

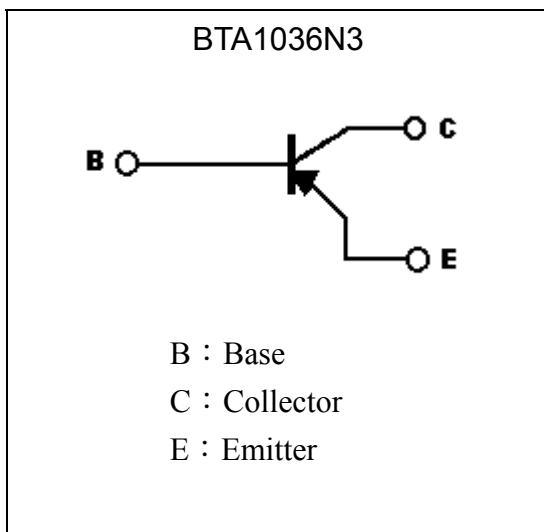
General Purpose PNP Epitaxial Planar Transistor

BTA1036N3

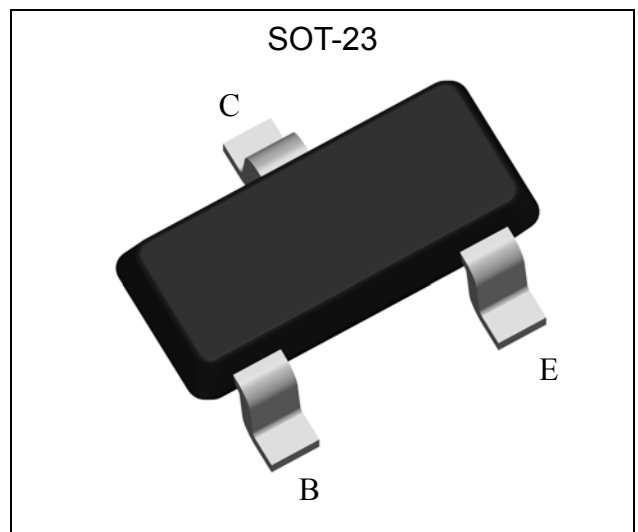
Description

- 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

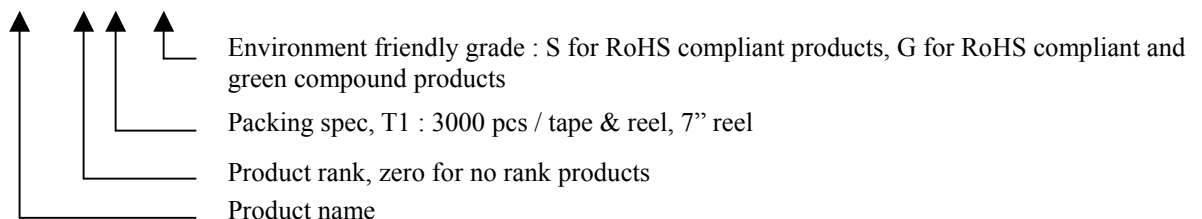


Outline



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 _{CB0}	-60	V
Collector-Emitter Voltage	V _{CEO}	-60	V
Emitter-Base Voltage	V _{EB0}	-5	V
Collector Current	I _C	-0.6	A
Power Dissipation	P _d	225	mW
Thermal Resistance, Junction to Ambient	R _{θJA}	556	°C/W
Operating Junction Temperature Range	T _j	-55~+150	°C
Storage Temperature Range	T _{stg}	-55~+150	°C

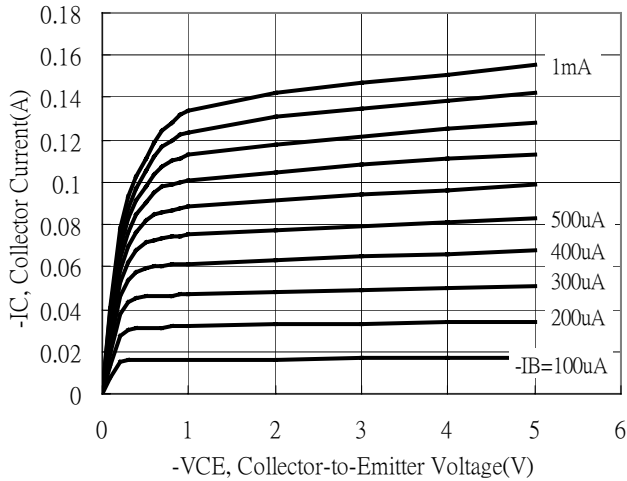
Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV _{CB0}	-60	-	-	V	I _C =-10μA
BV _{CEO}	-60	-	-	V	I _C =-10mA
BV _{EB0}	-5	-	-	V	I _E =-10μA
IC _{B0}	-	-	-10	nA	V _{CB} =-50V
IC _{EX}	-	-	-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
C _{ob}	-	-	8	pF	V _{CB} =-10V, f=1MHz

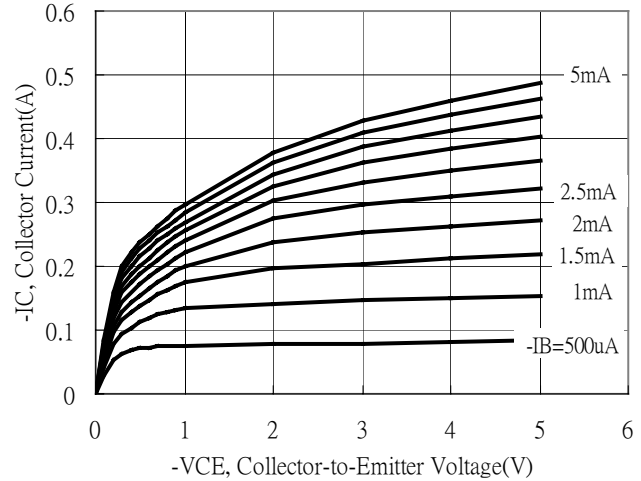
*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

Typical Characteristics

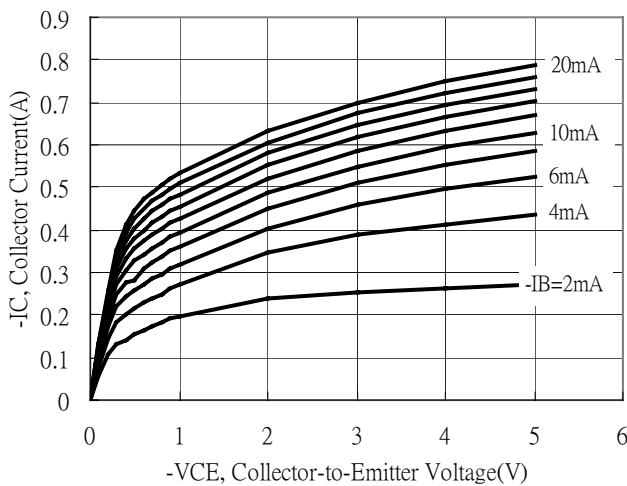
Emitter Grounded Output Characteristics



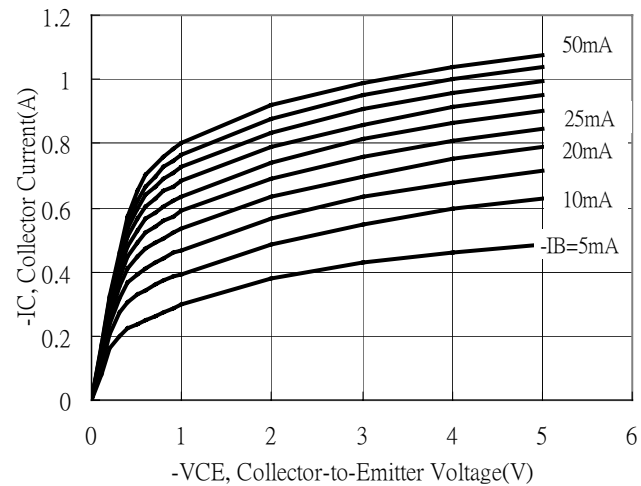
Emitter Grounded Output Characteristics



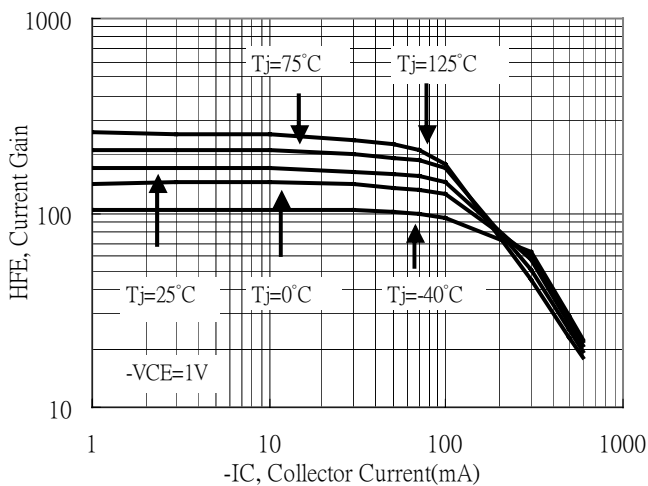
Emitter Grounded Output Characteristics



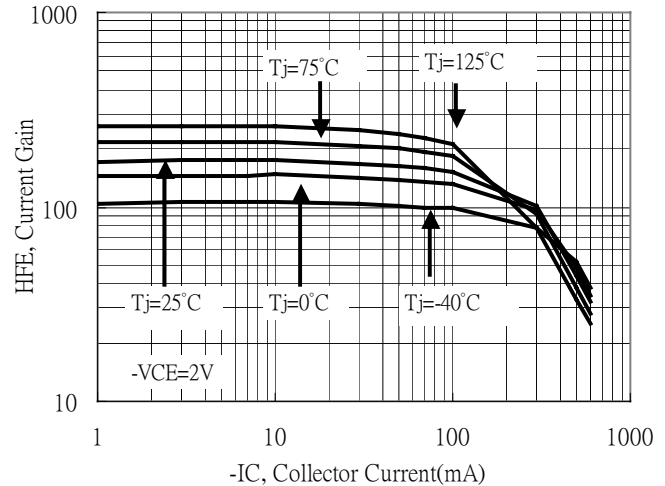
Emitter Grounded Output Characteristics



Current Gain vs. Collector Current

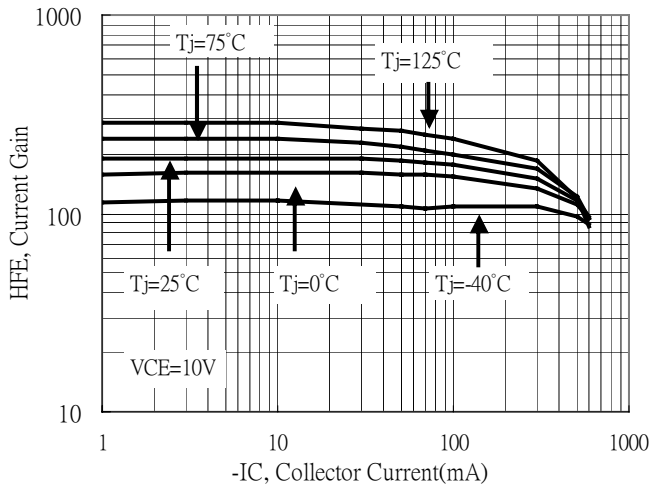


Current Gain vs. Collector Current

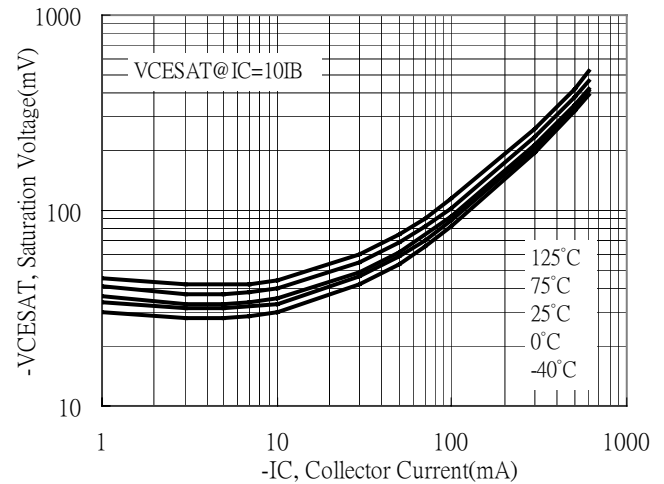


Typical Characteristics(Cont.)

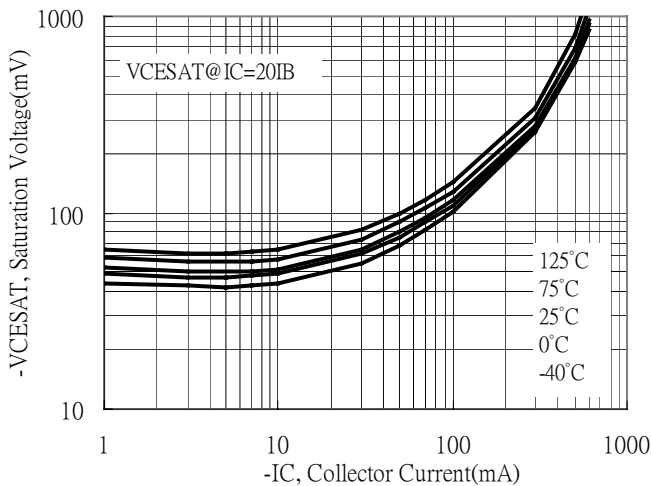
Current Gain vs Collector Current



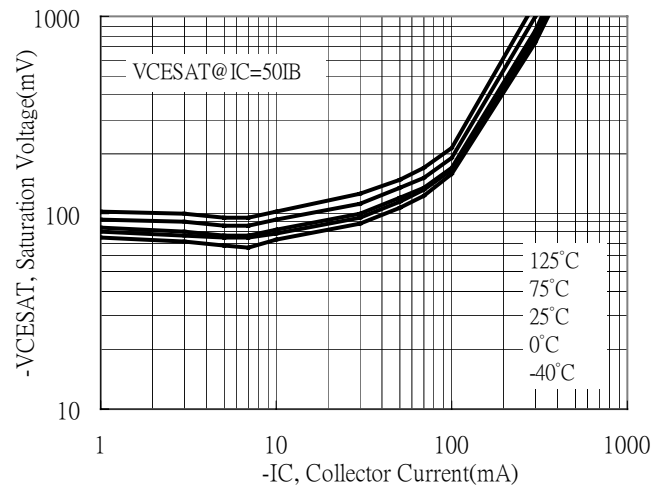
Saturation Voltage vs Collector Current



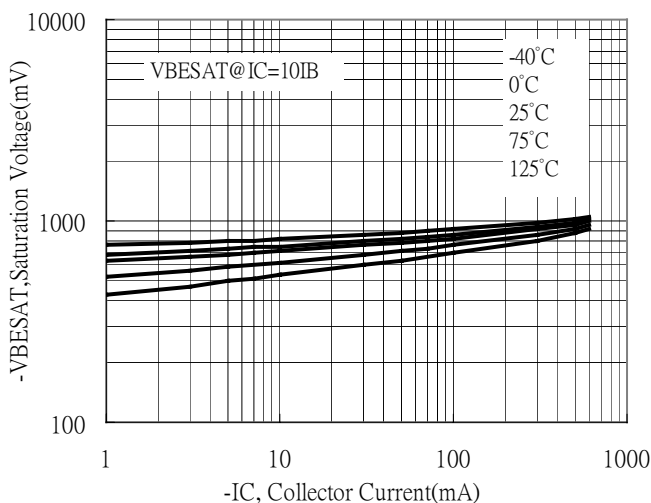
Saturation Voltage vs Collector Current



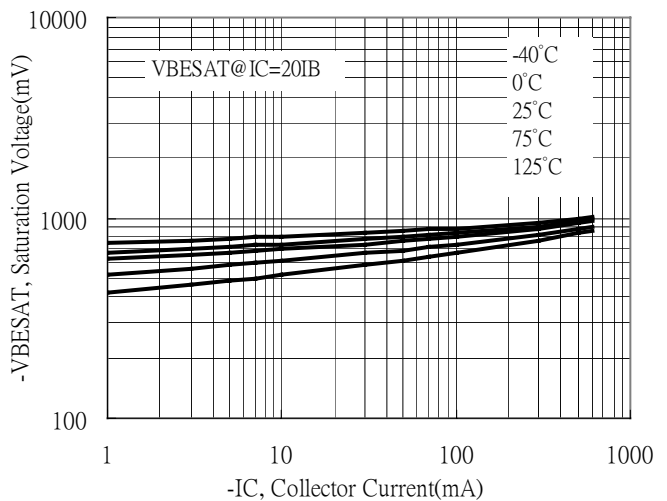
Saturation Voltage vs Collector Current



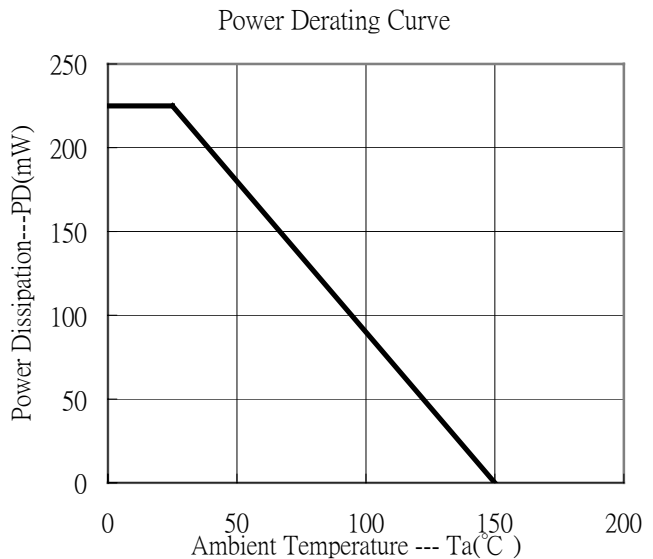
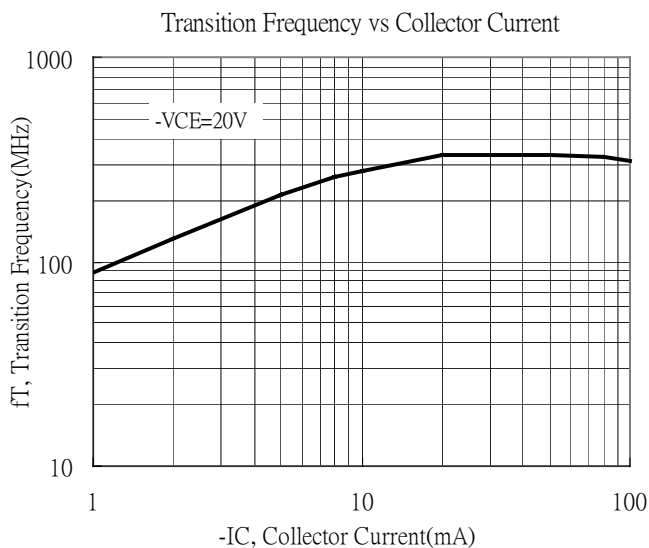
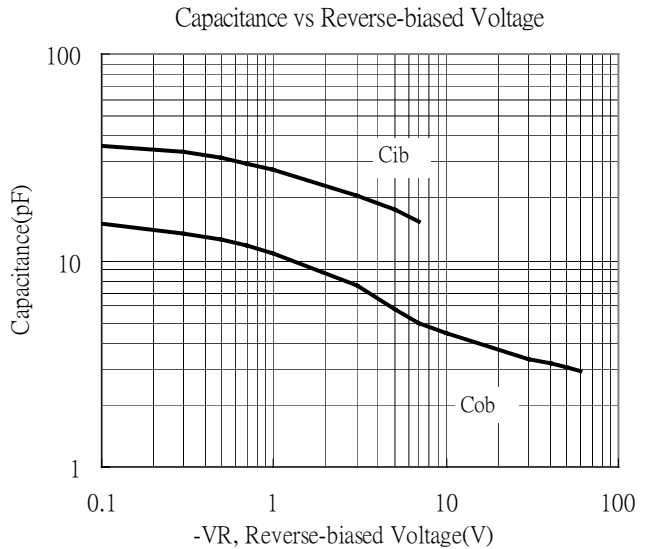
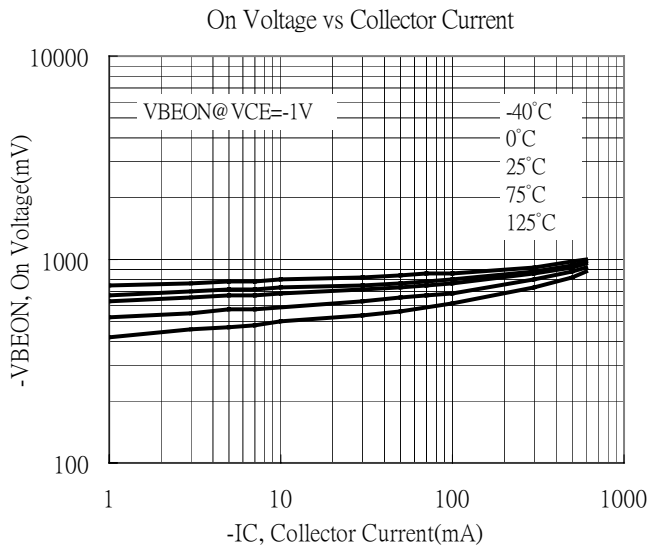
Saturation Voltage vs Collector Current



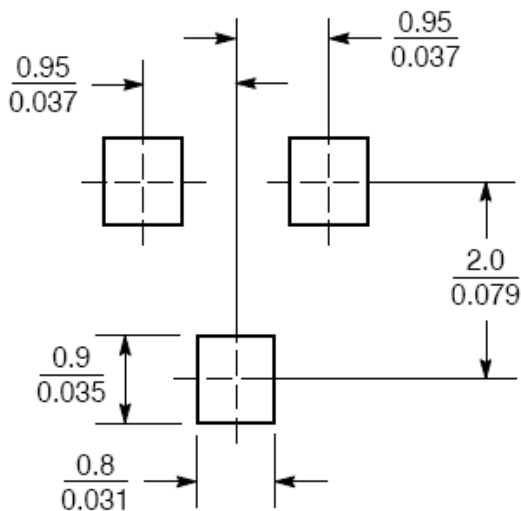
Saturation Voltage vs Collector Current



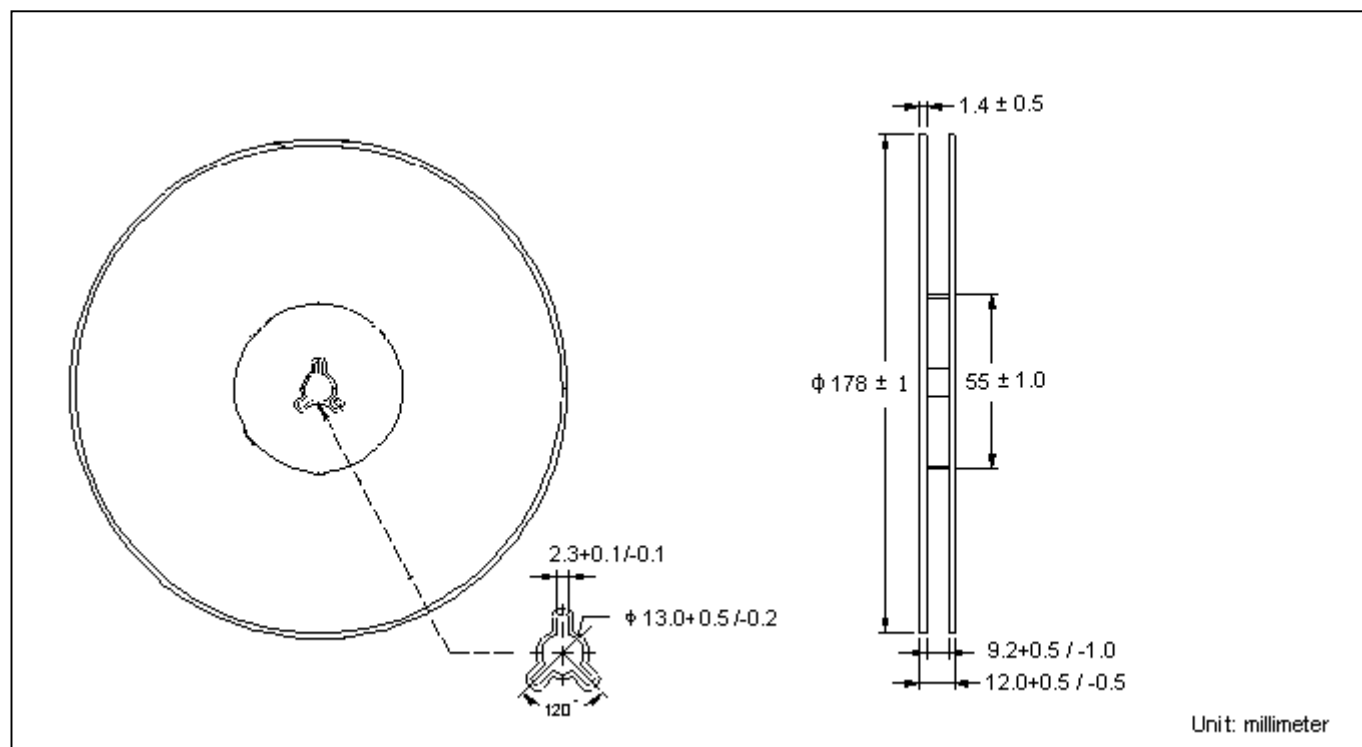
Typical Characteristics(Cont.)



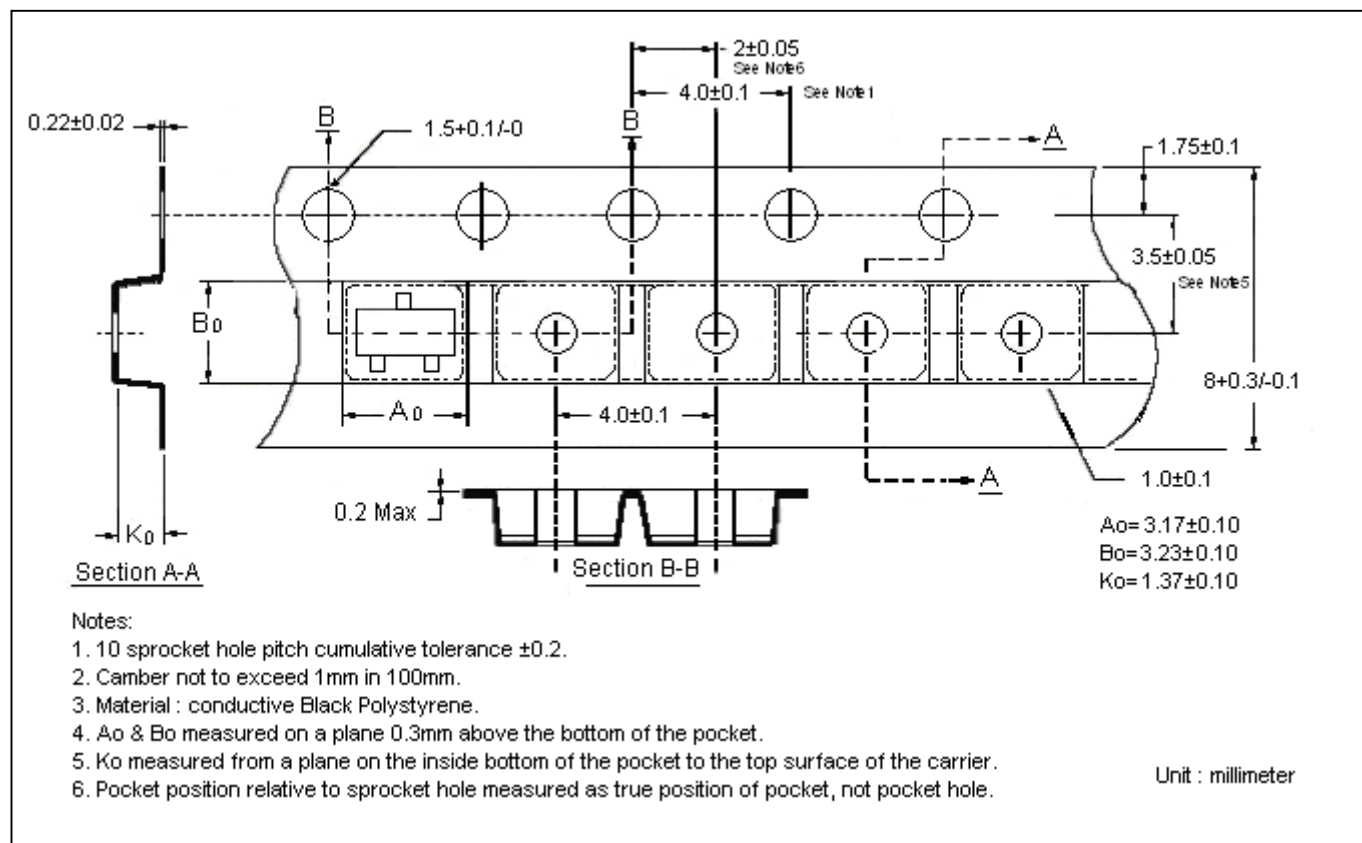
Recommended Soldering Footprint


Unit : $\frac{\text{mm}}{\text{inches}}$

Reel Dimension



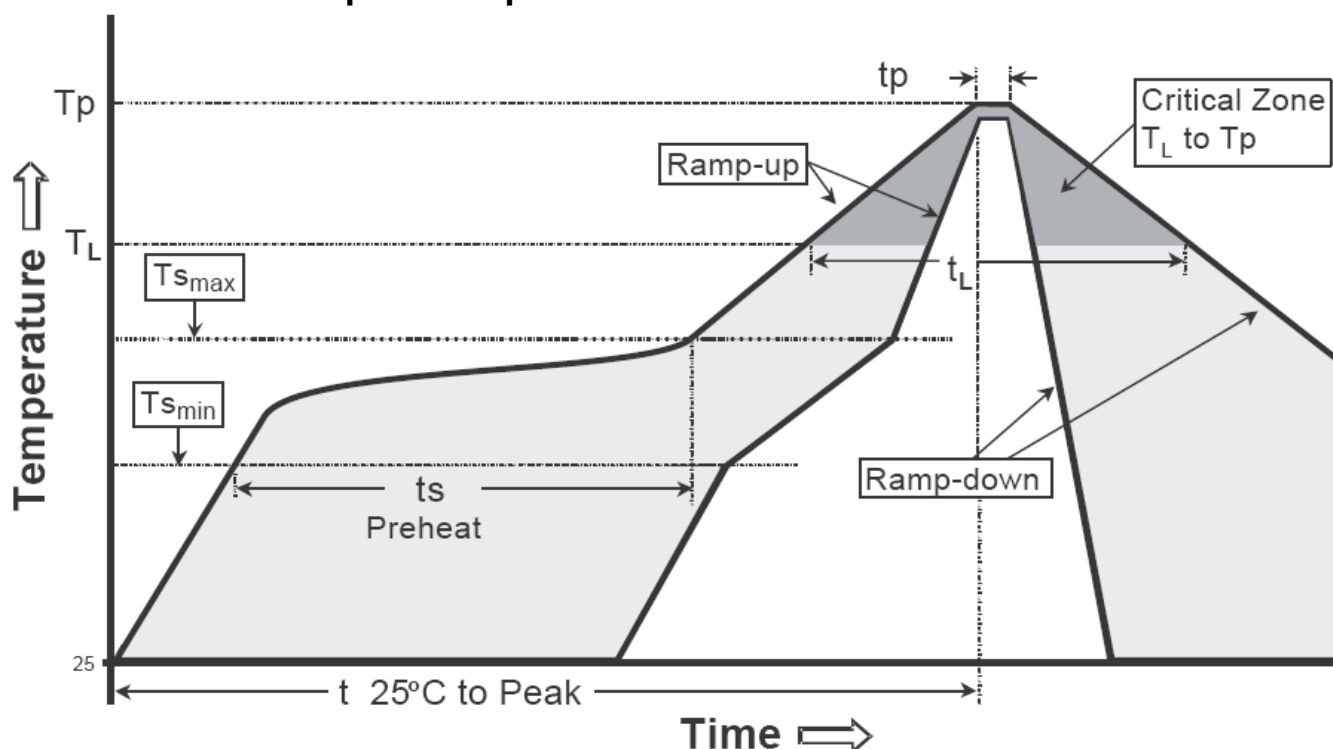
Carrier Tape Dimension



Recommended wave soldering condition

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

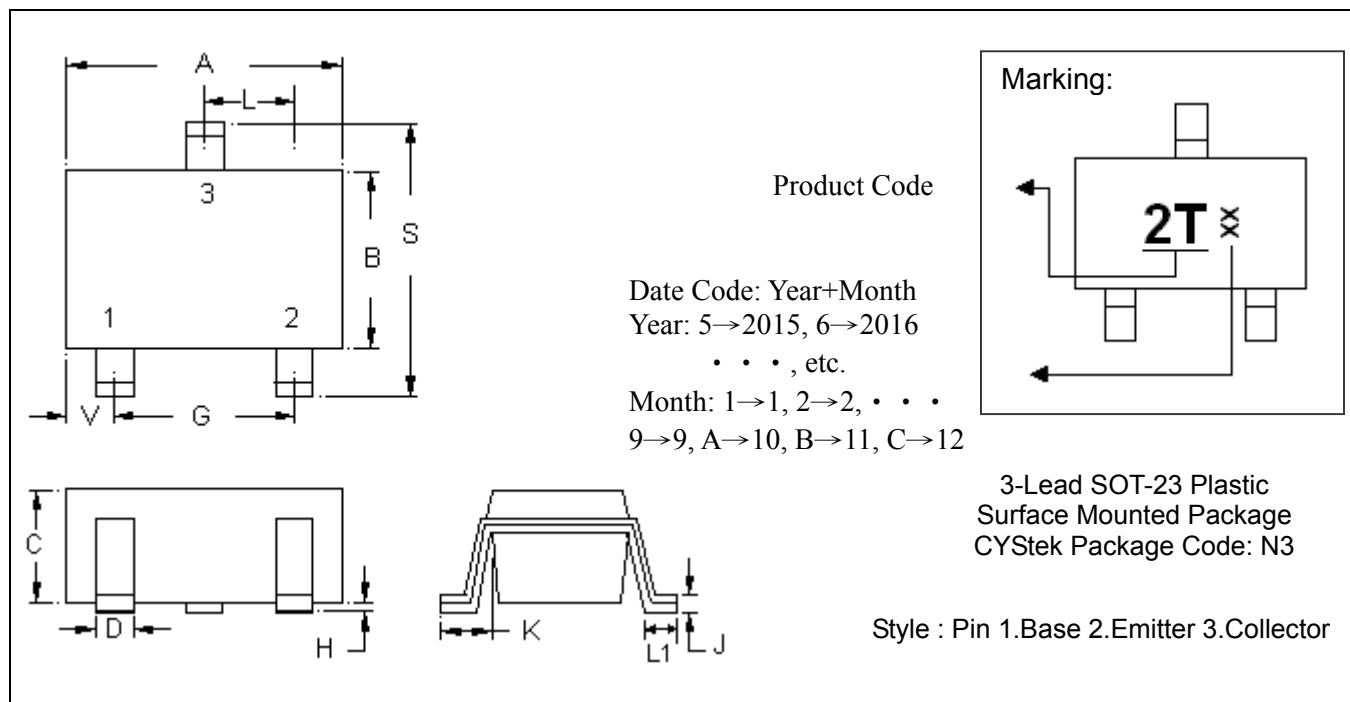
Recommended temperature profile for IR reflow



Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (T _{smax} 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-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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