General Purpose PNP Epitaxial Planar Transistor

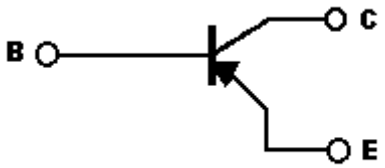
BTA1036S3

Description

- The BTA1036S3 is designed for general purpose amplifier applications. It is housed in the SOT-323/SC-70 package which is designed for low power surface mount applications.
- Low $V_{CE(sat)}$
- High switching speed.
- Complementary to BTC2411S3
- Pb-free lead plating and halogen-free package

Symbol

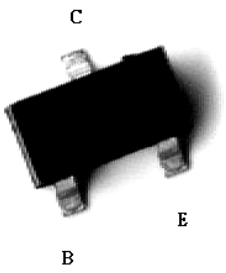
BTA1036S3



B：Base
C：Collector
E：Emitter

Outline

SOT-323



Ordering Information

Device	Package	Shipping
BTA1036S3-0-T1-G	SOT-323 (Pb-free lead plating and halogen-free package)	3000 pcs / Tape & Reel

Environment friendly grade : S for RoHS compliant products, G for RoHS compliant and green compound products

Packing spec, T1 : 3000 pcs / tape & reel, 7” reel

Product rank, zero for no rank products

Product name

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	-60	V
Collector-Emitter Voltage	V_{CEO}	-60	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-600	mA
Power Dissipation	P_D	150 (Note 1)	mW
Operating Junction Temperature Range	Tj	-55~+150	°C
Storage Temperature Range	Tstg	-55~+150	°C

Note 1:When mounted on a FR-5 board with area measuring 1.0×0.75×0.062 in.

Thermal Data

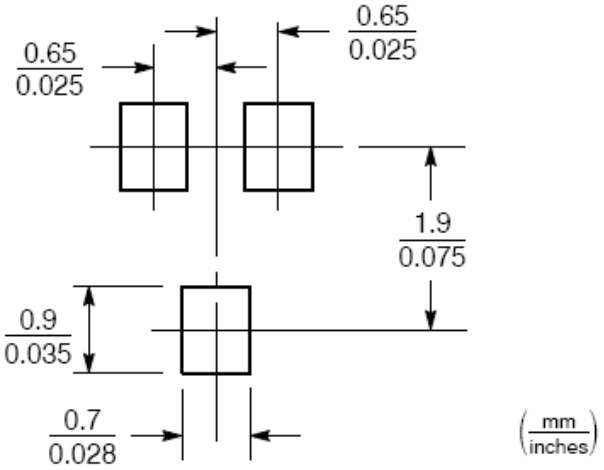
Parameter	Symbol	Value	Unit
Thermal Resistance, Junction-to-ambient, max	$R_{th,j-a}$	833	°C/W

Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	-60	-	-	V	I_C=-10μA
*BV_{CEO}	-60	-	-	V	I_C=-10mA
BV_{EBO}	-5	-	-	V	I_E=-10μA
I_{CBO}	-	-	-10	nA	V_{CB}=-50V
I_{CEX}	-	-	-50	nA	V_{CE}=-30V, $V_{BE(OFF)}$=-0.5V
*$V_{CE(sat)}$	-	-0.2	-0.4	V	I_C=-150mA, I_B=-15mA
*$V_{CE(sat)}$	-	-0.5	-1.6	V	I_C=-500mA, I_B=-50mA
*$V_{BE(sat)}$	-	-	-1.3	V	I_C=-150mA, I_B=-15mA
*$V_{BE(sat)}$	-	-	-2.6	V	I_C=-500mA, I_B=-50mA
*h_{FE}	75	-	-	-	V_{CE}=-10V, I_C=-100μA
*h_{FE}	100	-	-	-	V_{CE}=-10V, I_C=-1mA
*h_{FE}	100	-	-	-	V_{CE}=-10V, I_C=-10mA
*h_{FE}	100	-	300	-	V_{CE}=-10V, I_C=-150mA
*h_{FE}	50	-	-	-	V_{CE}=-10V, I_C=-500mA
f_T	200		-	MHz	V_{CE}=-20V, I_C=-50mA, f=100MHz
Cob	-	-	8	pF	V_{CB}=-10V, I_E=0A, f=1MHz

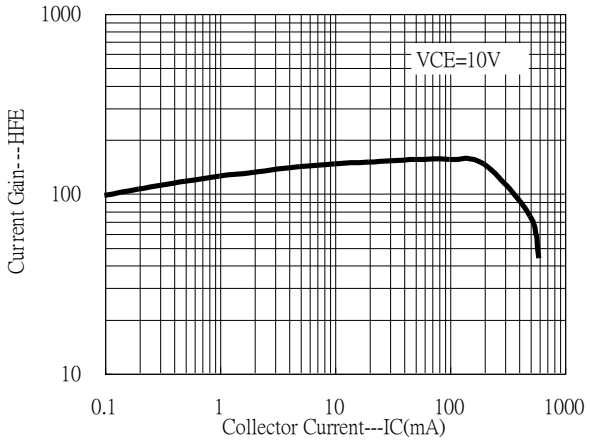
*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

Recommended Soldering Footprint

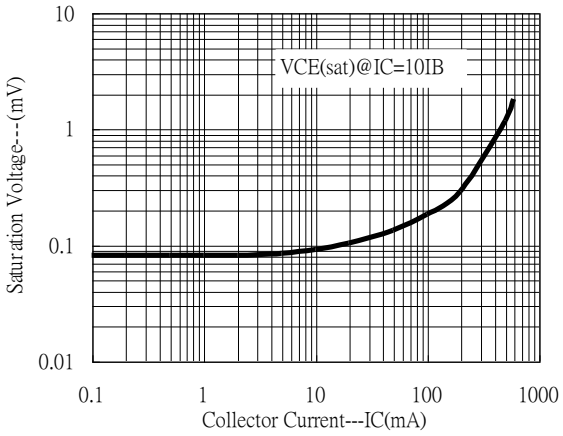


Typical Characteristics

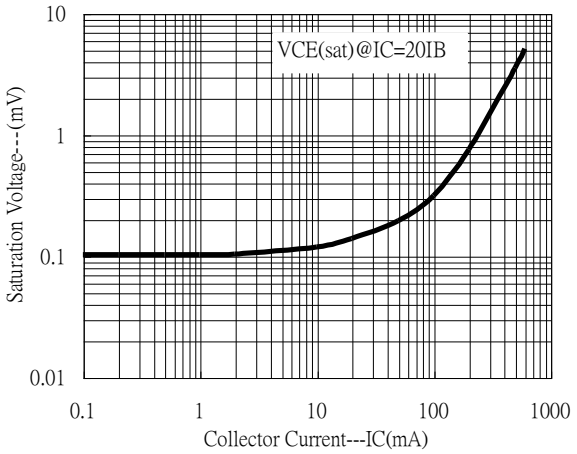
Current Gain vs Collector Current



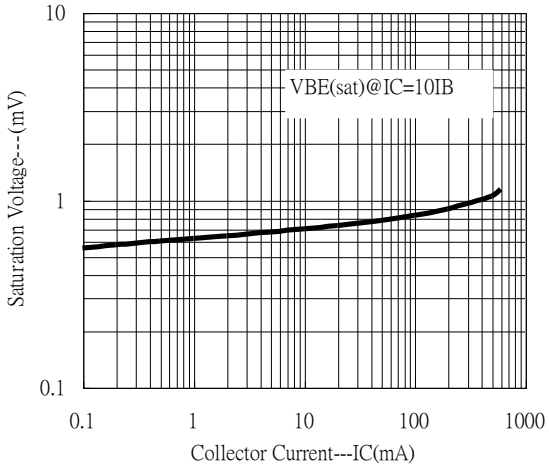
Saturation Voltage vs Collector Current



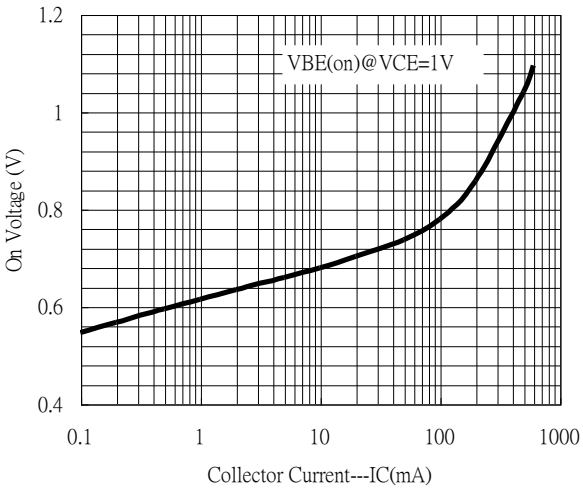
Saturation Voltage vs Collector Current



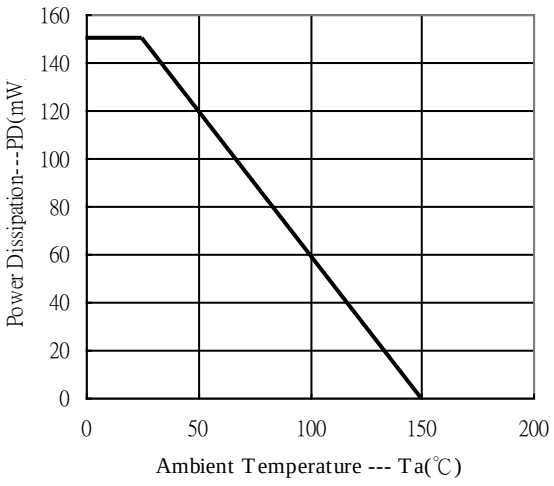
Saturation Voltage vs Collector Current



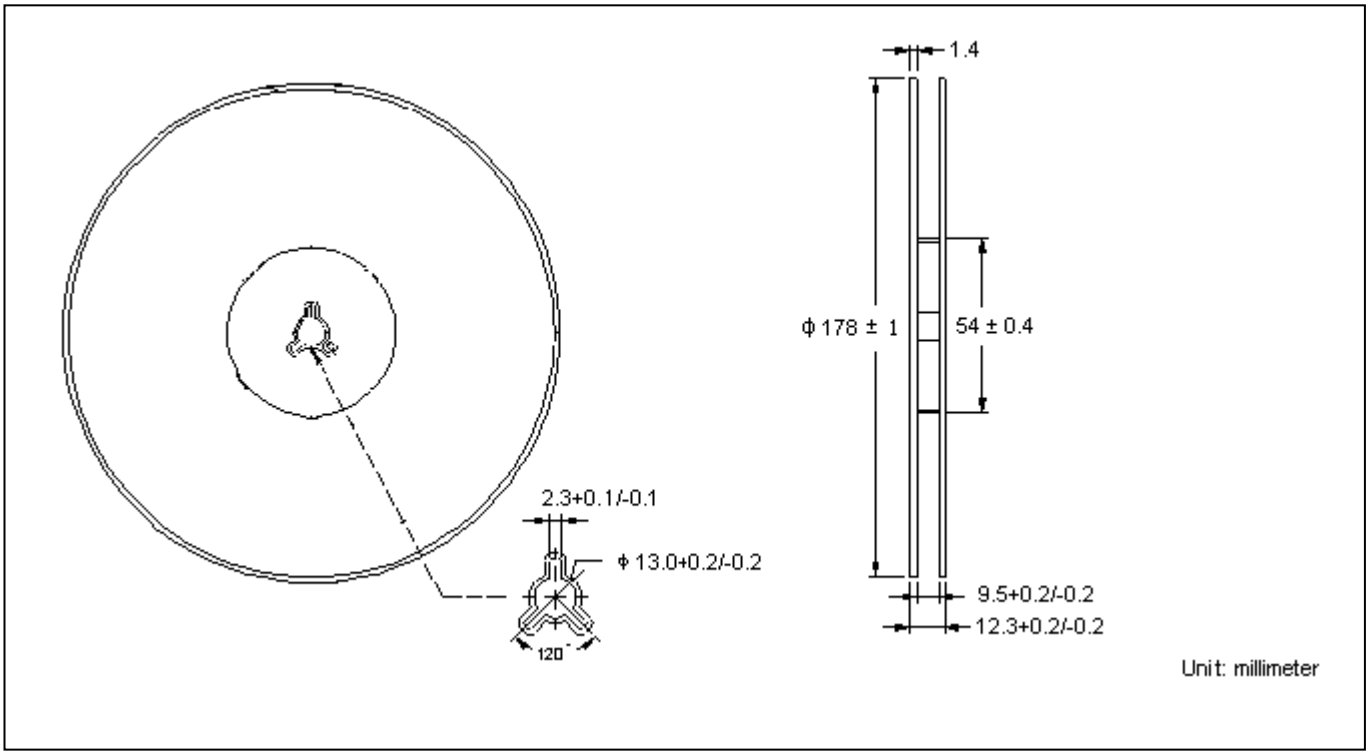
On Voltage vs Collector Current



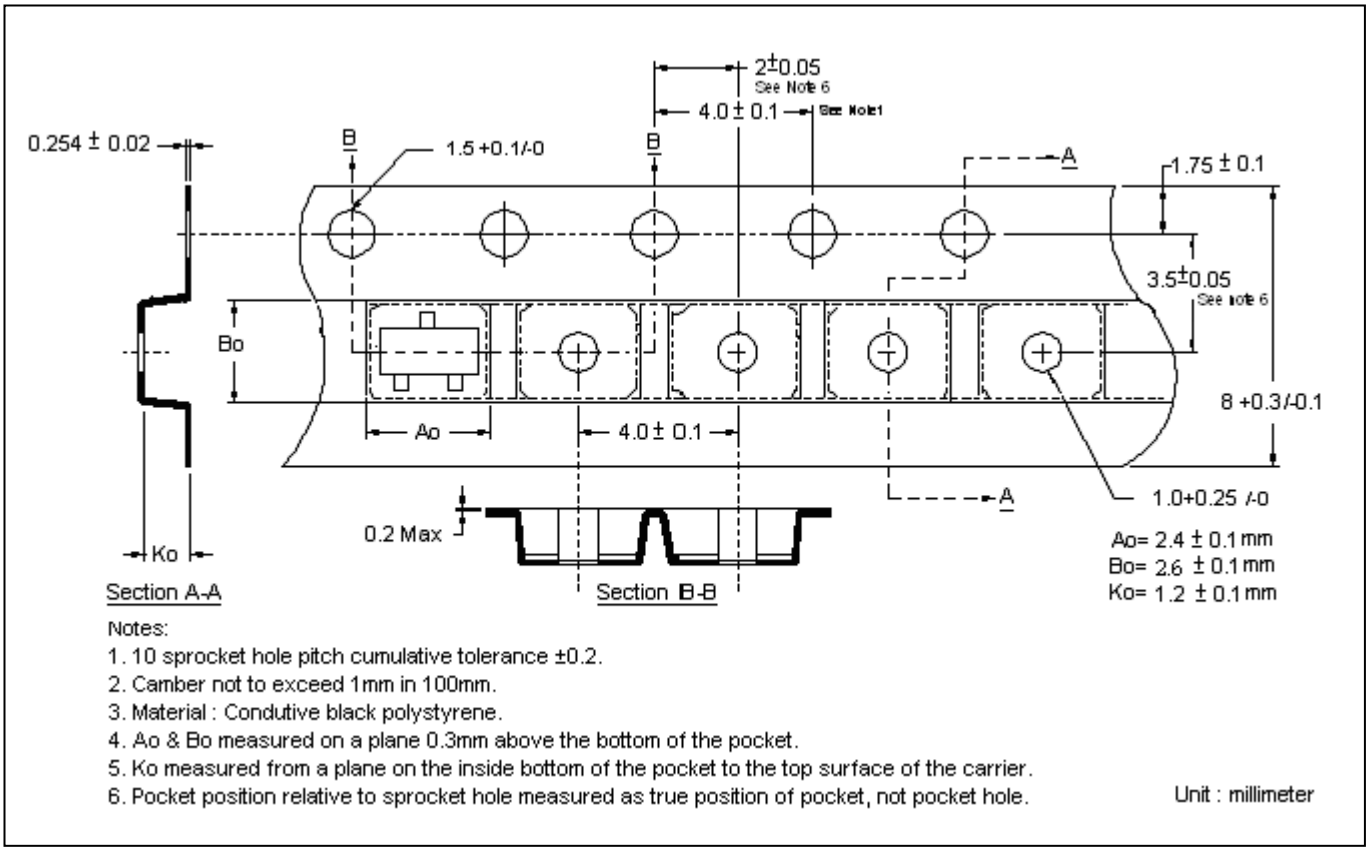
Power Derating Curve



Reel Dimension



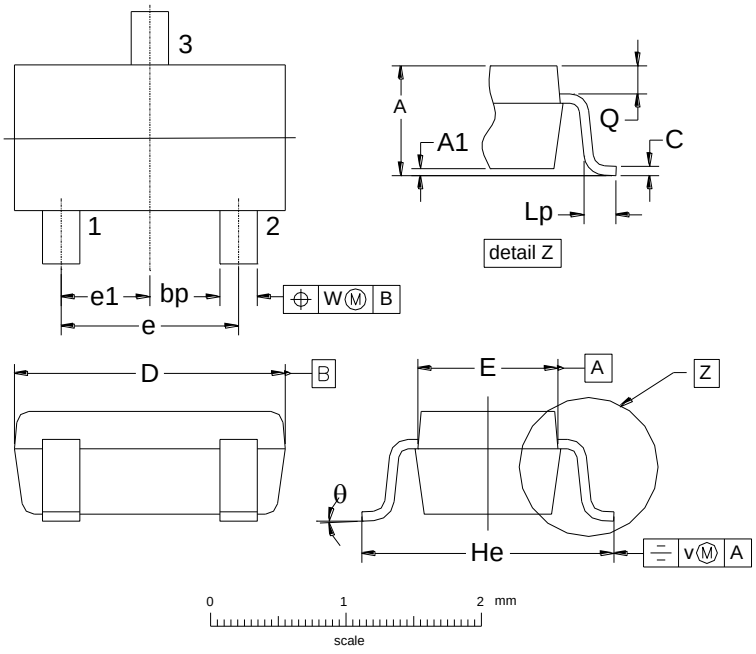
Carrier Tape Dimension



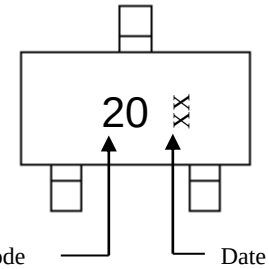
Notes:
1. 10 sprocket hole pitch cumulative tolerance ±0.2.
2. Camber not to exceed 1mm in 100mm.
3. Material : Condutive black polystyrene.
4. Ao & Bo measured on a plane 0.3mm above the bottom of the pocket.
5. Ko measured from a plane on the inside bottom of the pocket to the top surface of the carrier.
6. Pocket position relative to sprocket hole measured as true position of pocket, not pocket hole.

Unit : millimeter

SOT-323 Dimension



Marking:



3-Lead SOT-323 Plastic
Surface Mounted Package
CYStek Package Code: S3

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

*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.0315	0.0433	0.80	1.10	e1	0.0256*		0.65*	
A1	0.0000	0.0039	0.00	0.10	He	0.0846	0.0965	2.15	2.45
bp	0.0078	0.0157	0.20	0.40	Lp	0.0105	0.0181	0.26	0.46
C	0.0031	0.0059	0.08	0.15	Q	0.0051	0.0091	0.13	0.23
D	0.0709	0.0866	1.80	2.20	v	0.0079	-	0.2	-
E	0.0453	0.0531	1.15	1.35	w	0.0079	-	0.2	-
e	0.0472	0.0551	1.20	1.40	θ	0°	8°	0°	8°

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.