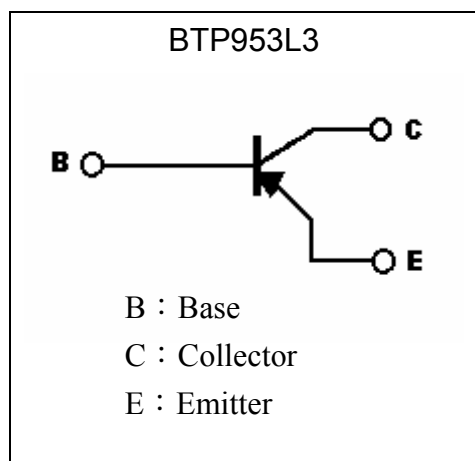
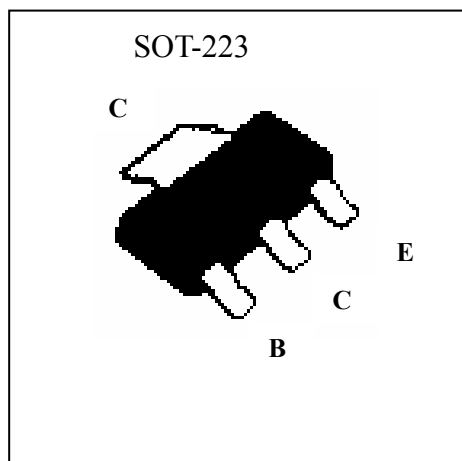


PNP Epitaxial Planar High Current (High Performance) Transistor

BTP953L3

Features

- 5 Amps continuous current, up to 10 Amps peak current
- Very low saturation voltage
- Excellent gain characteristics specified up to 10 Amps
- $P_{tot}=3\text{Watts}$
- Extremely low equivalent on resistance, $R_{CE(SAT)}=70\text{m}\Omega$ at 4A
- Pb-free package

Symbol

Outline

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	-140	V
Collector-Emitter Voltage	V_{CEO}	-100	V
Emitter-Base Voltage	V_{EBO}	-6	V
Continuous Collector Current	I_C	-5	A
Peak Collector Current	I_{CP}	-10	A
Base Current	I_B	-1	A
Power Dissipation @ $T_A=25^\circ\text{C}$	P_d	3 (Note)	W
Operating and Storage Temperature Range	$T_j ; T_{stg}$	-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 _{CB0}	-140	-170	-	V	I _C =-100μA
BV _{CER}	-140	-170	-	V	I _C =-1μA, R _{BE} ≤1kΩ
BV _{CEO}	-100	-120	-	V	I _C =-10mA
BV _{EBO}	-6	-8	-	V	I _E =-100μA
I _{CB0}	-	-	-50	nA	V _{CB} =-100V
I _{CER}	-	-	-50	nA	V _{CE} =-100V, R _{BE} ≤1kΩ
I _{EBO}	-	-	-10	nA	V _{EB} =-5V
*V _{CE(sat)1}	-	-18	-50	mV	I _C =-100mA, I _B =-10mA
*V _{CE(sat)2}	-	-85	-115	mV	I _C =-1A, I _B =-100mA
*V _{CE(sat)3}	-	-155	-220	mV	I _C =-2A, I _B =-200mA
*V _{CE(sat)4}	-	-280	-420	mV	I _C =-4A, I _B =-400mA
*V _{BE(sat)}	-	-990	-1170	mV	I _C =-4A, I _B =-400mA
*V _{BE(on)}	-	-910	-1160	mV	V _{CE} =-1V, I _C =-4A
h _{FE1}	100	200	-	-	V _{CE} =-1V, I _C =-10mA
h _{FE2}	100	200	300	-	V _{CE} =-1V, I _C =-1A
*h _{FE3}	50	90	320	-	V _{CE} =-1V, I _C =-3A
*h _{FE4}	30	50	-	-	V _{CE} =-1V, I _C =-4A
*h _{FE5}	-	15	-	-	V _{CE} =-1V, I _C =-10A
f _T	-	125	-	MHz	V _{CE} =-10V, I _C =-100mA, f=50MHz
C _{ob}	-	65	-	pF	V _{CB} =-10V, f=1MHz
ton		110		ns	I _C =-2A, I _{B1} =-200mA, I _{B2} =200mA, V _{CC} =-10V
toff		460		ns	

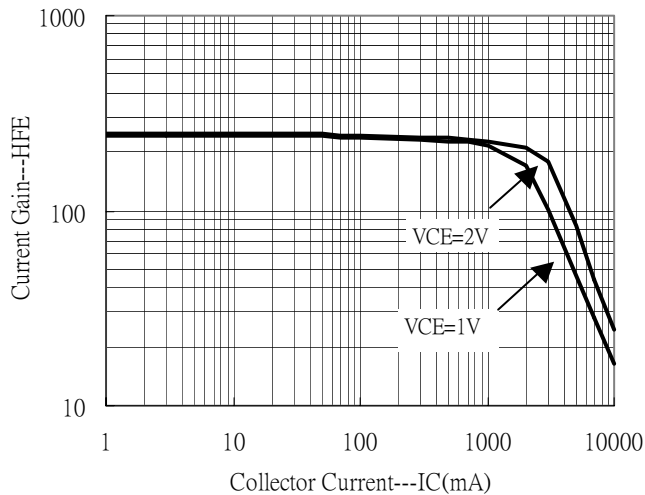
*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

Ordering Information

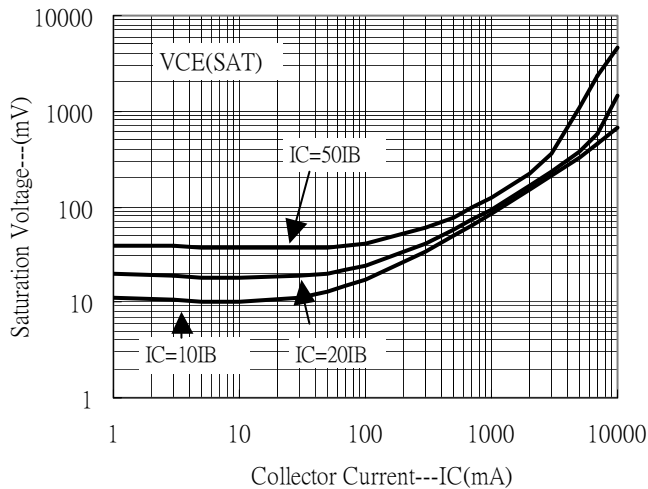
Device	Package	Shipping	Marking
BTP953L3	SOT-223 (Pb-free)	1000 pcs / Tape & Reel	953

Characteristic Curves

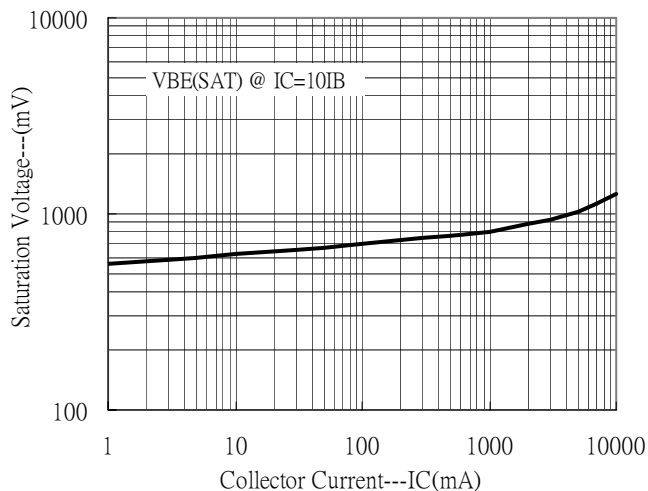
Current Gain vs Collector Current



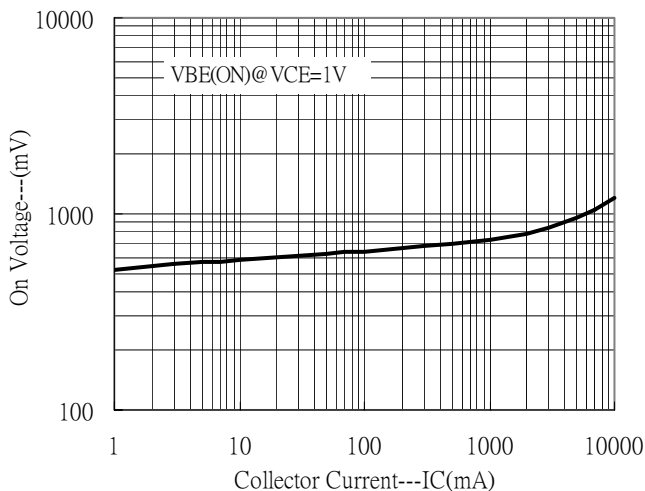
Saturation Voltage vs Collector Current



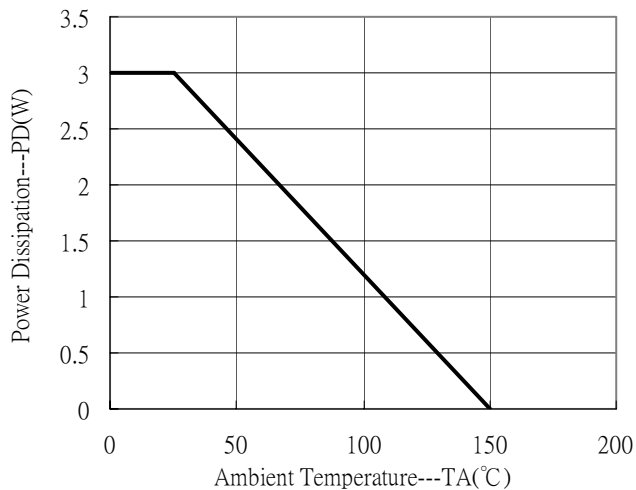
Saturation Voltage vs Collector Current



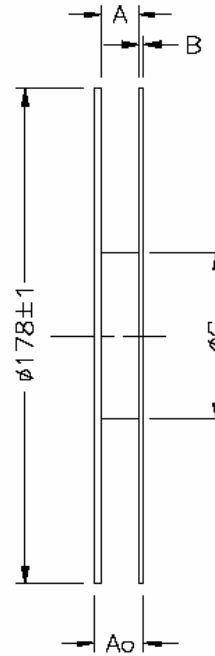
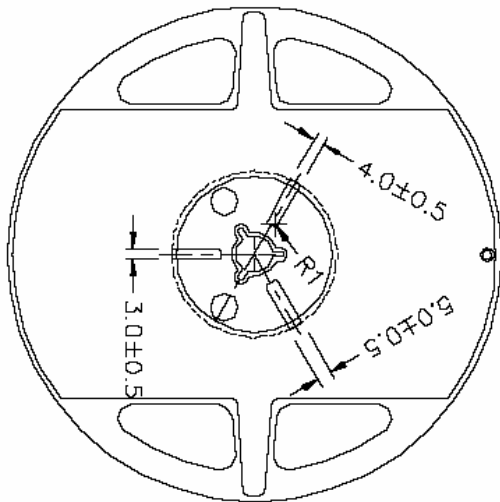
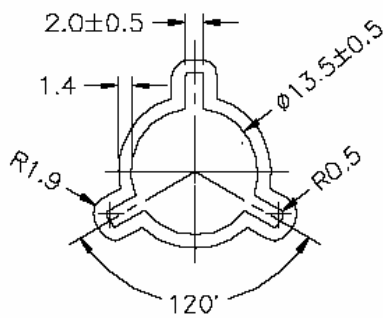
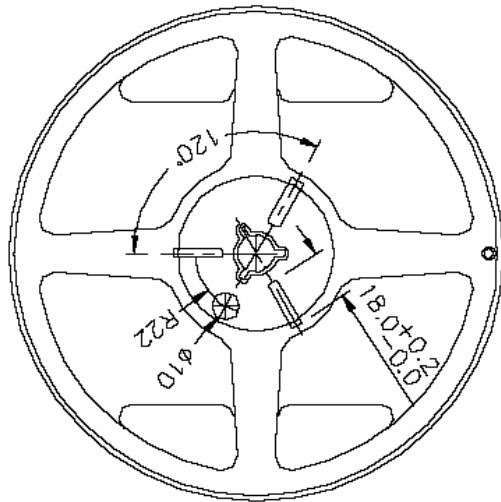
On Voltage vs Collector Current



Power Derating Curve



Reel Dimension



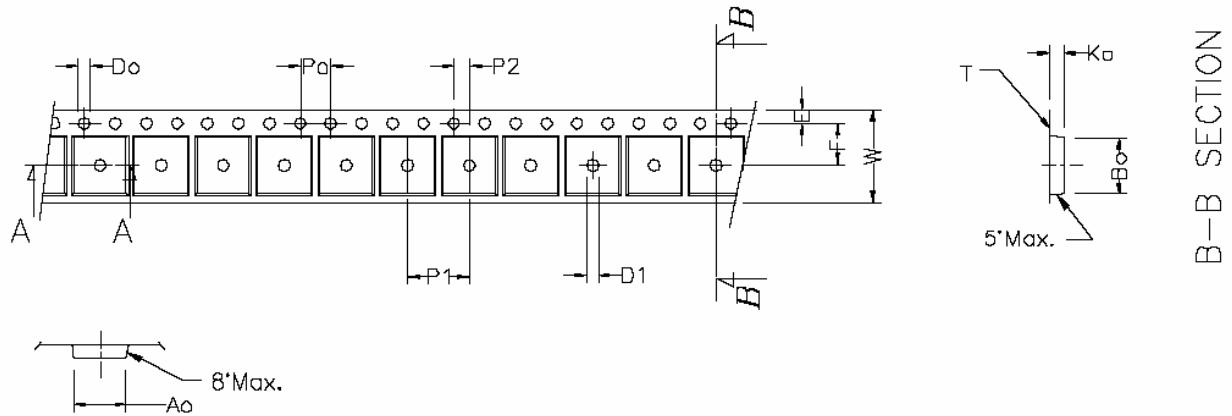
Width of carrier tape	8	12	16
A±0.05	9.0	13.0	17.0
Ao±0.05	12.0	16.0	20.0
B	1.5	1.5	1.5
øC ± ₀ ⁺¹	60	60	60

NOTE :

1. Material : Anti-static polystyrene.
2. Surface resistivity 10⁸ ohm/square

UNIT : millimeter

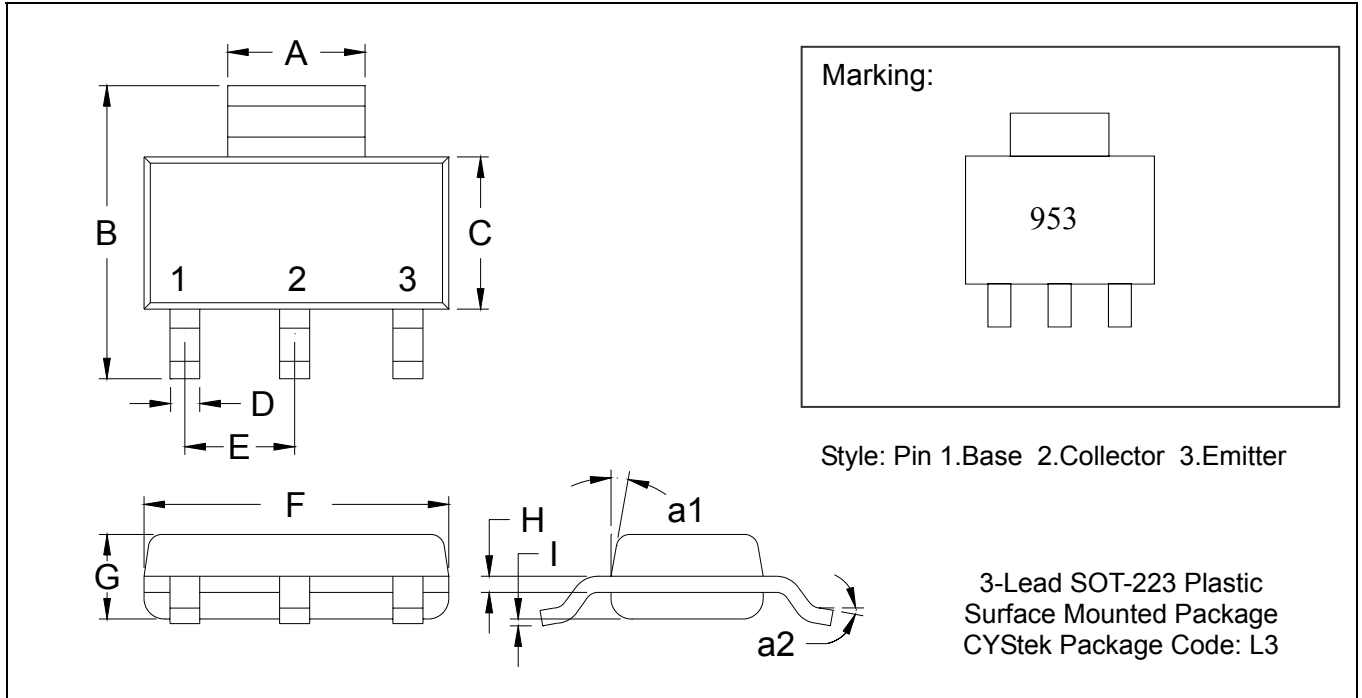
Carrier Tape Dimension



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



*: 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

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