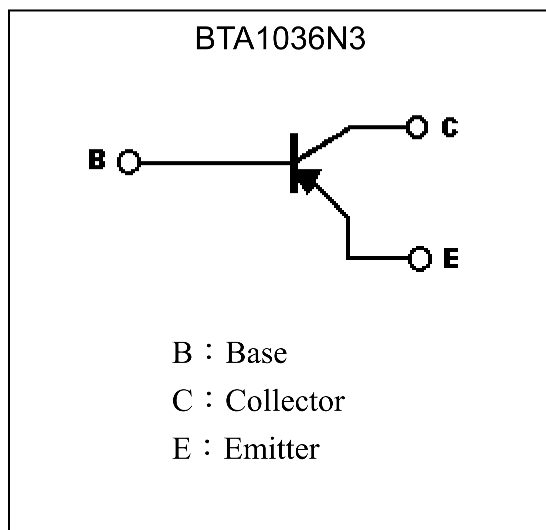
General Purpose PNP Epitaxial Planar Transistor

BTA1036N3

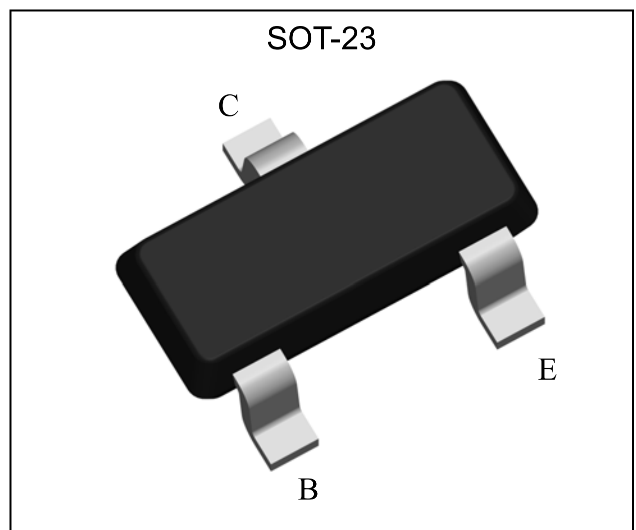
Description

- The BTA1036N3 is designed for using in driver stage of AF amplifier and general purpose amplification.
- Large I_C , $I_{C(Max)}$= -0.6A
- Low $V_{CE(sat)}$, ideal for low-voltage operation.
- Complementary to BTC2411N3.
- Pb-free lead plating and halogen-free package

Symbol

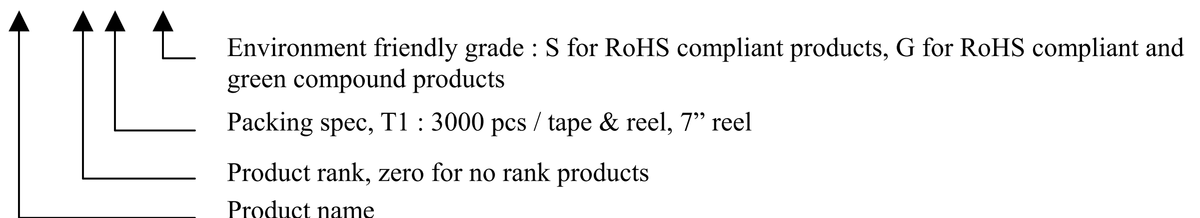


Outline



Ordering Information

Device	Package	Shipping
BTA1036N3-0-T1-G	SOT-23 (Pb-free lead plating and halogen-free package)	3000 pcs / tape & reel



Absolute Maximum Ratings (Ta=25°C)

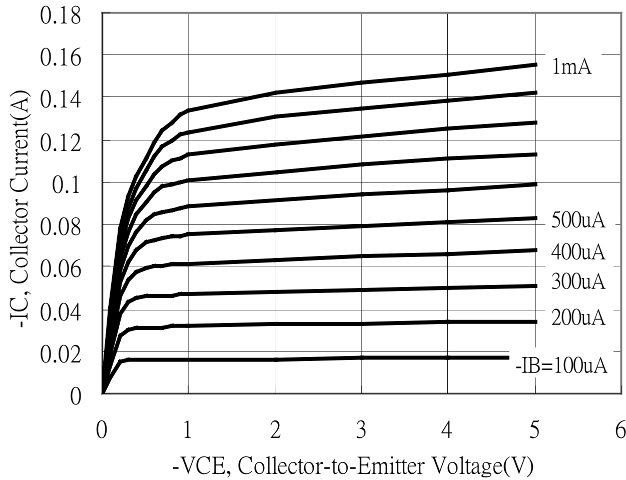
Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	-60	V
Collector-Emitter Voltage	V_{CEO}	-60	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-0.6	A
Power Dissipation	Pd	225	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	°C/W
Operating Junction Temperature Range	Tj	-55~+150	°C
Storage Temperature Range	Tstg	-55~+150	°C

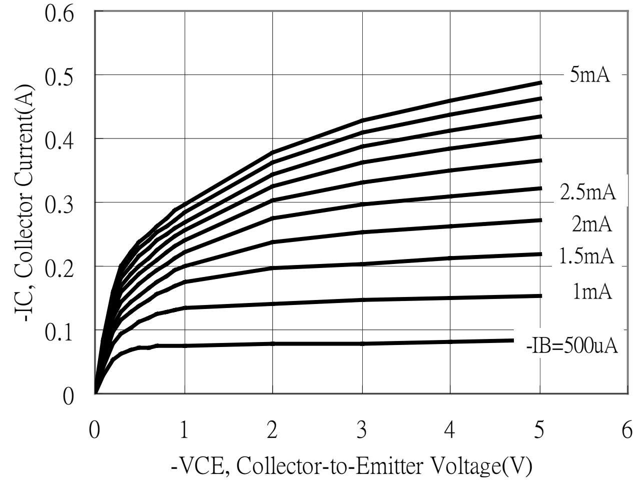
Characteristics (Ta=25°C)

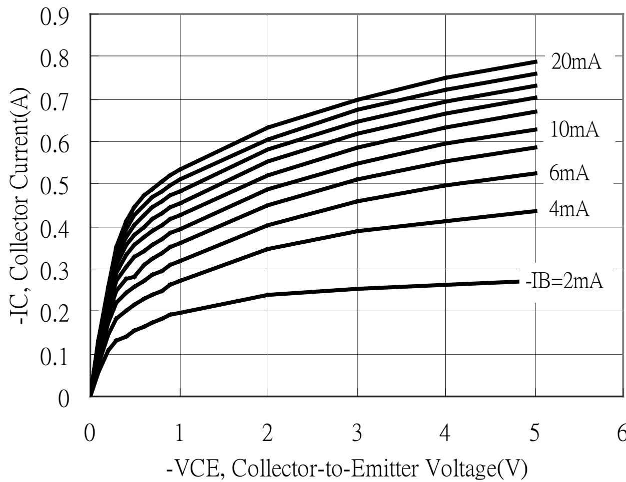
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	-60	-	-	V	I_C=-10μA
BV_{CEO}	-60	-	-	V	I_C=-10mA
BV_{EBO}	-5	-	-	V	I_E=-10μA
I_{CBO}	-	-	-10	nA	V_{CB}=-50V
I_{CEX}	-	-	-50	nA	V_{CE}=-30V, V_{EB}=-0.5V
*$V_{CE(sat)}$ 1	-0.05	-	-0.4	V	I_C=-150mA, I_B=-15mA
*$V_{CE(sat)}$ 2	-0.1	-	-0.75	V	I_C=-500mA, I_B=-50mA
*$V_{BE(sat)}$ 1	-0.6	-	-0.95	V	I_C=-150mA, I_B=-15mA
*$V_{BE(sat)}$ 2	-0.7	-	-1.3	V	I_C=-500mA, I_B=-50mA
h_{FE} 1	75	-	-	-	V_{CE}=-10V, I_C=-0.1mA
h_{FE} 2	100	-	-	-	V_{CE}=-10V, I_C=-1mA
h_{FE} 3	100	-	-	-	V_{CE}=-10V, I_C=-10mA
*h_{FE} 4	100	-	300	-	V_{CE}=-10V, I_C=-150mA
*h_{FE} 5	50	-	-	-	V_{CE}=-10V, I_C=-500mA
f_T	200	-	-	MHz	V_{CE}=-5V, I_C=-50mA, f=100MHz
Cob	-	-	8	pF	V_{CB}=-10V, f=1MHz

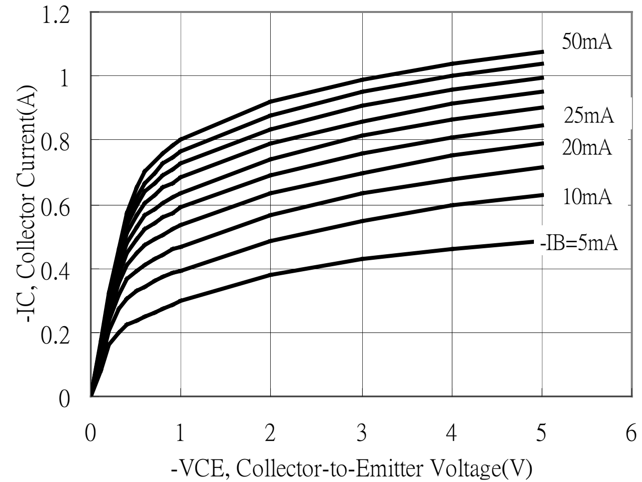
*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

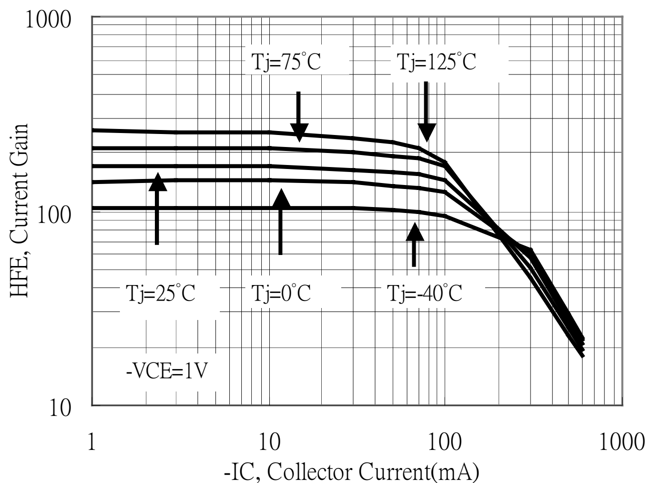
Typical Characteristics

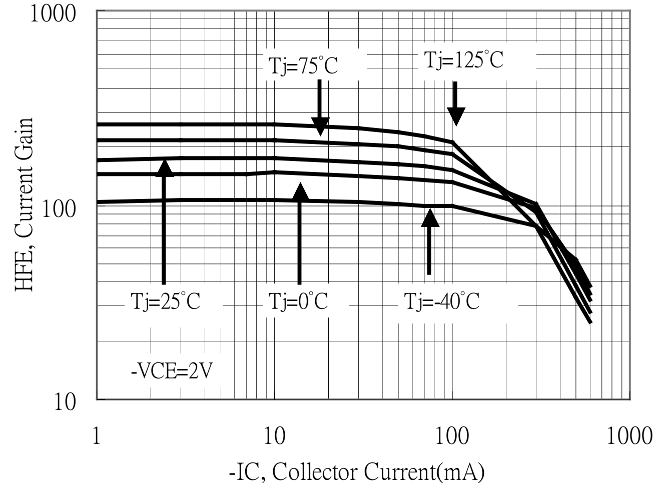




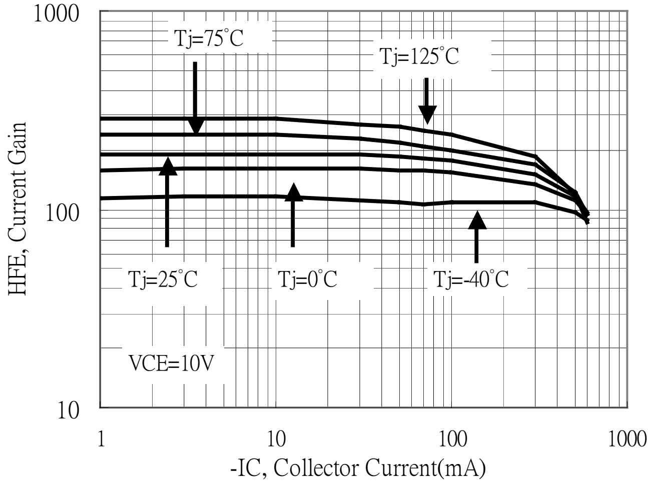


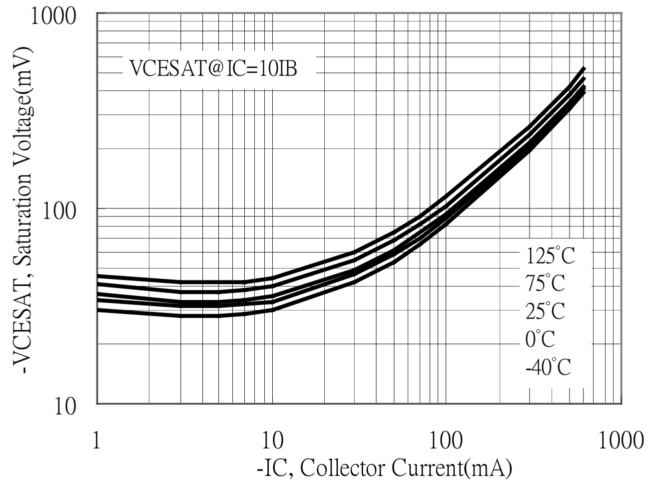


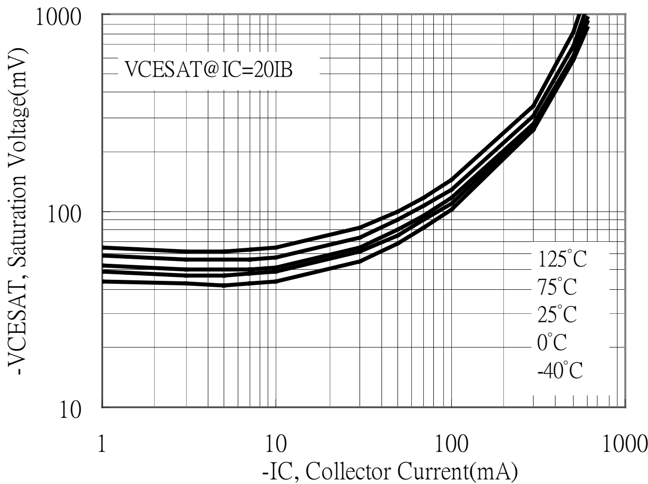


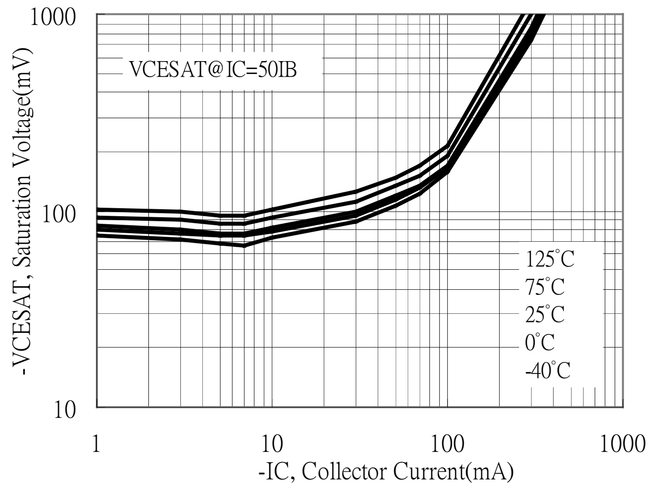


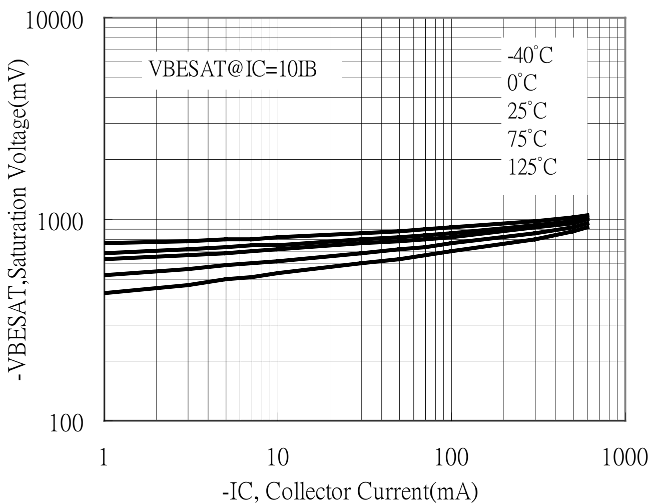
Typical Characteristics(Cont.)

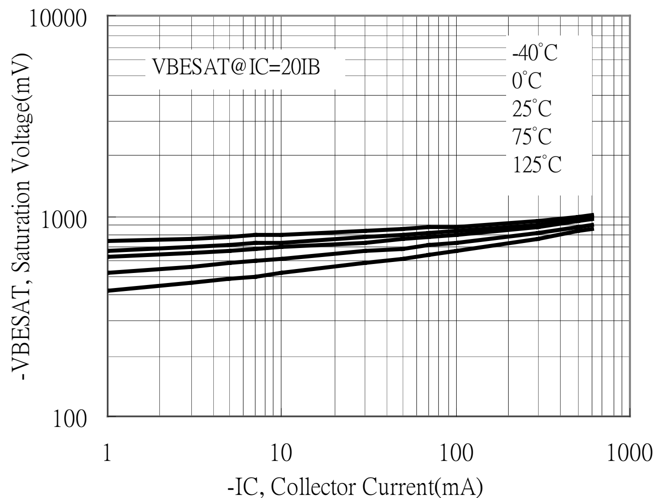




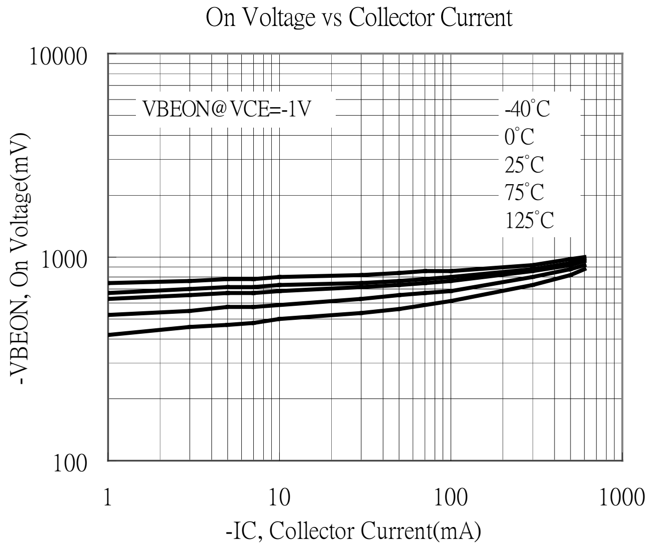


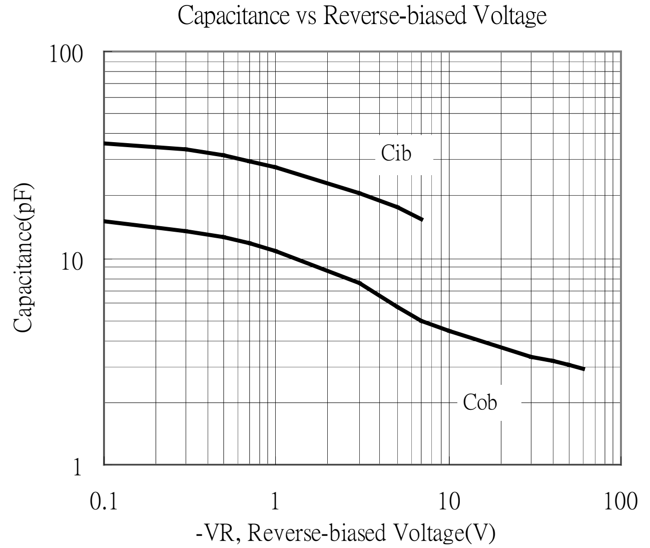


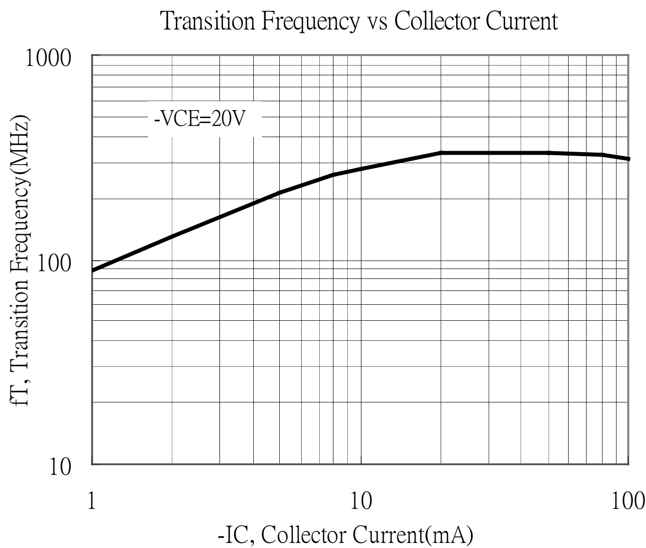


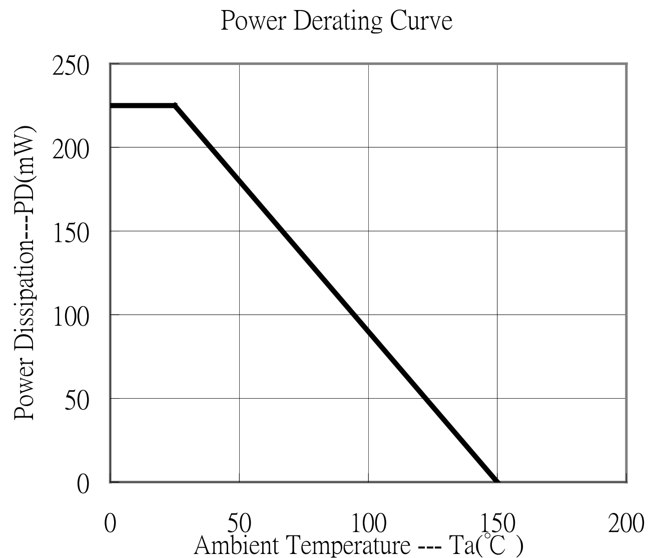


Typical Characteristics(Cont.)

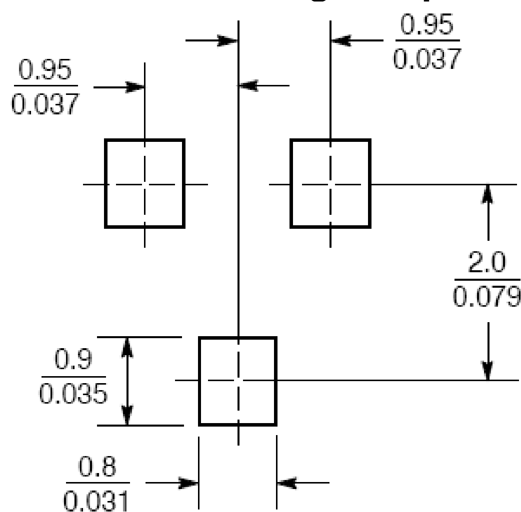






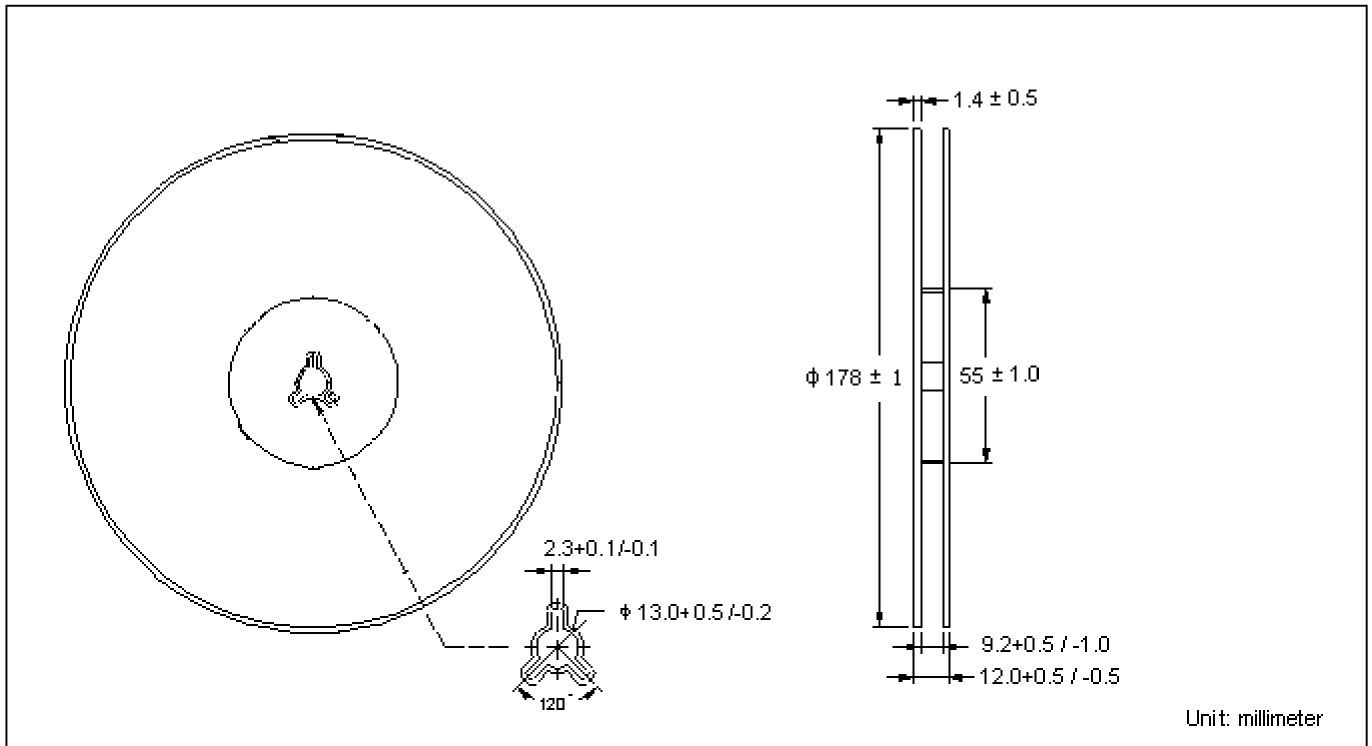


Recommended Soldering Footprint

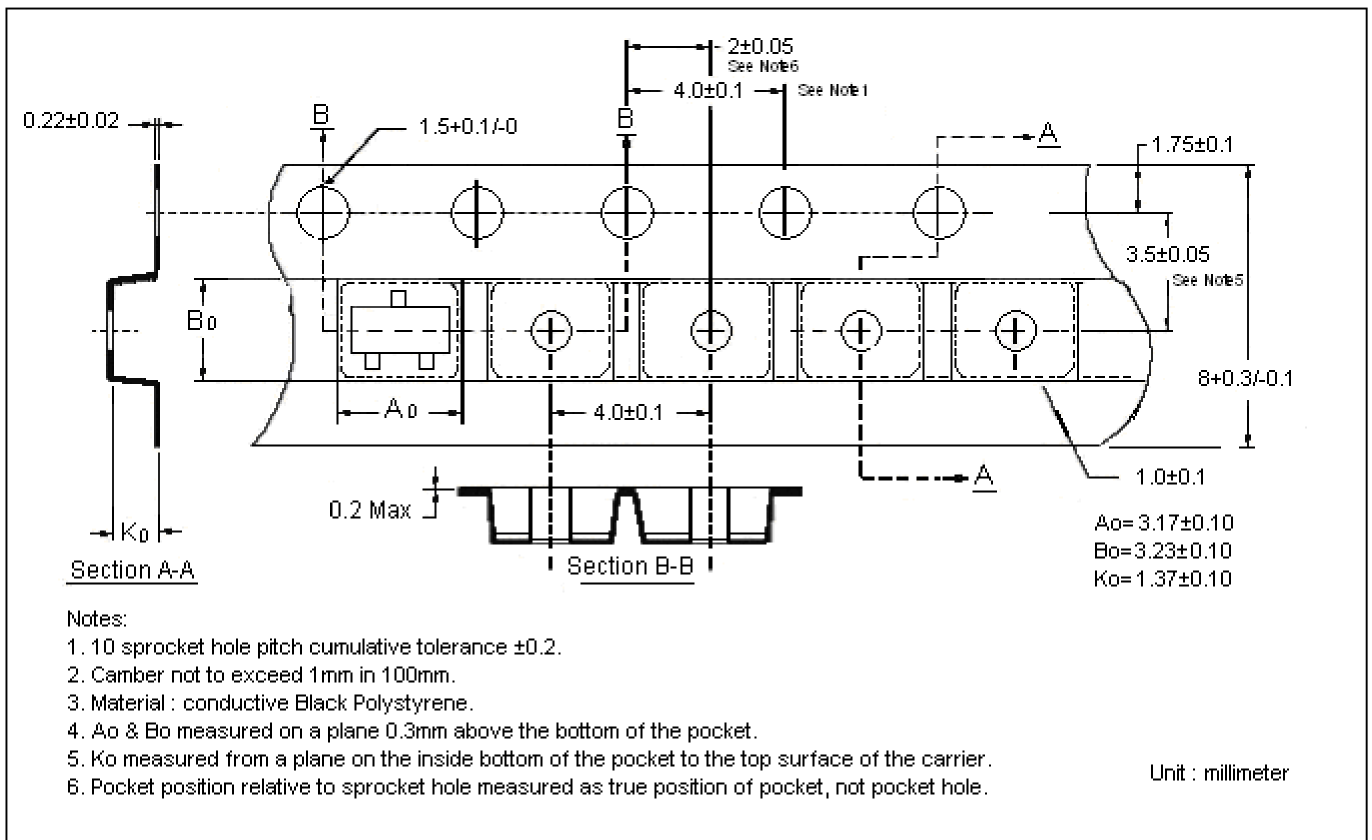


Unit : mm / inches

Reel Dimension



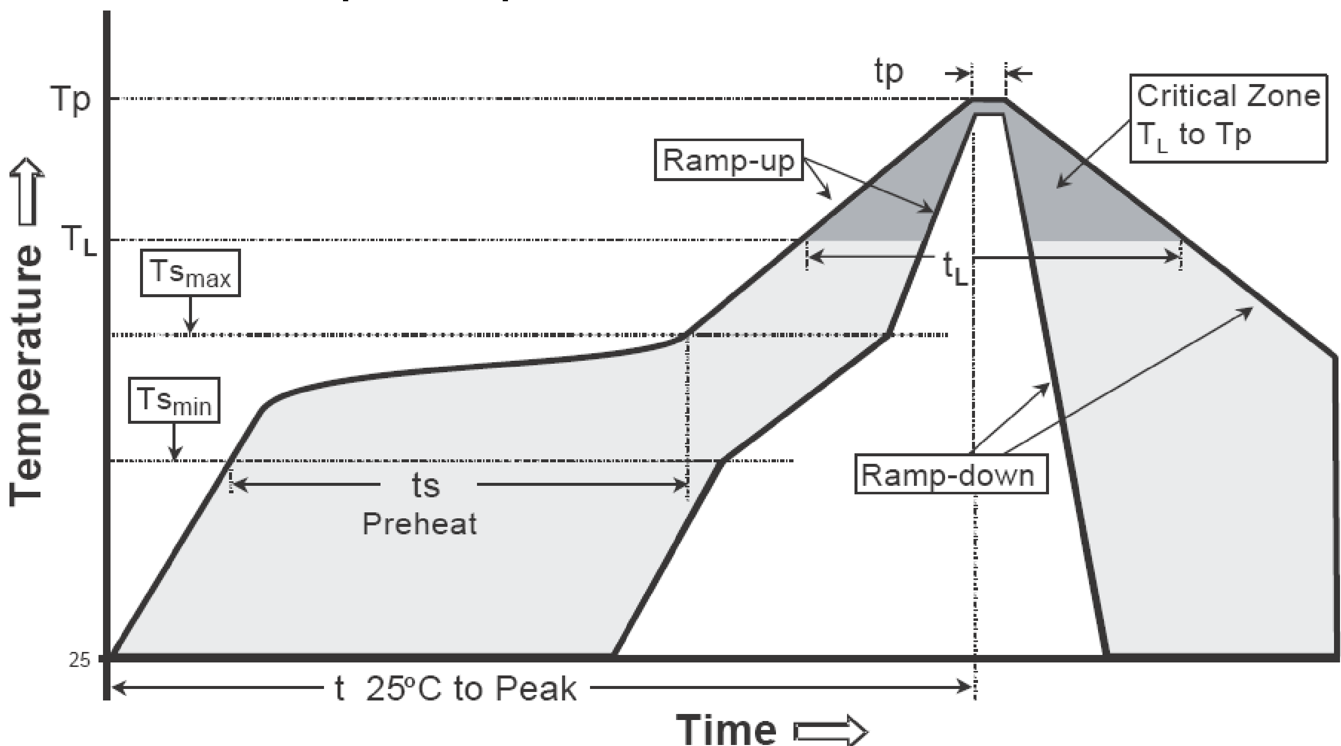
Carrier Tape Dimension



Recommended wave soldering condition

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

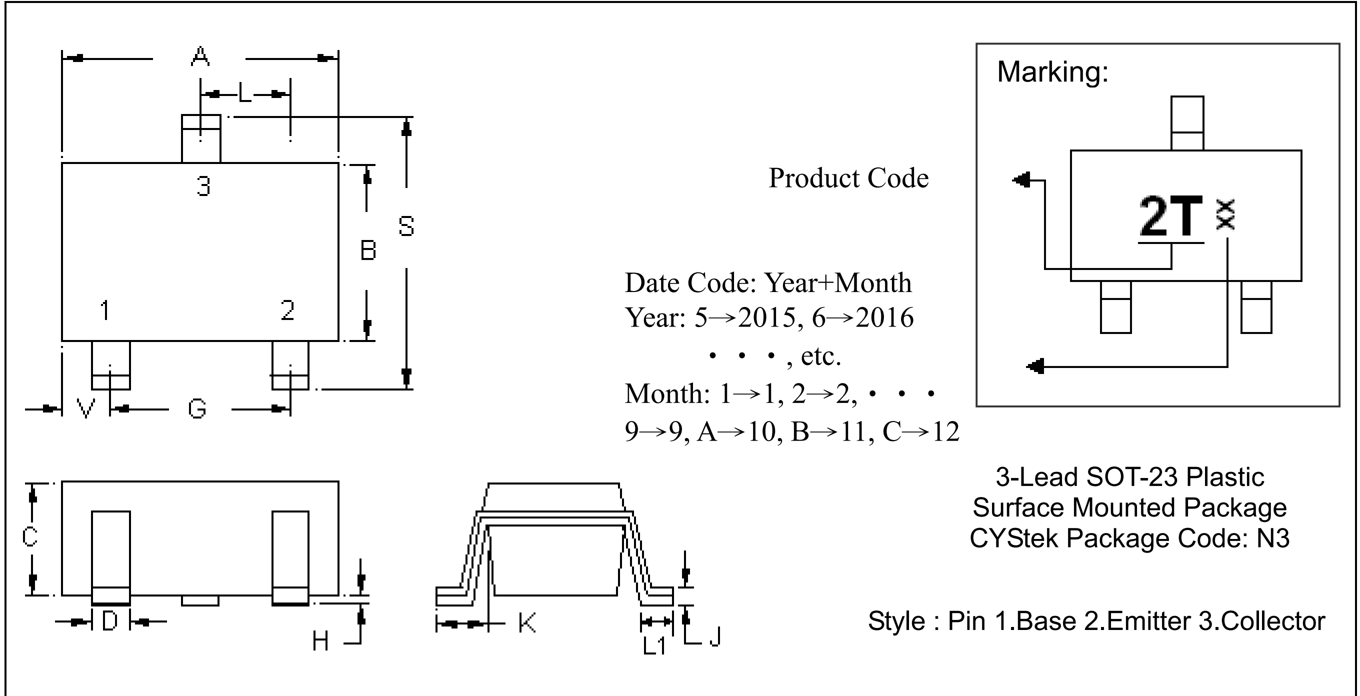
Recommended temperature profile for IR reflow



Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (Tsmax to Tp)	3°C/second max.	3°C/second max.
Preheat −Temperature Min(Ts min) −Temperature Max(Ts max) −Time(ts min to ts max)	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
Time maintained above: −Temperature (TL) − Time (tL)	183°C 60-150 seconds	217°C 60-150 seconds
Peak Temperature(TP)	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-23 Dimension



*:Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1102	0.1204	2.80	3.04	J	0.0032	0.0079	0.08	0.20
B	0.0472	0.0669	1.20	1.70	K	0.0197	0.0283	0.50	0.72
C	0.0335	0.0453	0.89	1.15	L	0.0335	0.0453	0.85	1.15
D	0.0118	0.0197	0.30	0.50	S	0.0830	0.1161	2.10	2.95
G	0.0669	0.0787	1.70	2.00	V	0.0098	0.0256	0.25	0.65
H	0.0000	0.0040	0.00	0.10	L1	0.0118	0.0236	0.30	0.60

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.

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