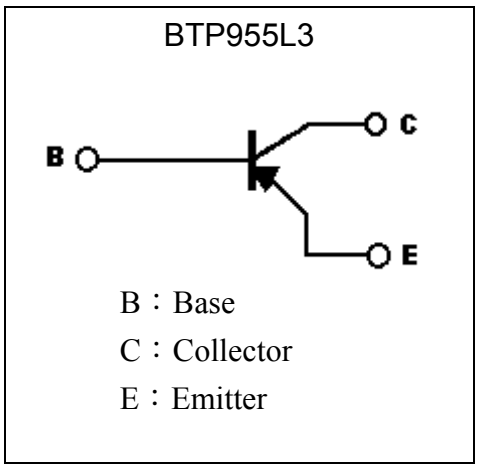
PNP Epitaxial Planar High Current (High Performance) Transistor

BTP955L3

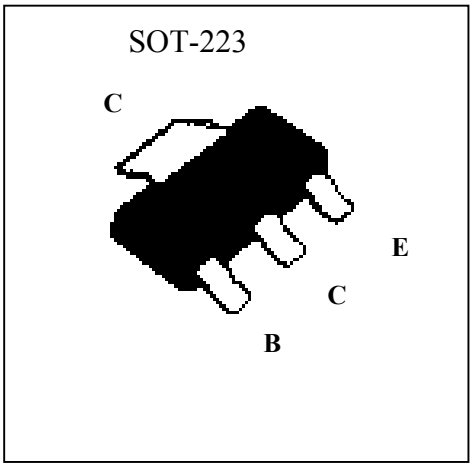
Features

- 4 Amps continuous current, up to 10 Amps peak current
- Very low saturation voltage
- Excellent gain characteristics specified up to 3 Amps
- Ptot=3Watts
- Extremely low equivalent on resistance, $R_{CE(SAT)}$=90mΩ 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}	-6	V
Continuous Collector Current	I_C	-4	A
Peak Collector Current	I_{CP}	-10	A
Base Current	I_B	-1	A
Power Dissipation @T_A=25°C	Pd	3 (Note)	W
Operating and Storage Temperature Range	Tj ; Tstg	-55 ~ +150	°C

Note: The power which can be dissipated assuming the device is mounted in a typical manner on a P.C.B. with copper equal to 4 square inch minimum.

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

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	-180	-210	-	V	I_C=-100μA
BV_{CER}	-180	-210	-	V	I_C=-1μA, R_{BE}≤1kΩ
*BV_{CEO}	-140	-170	-	V	I_C=-10mA
BV_{EBO}	-6	-8	-	V	I_E=-100μA
I_{CBO}	-	-	-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)}$1	-	-40	-60	mV	I_C=-100mA, I_B=-5mA
*$V_{CE(sat)}$2	-	-70	-120	mV	I_C=-500mA, I_B=-50mA
*$V_{CE(sat)}$3	-	-110	-150	mV	I_C=-1A, I_B=-100mA
*$V_{CE(sat)}$4	-	-270	-370	mV	I_C=-3A, I_B=-300mA
*$V_{BE(sat)}$	-	-930	-1110	mV	I_C=-3A, I_B=-300mA
*$V_{BE(on)}$	-	-830	-950	mV	V_{CE}=-5V, I_C=-3A
h_{FE}1	100	200	-	-	V_{CE}=-5V, I_C=-10mA
h_{FE}2	100	200	300	-	V_{CE}=-5V, I_C=-1A
*h_{FE}3	75	140	-	-	V_{CE}=-5V, I_C=-3A
*h_{FE}4	-	10	-	-	V_{CE}=-5V, I_C=-10A
f_T	-	110	-	MHz	V_{CE}=-10V, I_C=-100mA, f=50MHz
Cob	-	40	-	pF	V_{CB}=-20V, f=1MHz
ton		68		ns	I_C=-1A, I_B1=-100mA, I_B2=100mA, V_{CC}=-50V
toff		1030		ns	

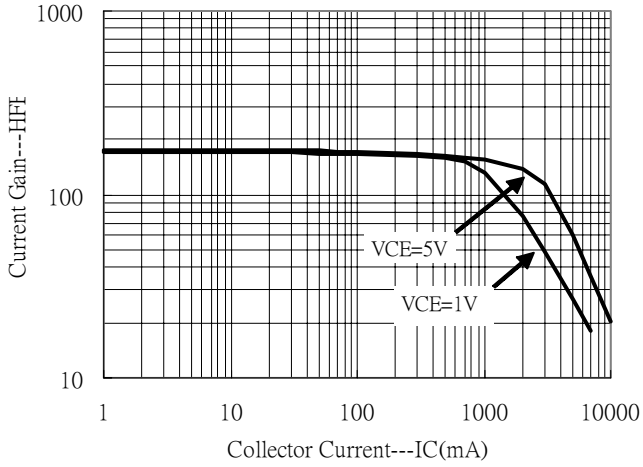
*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

Ordering Information

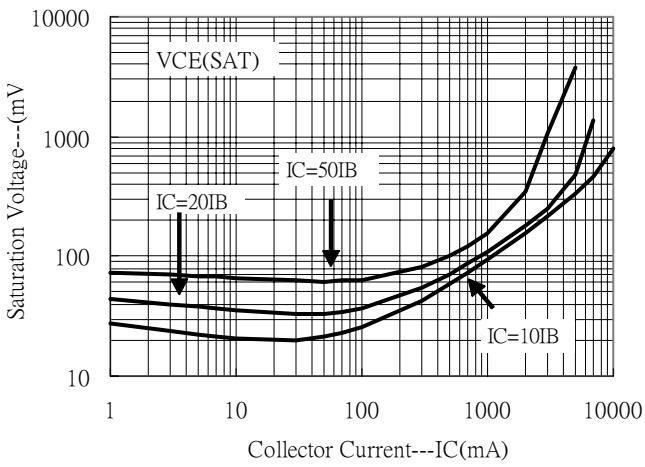
Device	Package	Shipping	Marking
BTP955L3	SOT-223 (Pb-free)	1000 pcs / Tape & Reel	955

Characteristic Curves

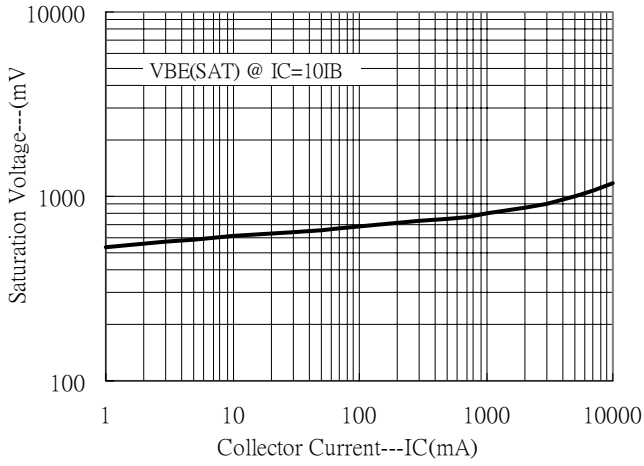
Current Gain vs Collector Current



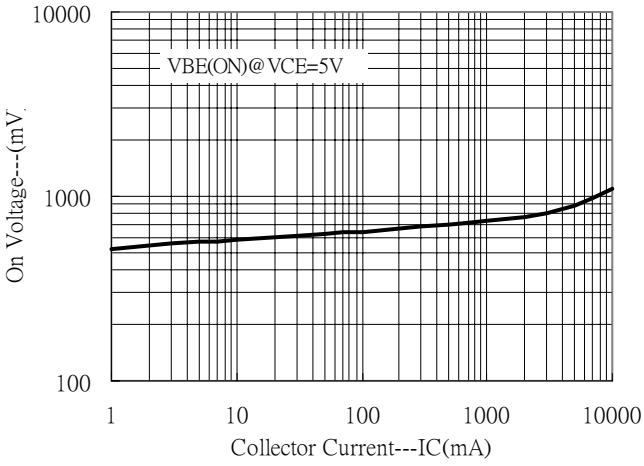
Saturation Voltage vs Collector Current



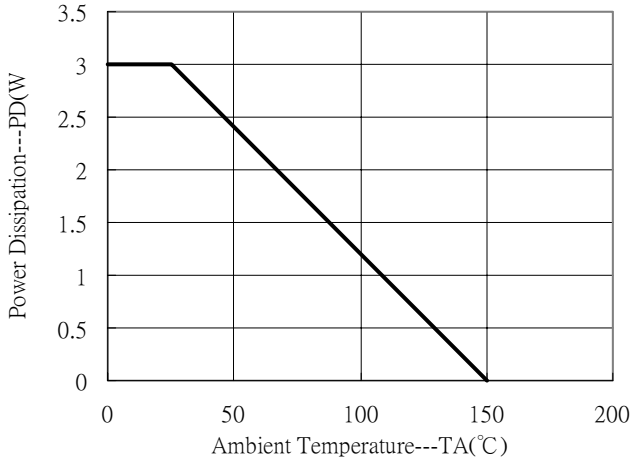
Saturation Voltage vs Collector Current



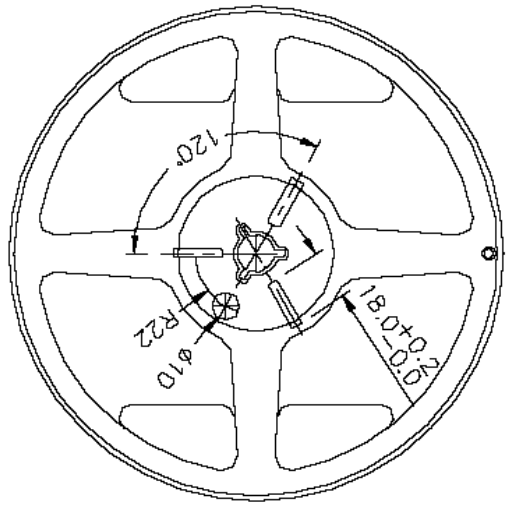
On Vottage vs Collector Current

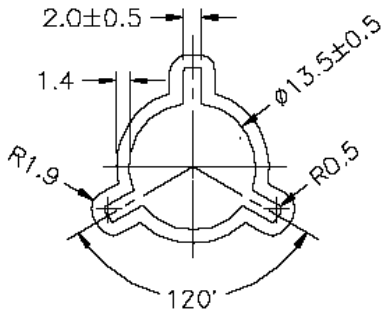


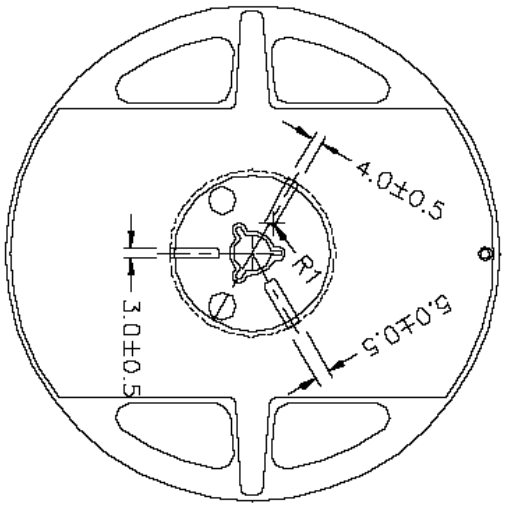
Power Derating Curve

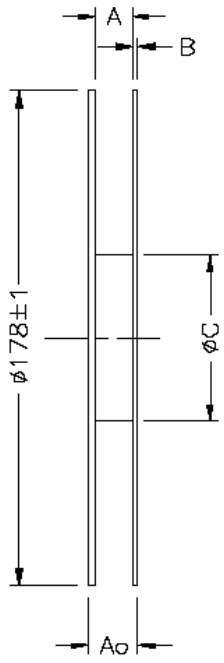


Reel Dimension







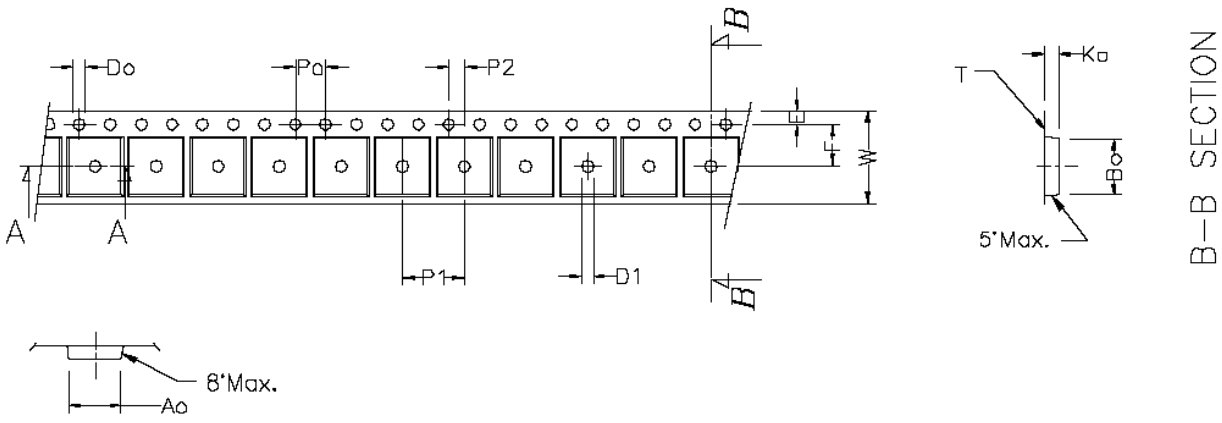


Width of carrier tape	8	12	16
A±0.05	9.0	13.0	17.0
Ao±0.05	12.0	16.0	20.0
B	1.5	1.5	1.5
øC $^{+1}_{0}$	60	60	60

NOTE :
1. Material : Anti-static polystyrene.
2. Surface resistivity 10 ^{9}ohm/square

UNIT : millimeter

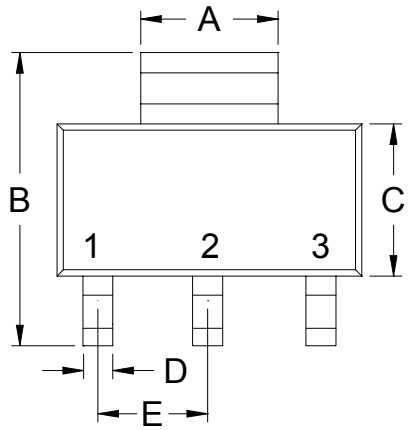
Carrier Tape Dimension

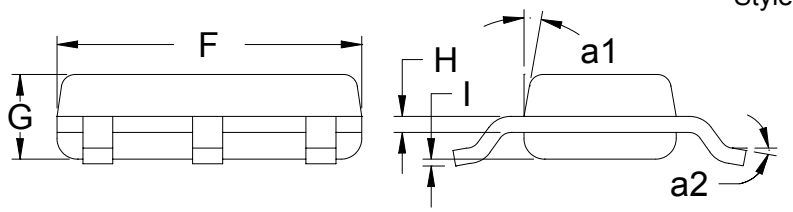


A–A SECTION

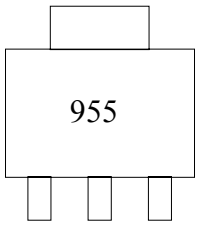
symbol	Ao	Bo	Ko	Po	P1	P2	T
Spec	6.83±0.1	7.42±0.1	1.88±0.1	4.0±0.1	8.0±0.10	2.0±0.05	0.292±0.02
symbol	E	F	Do	D1	W	10Po	
Spec	1.75±0.1	5.5±0.05	1.60±0.1	1.5±0.25	$12.0^{+0.3}_{-0.1}$	40.0±0.2	

SOT-223 Dimension





Marking:



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

3-Lead SOT-223 Plastic
Surface Mounted Package
CYStek Package Code: L3

*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1142	0.1220	2.90	3.10	G	0.0551	0.0709	1.40	1.80
B	0.2638	0.2874	6.70	7.30	H	0.0098	0.0138	0.25	0.35
C	0.1299	0.1457	3.30	3.70	I	0.0008	0.0039	0.02	0.10
D	0.0236	0.0315	0.60	0.80	a1	*13°	-	*13°	-
E	*0.0906	-	*2.30	-	a2	0°	10°	0°	10°
F	0.2480	0.2638	6.30	6.70					

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