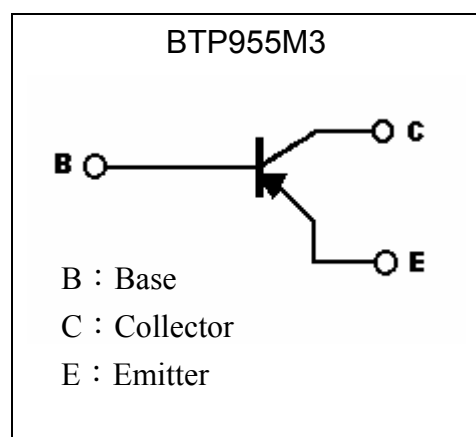
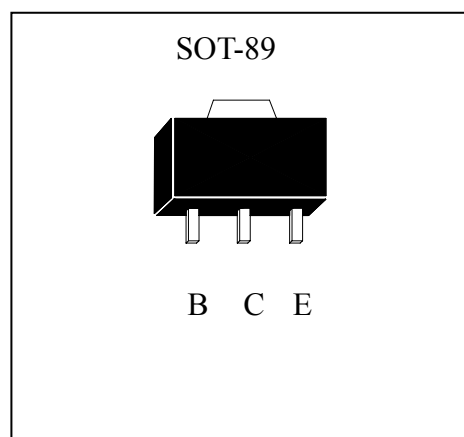


PNP Epitaxial Planar High Current (High Performance) Transistor

BTP955M3

Features

- 3 Amps continuous current, up to 10 Amps peak current
- Very low saturation voltage
- Excellent gain characteristics specified up to 3 Amps
- Extremely low equivalent on resistance, $R_{CE(SAT)}=75m\Omega$ at 3A
- Pb-free package

Symbol

Outline

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	-180	V
Collector-Emitter Voltage	V_{CEO}	-140	V
Emitter-Base Voltage	V_{EBO}	-7	V
Continuous Collector Current	I_C	-3	A
Peak Collector Current	I_{CP}	-10	A
Base Current	I_B	-1	A
Power Dissipation	P_d	0.6	W
		1.5 (Note 1)	
		2.1 (Note 2)	
ESD susceptibility		4000 (Note 3)	V
Operating and Storage Temperature Range	$T_j ; T_{stg}$	-55 ~ +150	°C

Note : 1. When mounted on FR-4 PCB with area measuring 25×25×1.6 mm

2. When mounted on ceramic with area measuring 50×50×1.6 mm

 3. Human body model, 1.5k Ω in series with 100pF

**Characteristics** (Ta=25°C, unless otherwise specified)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV _{CB0}	-180	-220	-	V	I _C =-100μA
BV _{CER}	-180	-220	-	V	I _C =-1μA, R _{BE} ≤1kΩ
*BV _{CEO}	-140	-170	-	V	I _C =-10mA
BV _{EBO}	-7	-8.3	-	V	I _E =-100μA
I _{CB0}	-	-	-50	nA	V _{CB} =-150V
I _{CER}	-	-	-50	nA	V _{CE} =-150V, R _{BE} ≤1kΩ
I _{EBO}	-	-	-10	nA	V _{EB} =-6V
*V _{CE(sat)1}	-	-30	-60	mV	I _C =-100mA, I _B =-5mA
*V _{CE(sat)2}	-	-50	-75	mV	I _C =-500mA, I _B =-50mA
*V _{CE(sat)3}	-	-84	-115	mV	I _C =-1A, I _B =-100mA
*V _{CE(sat)4}	-	-220	-330	mV	I _C =-3A, I _B =-300mA
*V _{BE(sat)}	-	-910	-1010	mV	I _C =-3A, I _B =-300mA
*V _{BE(on)}	-	-800	-900	mV	V _{CE} =-5V, I _C =-3A
h _{FE1}	100	-	-	-	V _{CE} =-5V, I _C =-10mA
h _{FE2}	100	-	300	-	V _{CE} =-5V, I _C =-1A
*h _{FE3}	75	-	-	-	V _{CE} =-5V, I _C =-3A
*h _{FE4}	-	10	-	-	V _{CE} =-5V, I _C =-10A
f _T	-	120	-	MHz	V _{CE} =-10V, I _C =-100mA, f=50MHz
C _{ob}	-	35	-	pF	V _{CB} =-10V, f=1MHz
ton		50		ns	I _C =-1A, I _{B1} =-100mA, I _{B2} =100mA,
toff		700		ns	V _{CC} =-50V

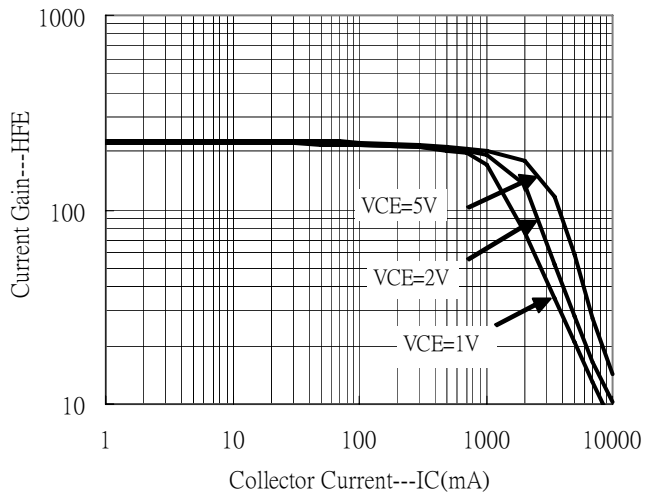
*Pulse Test: Pulse Width ≤300μs, Duty Cycle≤2%

Ordering Information

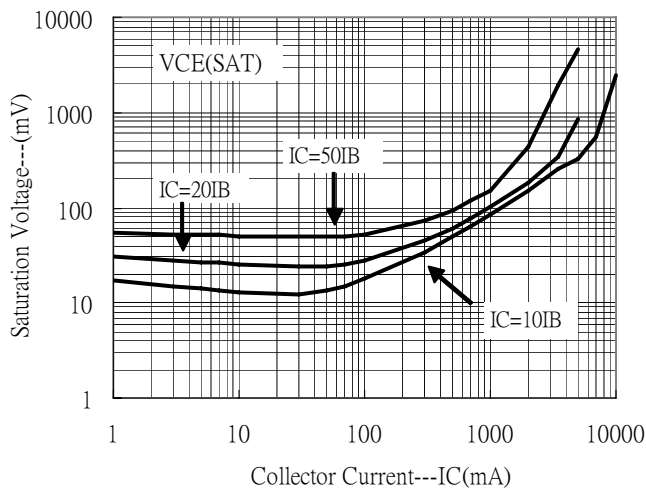
Device	Package	Shipping	Marking
BTP955M3	SOT-89 (Pb-free)	1000 pcs / Tape & Reel	P955

Characteristic Curves

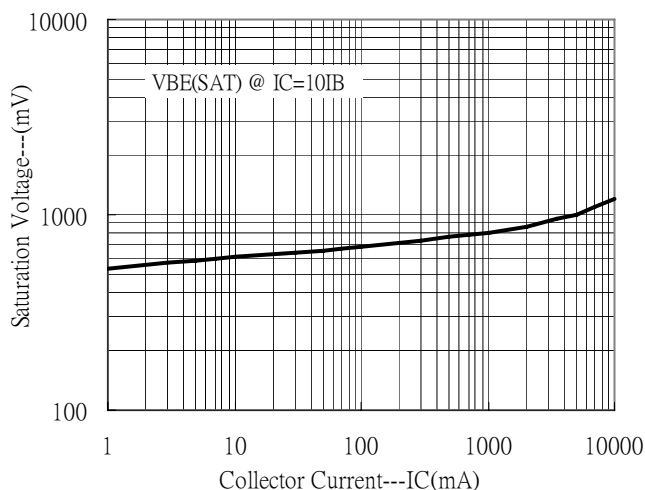
Current Gain vs Collector Current



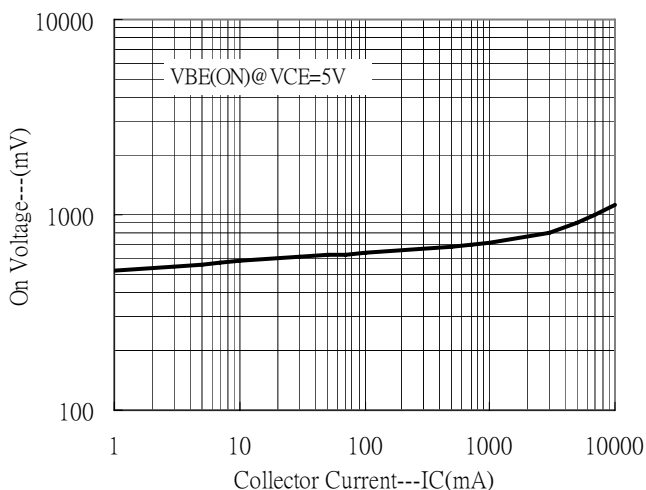
Saturation Voltage vs Collector Current



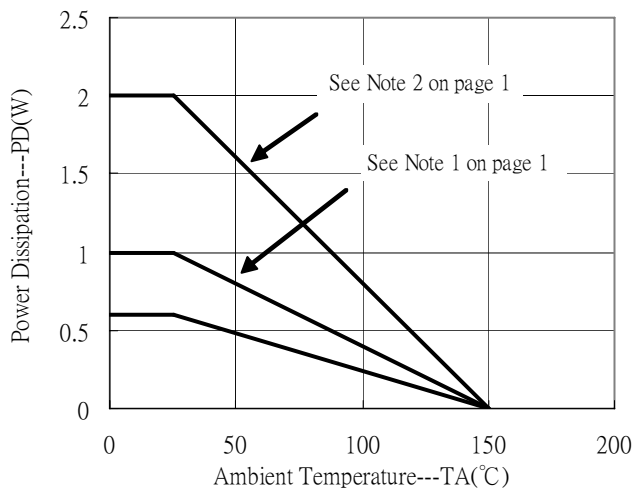
Saturation Voltage vs Collector Current



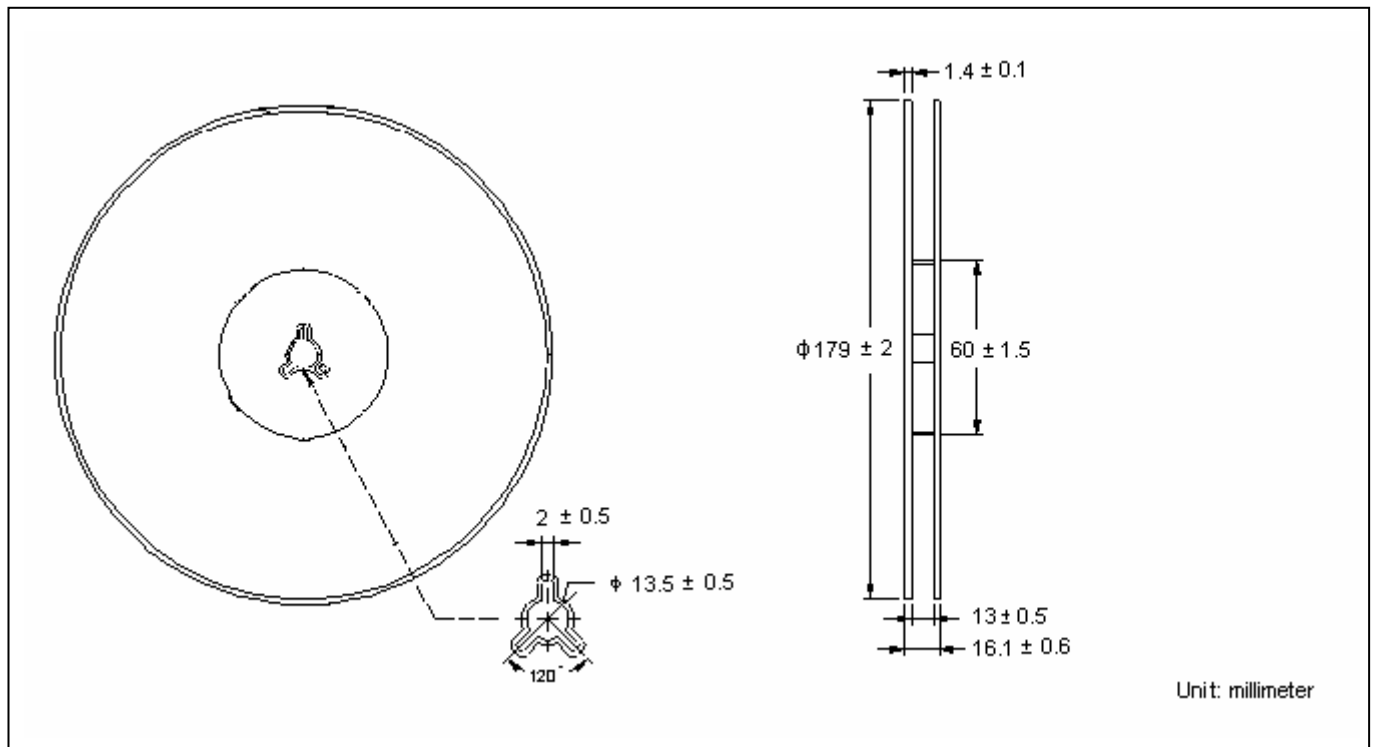
On Voltage vs Collector Current



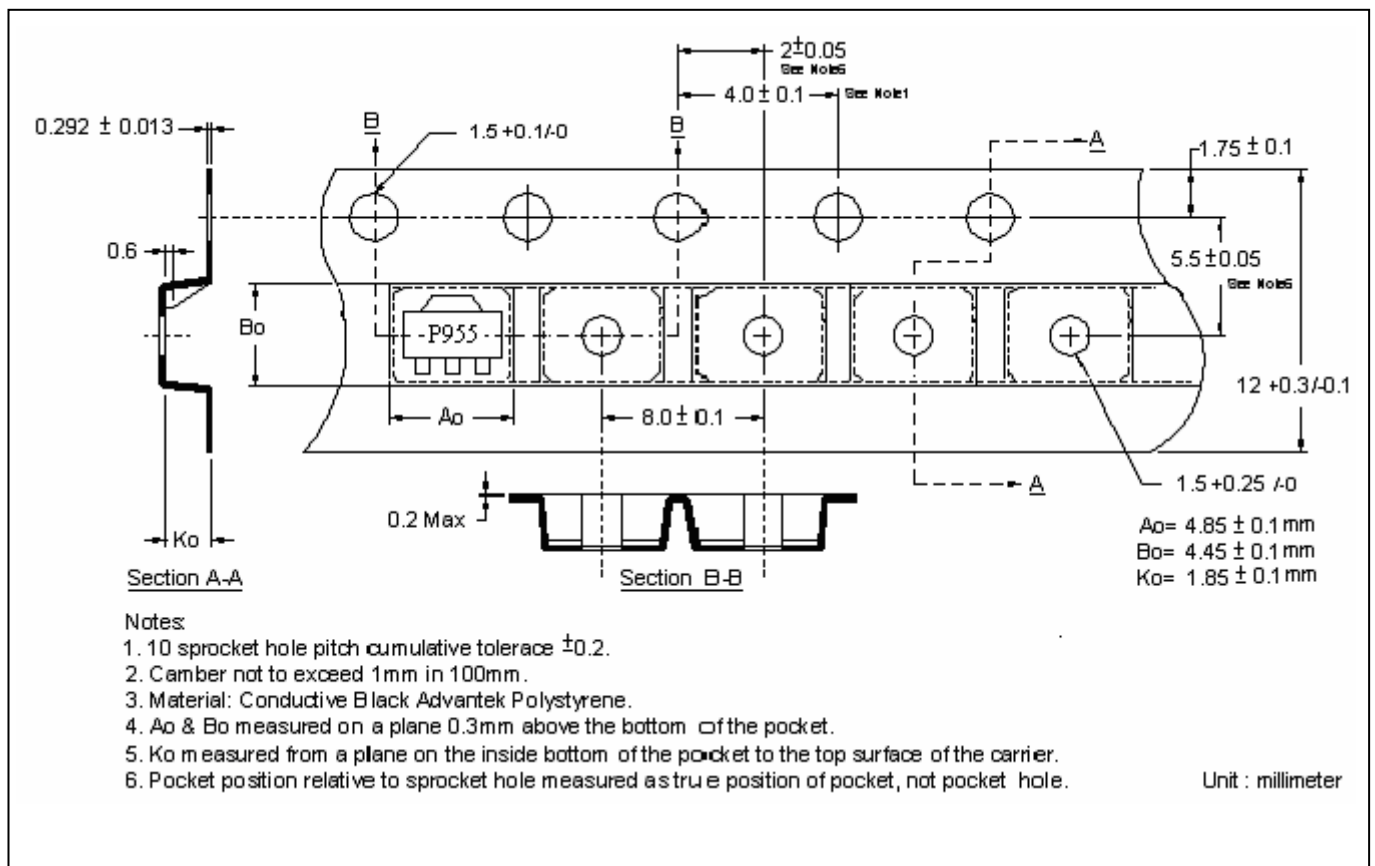
Power Derating Curve



Reel Dimension



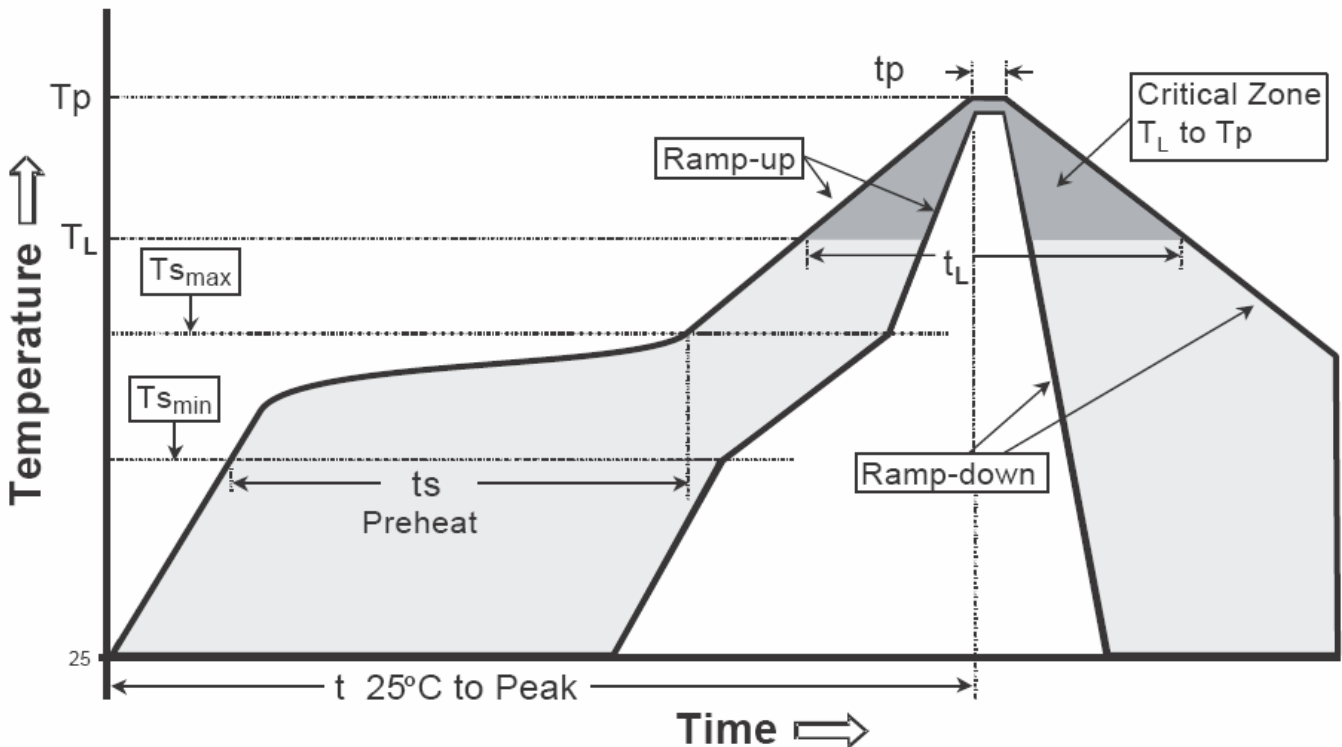
Carrier Tape Dimension



Recommended wave soldering condition

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

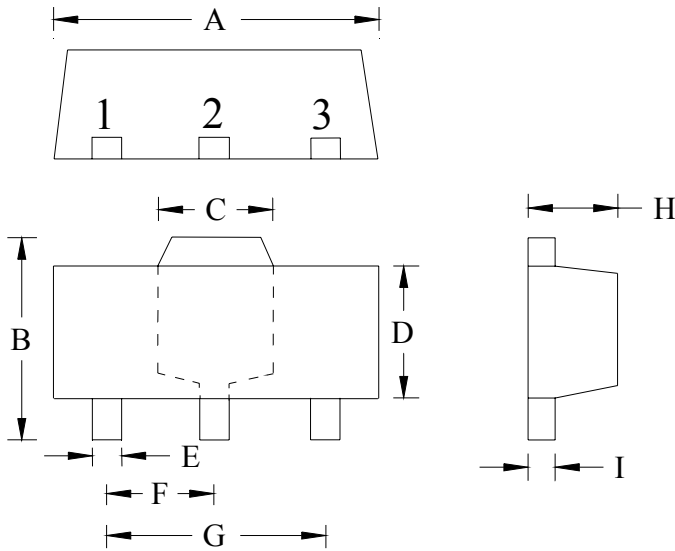
Recommended temperature profile for IR reflow



Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (T _s max to T _p)	3°C/second max.	3°C/second max.
Preheat		
-Temperature Min(T _s min)	100°C	150°C
-Temperature Max(T _s max)	150°C	200°C
-Time(t _s min to t _s 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	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.

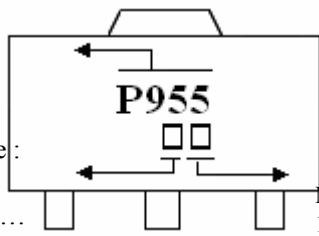
Note : All temperatures refer to topside of the package, measured on the package body surface.

SOT-89 Dimension



The diagram shows three views of the SOT-89 package: a top view with dimensions A, B, C, E, F, and G; a side view with dimensions D and H; and a lead view with dimension I. The top view also labels the three leads as 1, 2, and 3.

Marking:



Product Name: P955

Year code: 6→2006, 7→2007,...

Month code: 1~9, A,B,C

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

3-Lead SOT-89 Plastic
 Surface Mounted Package
 CYStek Package Code: M3

*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1732	0.1811	4.40	4.60	F	0.0583	0.0598	1.48	1.527
B	0.1594	0.1673	4.05	4.25	G	0.1165	0.1197	2.96	3.04
C	0.0591	0.0663	1.50	1.70	H	0.0551	0.0630	1.40	1.60
D	0.0945	0.1024	2.40	2.60	I	0.0138	0.0161	0.35	0.41
E	0.01417	0.0201	0.36	0.51					

- Notes:**
- Controlling dimension: millimeters.
 - Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.
 - 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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