

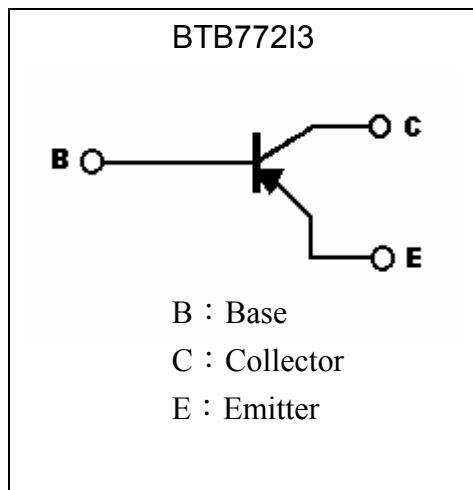
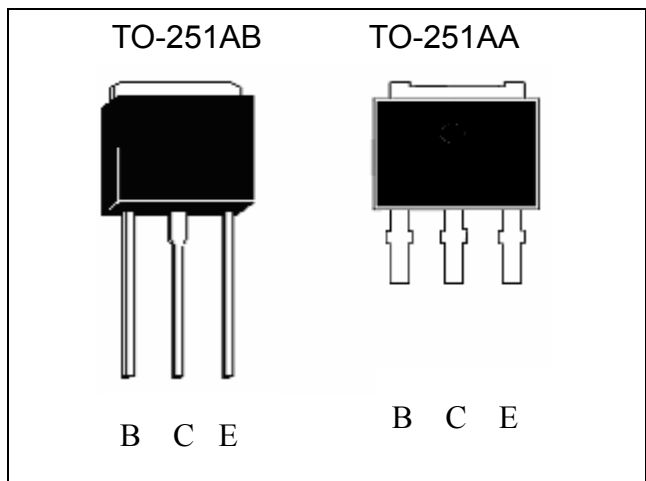
Low Vcesat PNP Epitaxial Planar Transistor

BTB772I3

BV_{CEO}	-30V
I_C	-3A
$R_{CESAT(TYP)}$	150m Ω

Features

- Low $V_{CE(sat)}$, typically -0.3 V at $I_C / I_B = -2A / -0.2A$
- Excellent current gain characteristics
- High temperature soldering guaranteed : 265°C/5s, 0.25”(6.35mm) from case
- Complementary to BTB882I3
- 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}	-5	V
Collector Current	$I_C(\text{DC})$	-3	A
	$I_C(\text{pulse})$	-7 *1	A
Power Dissipation	$P_d(T_a=25^\circ\text{C})$	1	W
	$P_d(T_c=25^\circ\text{C})$	10	
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55~+150	°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 _{CB0}	-40	-	-	V	I _C =-50μA, I _E =0
BV _{CEO}	-30	-	-	V	I _C =-1mA, I _B =0
BV _{EBO}	-5	-	-	V	I _E =-50μA, I _C =0
I _{CB0}	-	-	-1	μA	V _{CB} =-30V, I _E =0
I _{EBO}	-	-	-1	μA	V _{EB} =-3V, I _C =0
*V _{CE(sat)}	-	-0.3	-0.5	V	I _C =-2A, I _B =-0.2A
*R _{CE(sat)}	-	150	250	mΩ	I _C =-2A, I _B =-0.2A
*V _{BE(sat)}	-	-1	-2	V	I _C =-2A, I _B =-0.2A
*h _{FE 1}	120	-	-	-	V _{CE} =-2V, I _C =-20mA
*h _{FE 2}	180	-	500	-	V _{CE} =-2V, I _C =-1A
f _T	-	80	-	MHz	V _{CE} =-5V, I _E =-0.1A, f=100MHz
Cob	-	55	-	pF	V _{CB} =-10V, f=1MHz

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

Classification Of hFE 2

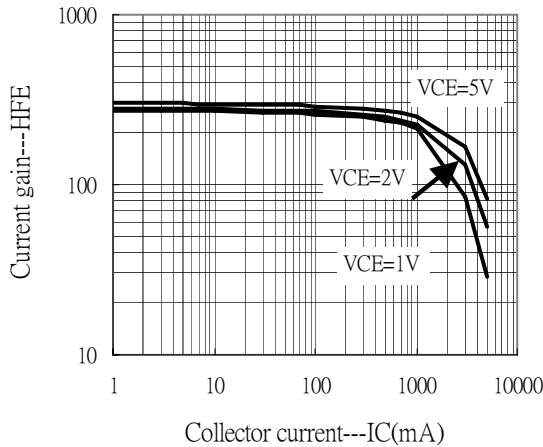
Rank	P	E
Range	180~390	250~500

Ordering Information

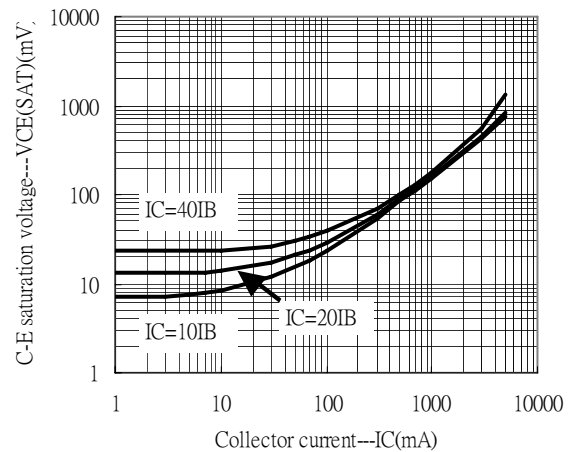
Device	Package	Shipping	Marking
BTB772I3	TO-251 (RoHS compliant)	80 pcs / tube, 50 tubes / box	B772
BTB772I3	TO-251 (RoHS compliant)	500 pcs / bag, 10 bags / box, 10 boxes/carton	B772

Characteristic Curves

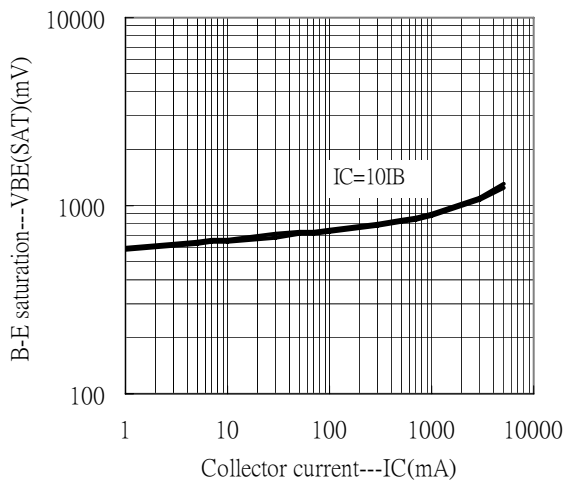
Current gain vs Collector current



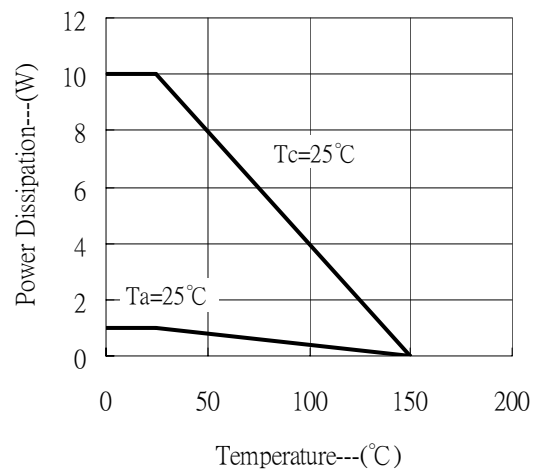
C-E saturation voltage vs Collector current



B-E saturation voltage vs Collector current



Power derating curves



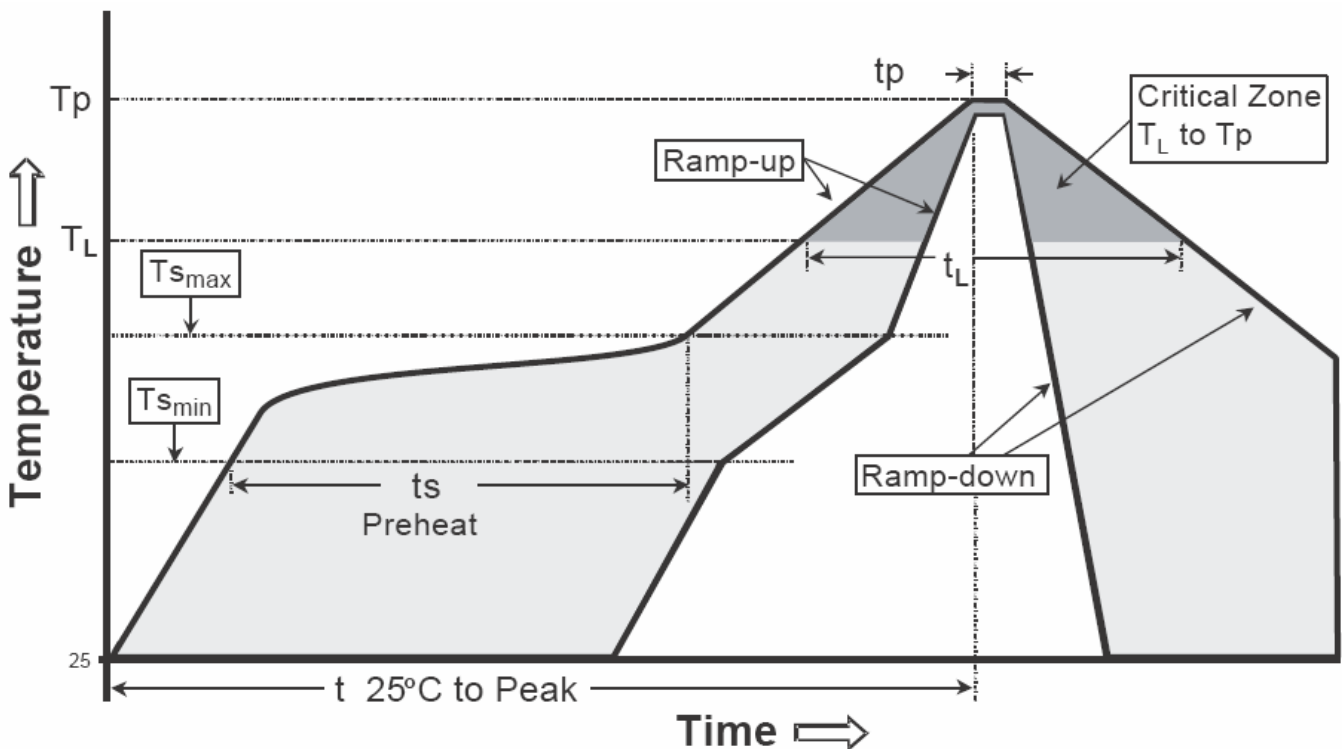
Recommended Storage Condition:

Temperature : 10~ 35 °C
 Humidity : 30~ 60% RH

Recommended wave soldering condition

Product	Peak Temperature	Soldering Time
Pb-free devices	265 +0/-5 °C	5 +1/-1 seconds

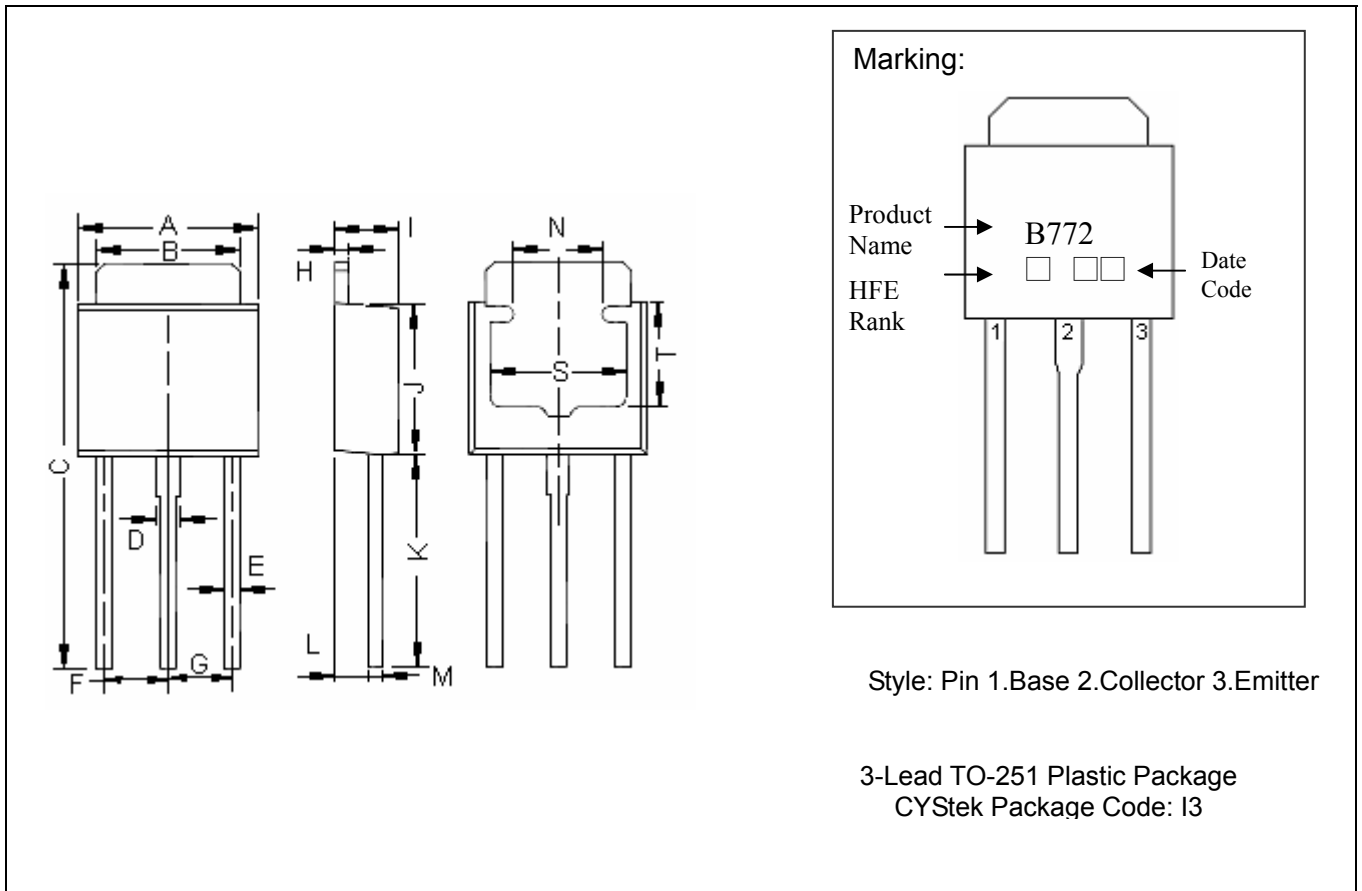
Recommended temperature profile for IR reflow



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 (T _L)	183°C	217°C
- Time (t _L)	60-150 seconds	60-150 seconds
Peak Temperature(T _P)	240 +0/-5 °C	265 +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-251AB Dimension



Marking:

Product Name: B772
 HFE Rank: [] [] []
 Date Code: [] [] []

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

3-Lead TO-251 Plastic Package
 CYStek Package Code: I3

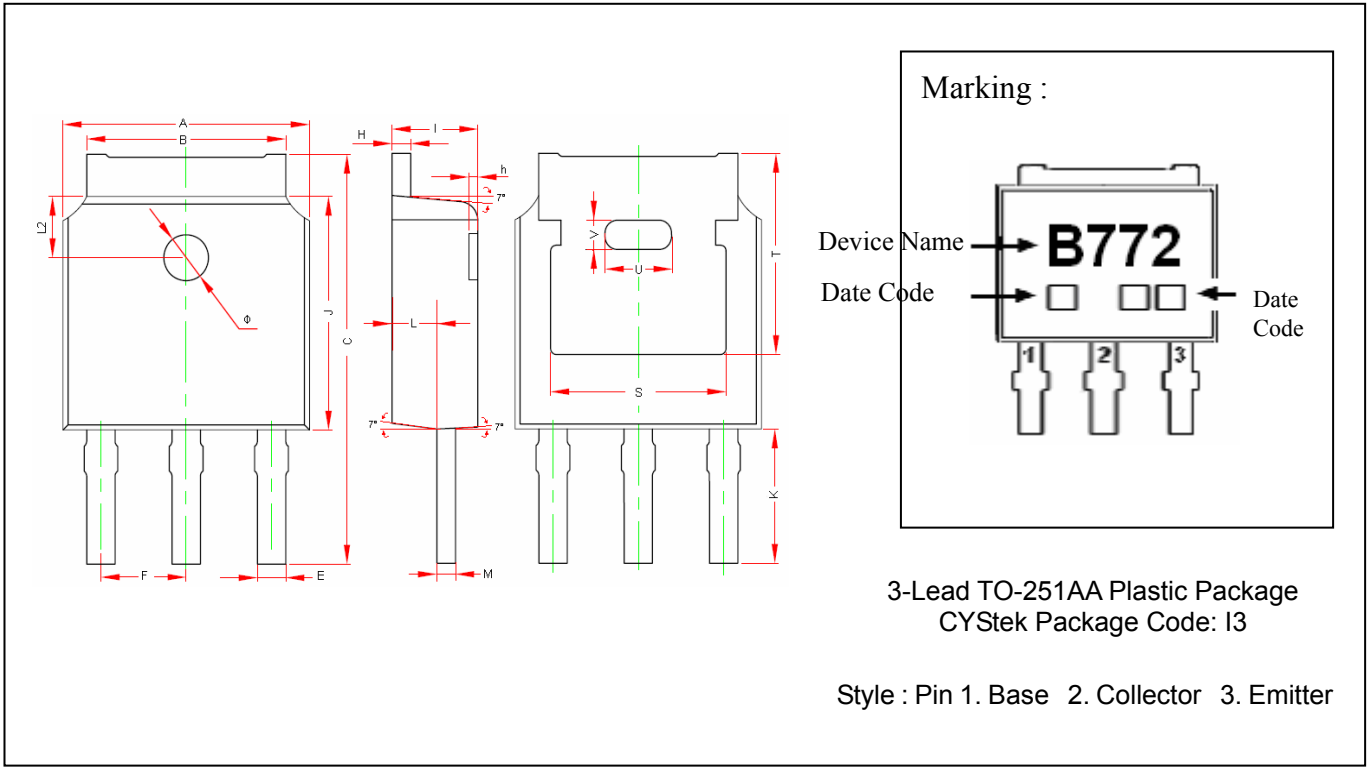
DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.250	0.262	6.350	6.650	I	0.087	0.094	2.200	2.400
B	0.205	0.213	5.200	5.400	J	0.213	0.224	5.400	5.700
C	0.571	0.587	14.500	14.900	K	0.295	0.311	7.500	7.900
D	0.028	0.035	0.700	0.900	L	0.042	0.054	1.050	1.350
E	0.020	0.028	0.500	0.700	M	0.017	0.023	0.430	0.580
F	0.091 TYP		2.300 TYP		N	0.118 REF		3.000 REF	
G	0.091 TYP		2.300 TYP		S	0.197 REF		5.000 REF	
H	0.017	0.023	0.430	0.580	T	0.150 REF		3.800 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-251AA Dimension



Marking :

Device Name → **B772**

Date Code → □ □ ← Date Code

1 2 3

3-Lead TO-251AA Plastic Package
 CYStek Package Code: I3

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

*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.256	0.264	6.500	6.700	K	0.138	REF	3.500	REF
B	0.201	0.215	5.100	5.460	L	0.036	0.046	0.910	1.110
C	0.409	0.433	10.400	11.000	L2	0.063	REF	1.600	REF
E	0.026	0.034	0.660	0.860	M	0.018	0.023	0.460	0.580
F	0.086	0.094	2.186	2.386	S	0.190	REF	4.830	REF
H	0.018	0.023	0.460	0.580	T	0.211	REF	5.350	REF
h	0.000	0.012	0.000	0.300	U	0.070	REF	1.780	REF
I	0.087	0.094	2.200	2.400	V	0.030	REF	0.760	REF
J	0.236	0.244	6.000	6.200	Φ	0.043	0.051	1.100	1.300

Notes: 1.Controlling dimension: inch.
 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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