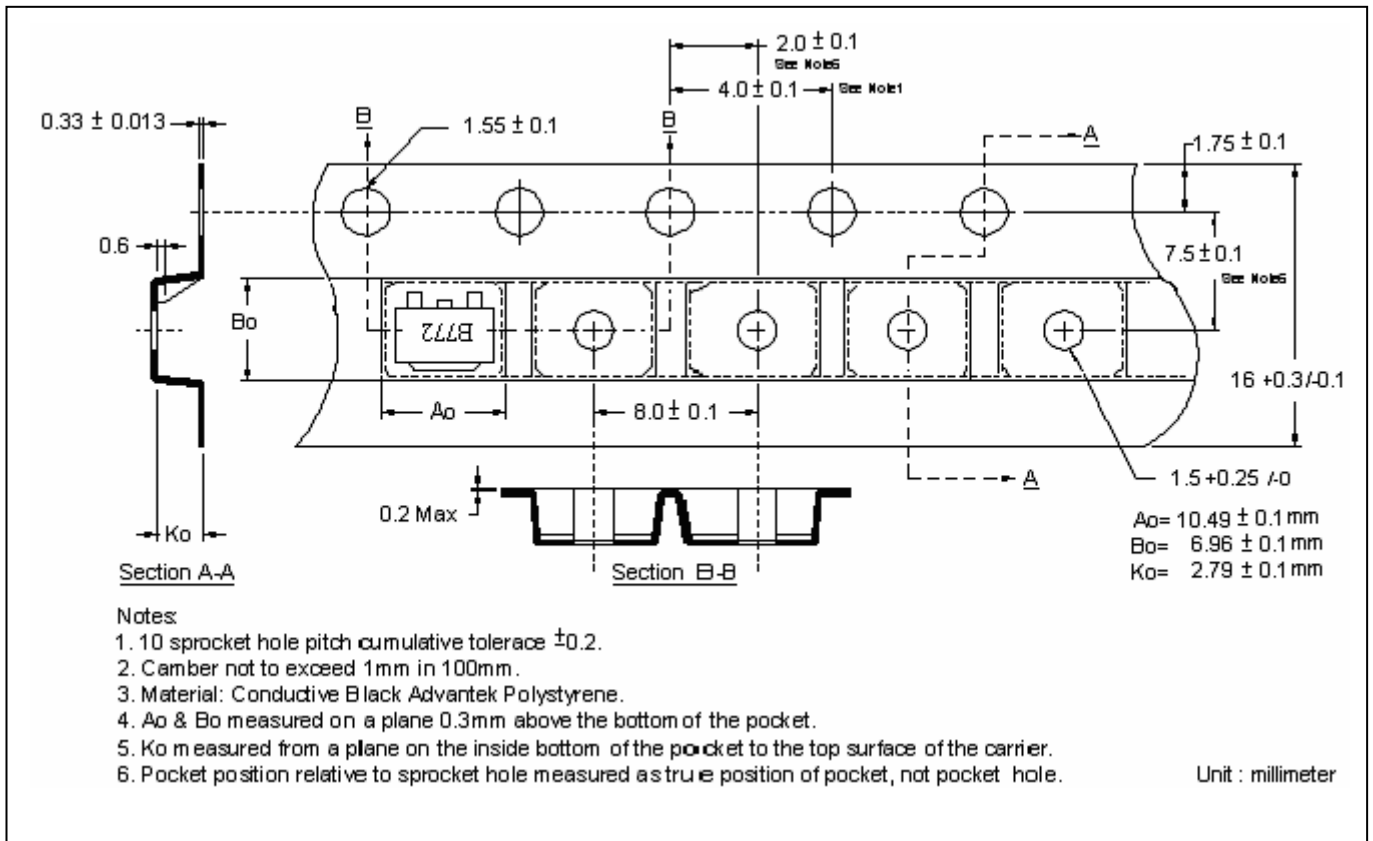
**Typical Characteristics**



**Reel Dimension**



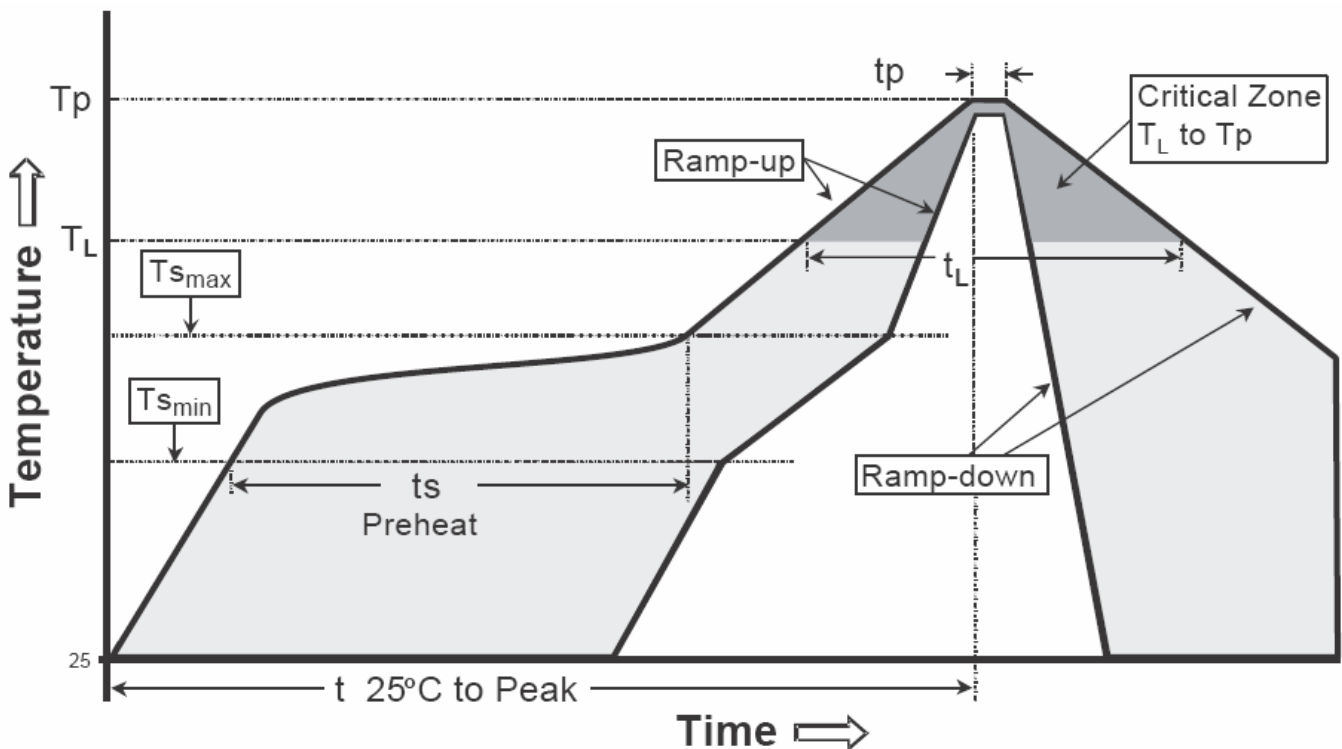
**Carrier Tape Dimension**



**Recommended wave soldering condition**

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

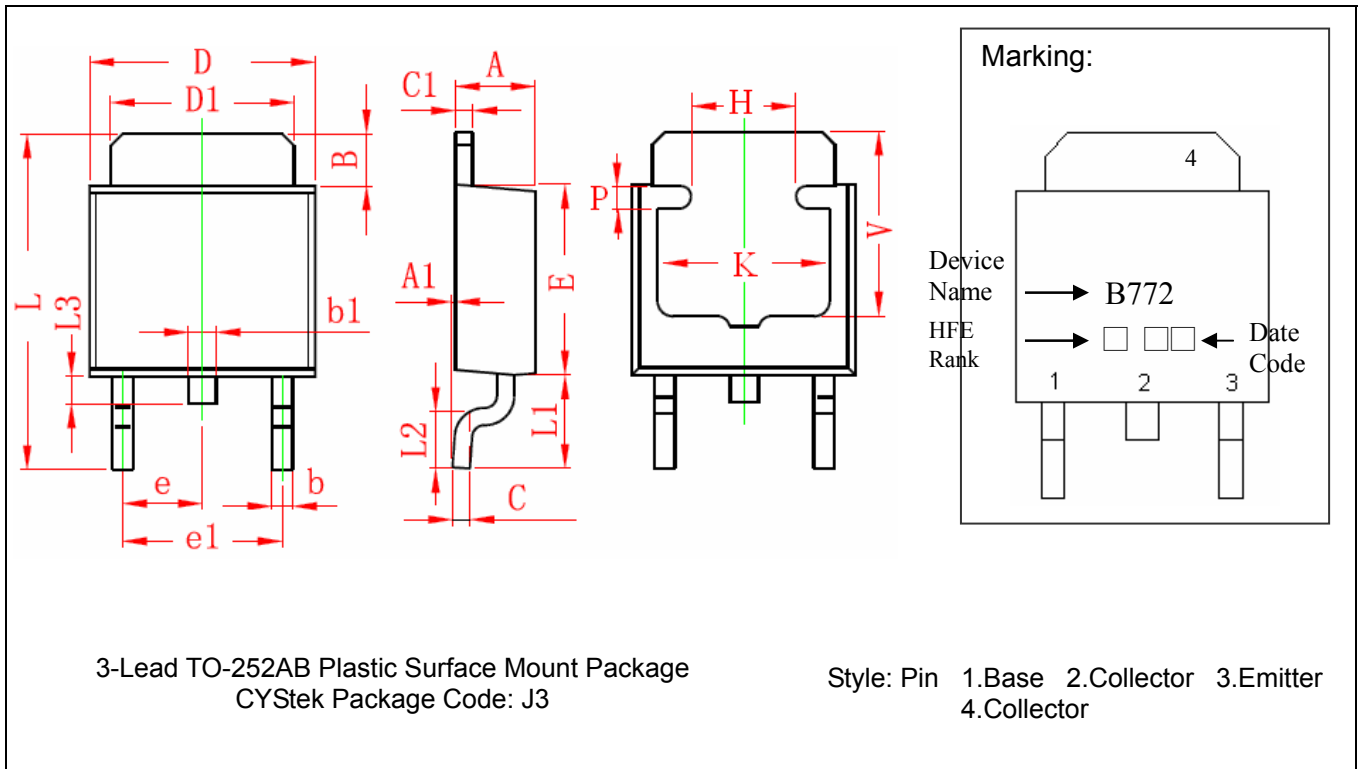
**Recommended temperature profile for IR reflow**



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(Ts min)	100°C	150°C
-Temperature Max(Ts max)	150°C	200°C
-Time(ts min to ts max)	60-120 seconds	60-180 seconds
Time maintained above:		
-Temperature (Tl)	183°C	217°C
- Time (tl)	60-150 seconds	60-150 seconds
Peak Temperature(Tp)	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-252AB Dimension**



\*: Typical

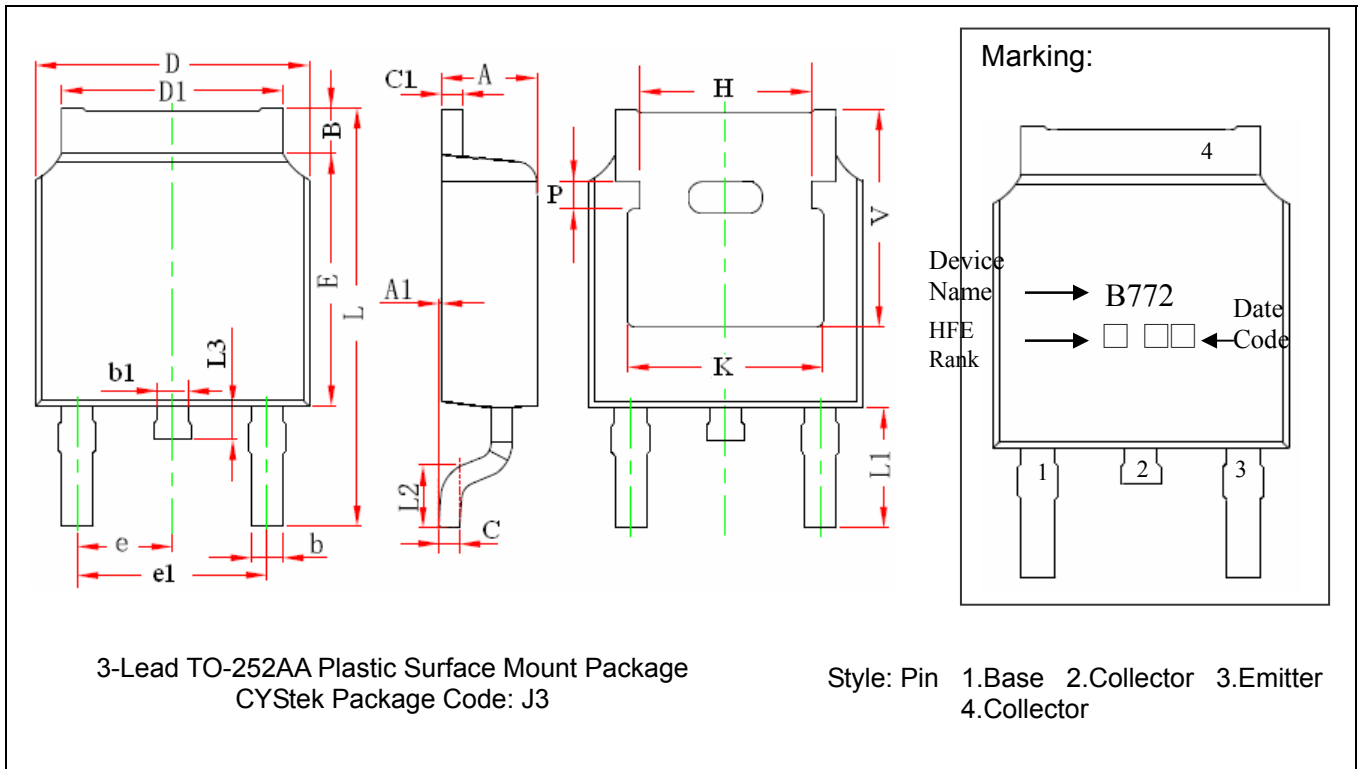
DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.087	0.094	2.200	2.400	e	*0.091		*2.300	
A1	0.000	0.005	0.000	0.127	e1	0.177	0.185	4.500	4.700
B	0.053	0.065	1.350	1.650	H	0.118	REF	3.000	REF
b	0.020	0.028	0.500	0.700	K	0.197	REF	5.000	REF
b1	0.028	0.035	0.700	0.900	L	0.374	0.390	9.500	9.900
C	0.017	0.023	0.430	0.580	L1	0.100	0.114	2.550	2.900
C1	0.017	0.023	0.430	0.580	L2	0.055	0.070	1.400	1.780
D	0.250	0.262	6.350	6.650	L3	0.024	0.035	0.600	0.900
D1	0.205	0.213	5.200	5.400	P	0.028	REF	0.700	REF
E	0.213	0.224	5.400	5.700	V	0.209	REF	5.300	REF

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

**TO-252AA Dimension**



3-Lead TO-252AA Plastic Surface Mount Package  
 CYStek Package Code: J3

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

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.087	0.094	2.200	2.400	e	0.086	0.094	2.186	2.386
A1	0.000	0.005	0.000	0.127	e1	0.172	0.188	4.372	4.772
B	0.039	0.048	0.990	1.210	H	0.163	REF	4.140	REF
b	0.026	0.034	0.660	0.860	K	0.190	REF	4.830	REF
b1	0.026	0.034	0.660	0.860	L	0.386	0.409	9.800	10.400
C	0.018	0.023	0.460	0.580	L1	0.114	REF	2.900	REF
C1	0.018	0.023	0.460	0.580	L2	0.055	0.067	1.400	1.700
D	0.256	0.264	6.500	6.700	L3	0.024	0.039	0.600	1.000
D1	0.201	0.215	5.100	5.460	P	0.026	REF	0.650	REF
E	0.236	0.244	6.000	6.200	V	0.211	REF	5.350	REF

- 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.

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