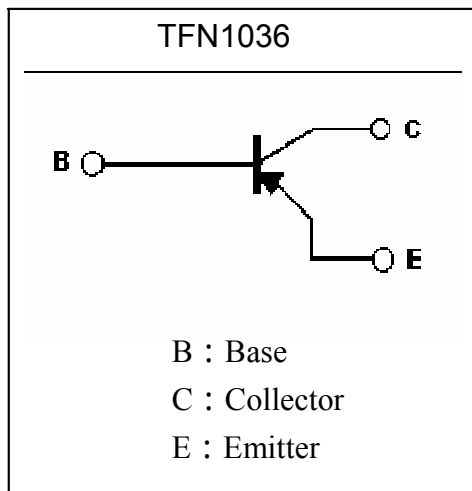


TFN1036

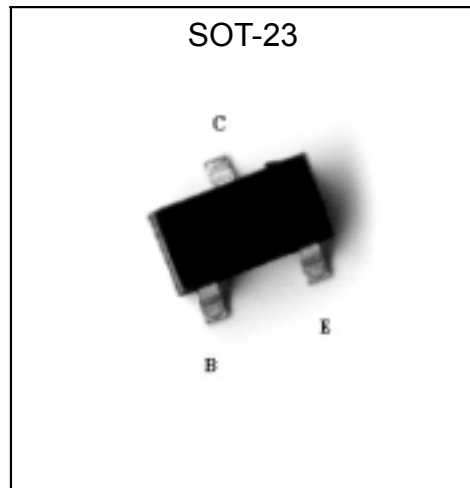
Description

- The TFN1036 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 TFN2411.
- Pb-free package

Symbol



Outline



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CB0}	-60	V
Collector-Emitter Voltage	V_{CE0}	-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	$R_{\theta JA}$	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
I _{CB0}	-	-	-10	nA	V _{CB} =-50V
I _{CEX}	-	-	-50	nA	V _{CE} =-30V, V _{EB} =-0.5V
*V _{CE(sat)} 1	-	-	-0.4	V	I _C =-150mA, I _B =-15mA
*V _{CE(sat)} 2	-	-	-0.75	V	I _C =-500mA, I _B =-50mA
*V _{BE(sat)} 1	-	-	-0.95	V	I _C =-150mA, I _B =-15mA
*V _{BE(sat)} 2	-	-	-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%

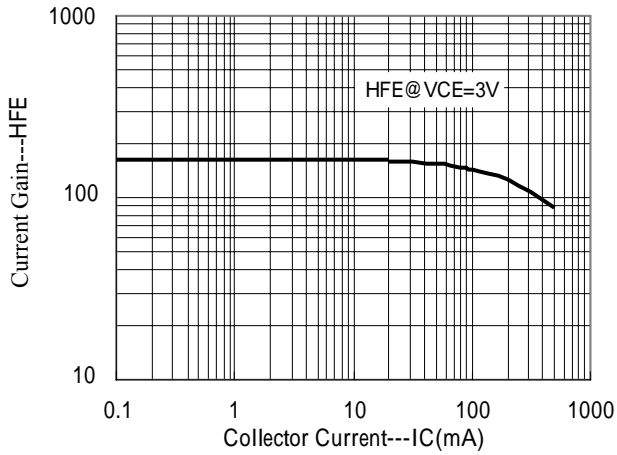
Ordering Information

Device	Package	Shipping	Marking
TFN1036	SOT-23 (Pb-free)	3000 pcs / Tape & Reel	2T

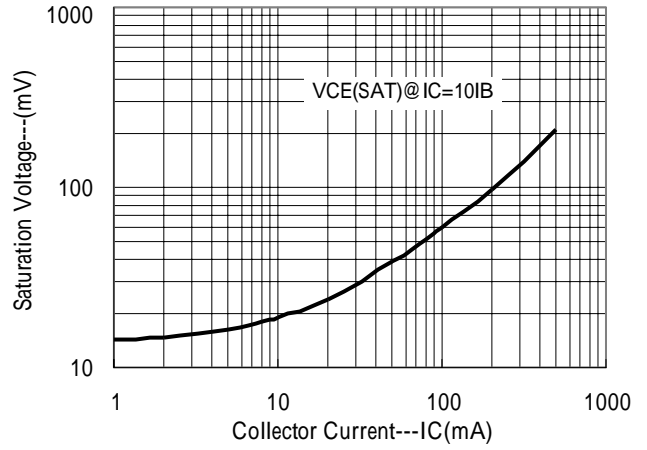


Characteristic Curves

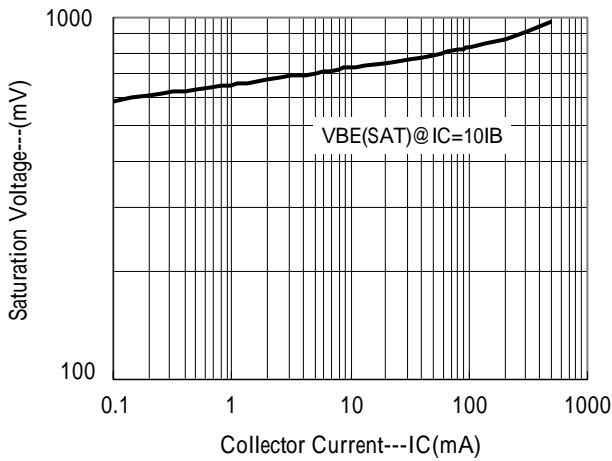
Current Gain vs Collector Current



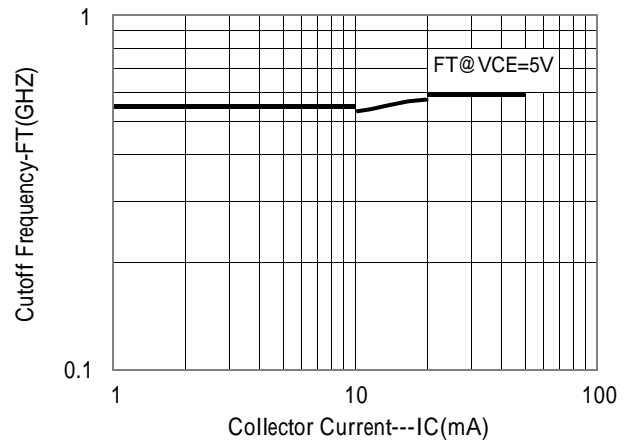
Saturation Voltage vs Collector Current



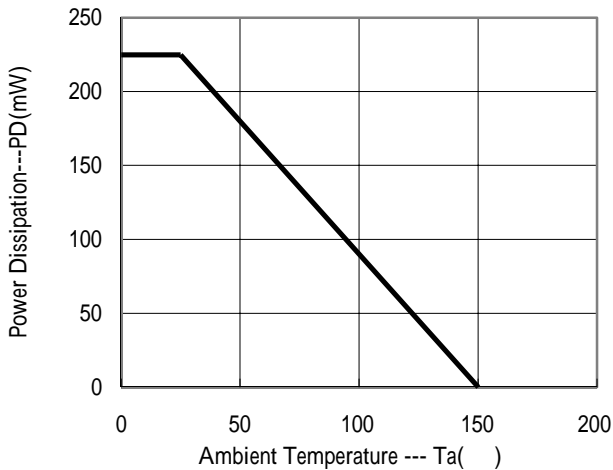
Saturation Voltage vs Collector Current



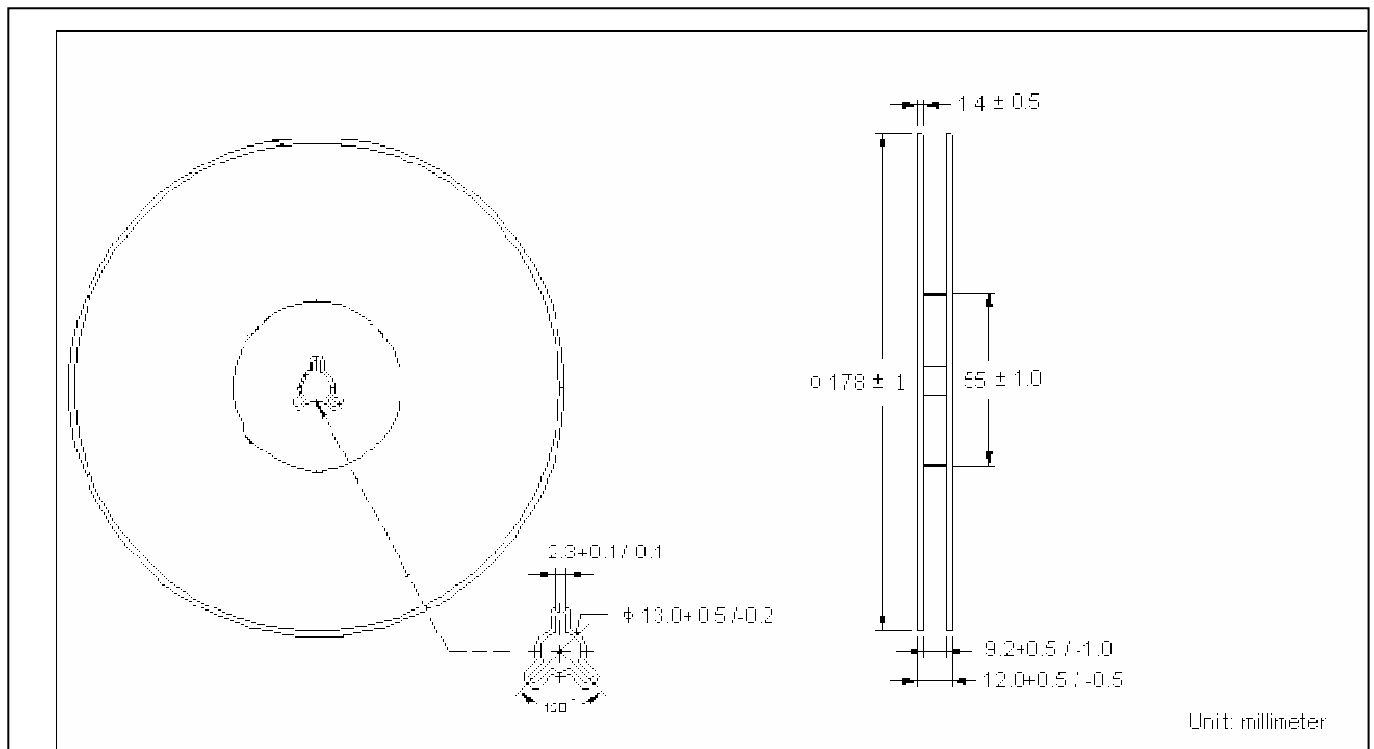
Cutoff Frequency vs Collector Current



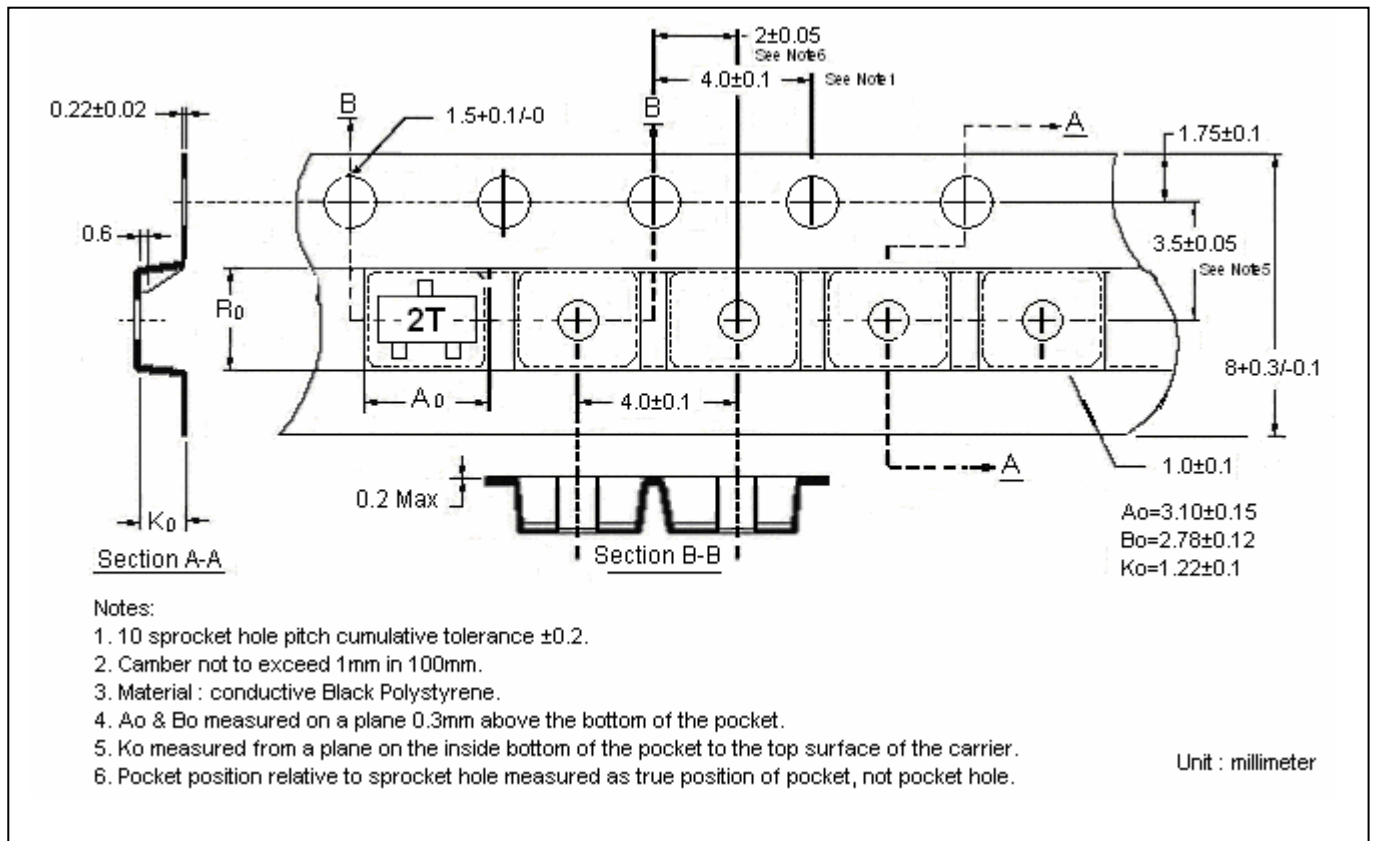
Power Derating Curve



Reel Dimension



Carrier Tape Dimension

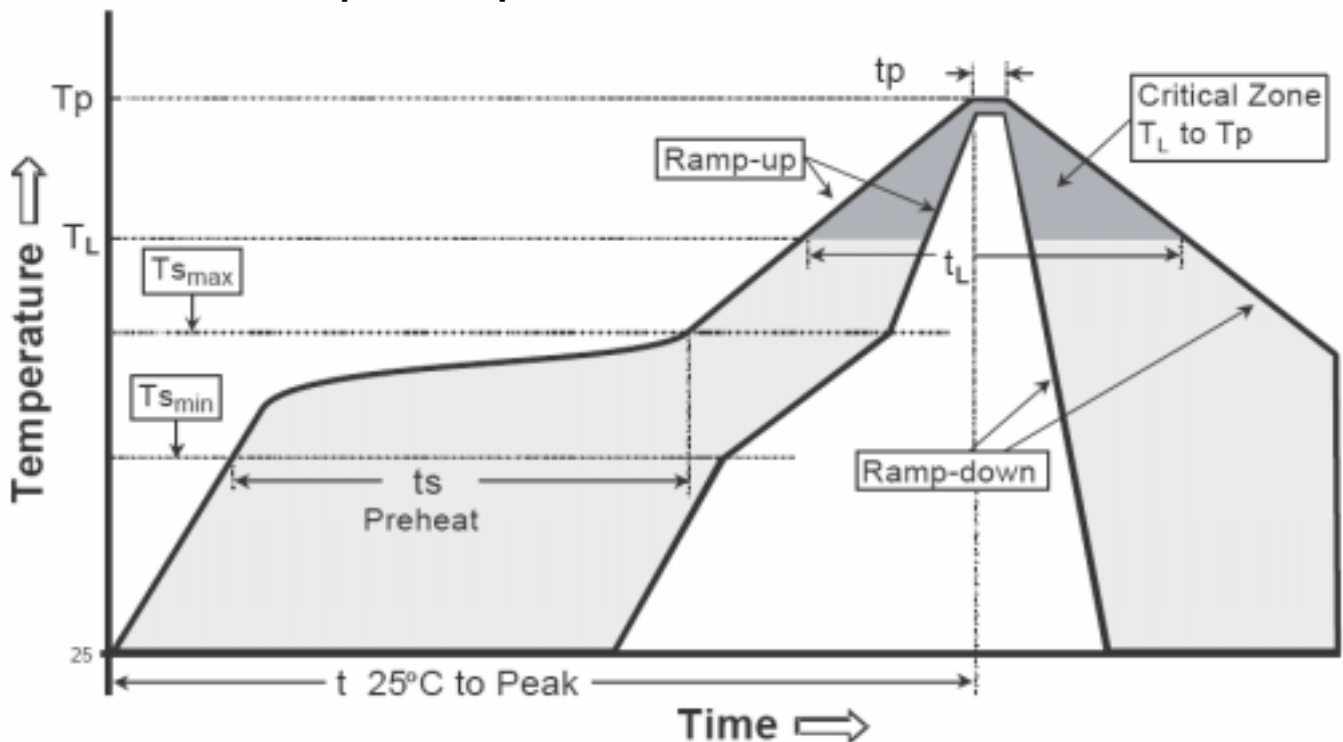




Recommended wave soldering condition

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)	100°C	150°C
-Temperature Max(Ts max)	150°C	200°C
-Time(ts min to ts max)	60-120 seconds	60-180 seconds
Time maintained above:		
-Temperature (Tl)	183°C	217°C
- Time (tl)	60-150 seconds	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

Product Code

Date Code: Year+Month
 Year: 3 2003, 4 2004
 Month: 1 1, 2 2,
 9 9, A 10, B 11, C 12

Marking:

 3-Lead SOT-23 Plastic Surface Mounted Package

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

*:Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1102	0.1204	2.80	3.04	J	0.0034	0.0070	0.085	0.177
B	0.0472	0.0630	1.20	1.60	K	0.0128	0.0266	0.32	0.67
C	0.0335	0.0512	0.89	1.30	L	0.0335	0.0453	0.85	1.15
D	0.0118	0.0197	0.30	0.50	S	0.0830	0.1083	2.10	2.75
G	0.0669	0.0910	1.70	2.30	V	0.0098	0.0256	0.25	0.65
H	0.0005	0.0040	0.013	0.10					

- 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 Tin Far sales office.

Material :

- Lead : Pure tin plated
- Mold Compound : Epoxy resin family, flammability solid burning class:UL94V-0

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