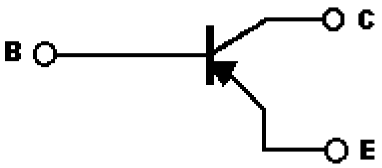
TFN1721

Description

- High breakdown voltage.
- Low collector output capacitance.
- Ideal for chroma circuit.
- Pb-free package

Symbol

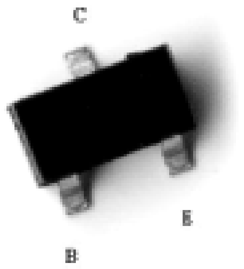
TFN1721



B：Base
C：Collector
E：Emitter

Outline

SOT-23



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	-300	V
Collector-Emitter Voltage	V_{CEO}	-300	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-500	mA
Power Dissipation	Pd	225	mW
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55~+150	°C

Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	-300	-	-	V	I_C=-100μA
BV_{CEO}	-300	-	-	V	I_C=-1mA
BV_{EBO}	-5	-	-	V	I_E=-100μA
I_{CBO}	-	-	-0.1	μA	V_{CB}=-200V
I_{EBO}	-	-	-0.1	μA	V_{EB}=-4V
*$V_{CE(sat)}$	-	-	-0.5	V	I_C=-20mA, I_B=-2mA
*$V_{BE(sat)}$	-	-	-0.9	V	I_C=-20mA, I_B=-2mA
*h_{FE}	90	-	-	-	V_{CE}=-10V, I_C=-1mA
*h_{FE}	100	-	270	-	V_{CE}=-10V, I_C=-10mA
*h_{FE}	50	-	-	-	V_{CE}=-10V, I_C=-30mA
f_T	50	-	-	MHz	V_{CE}=-20V, I_C=-10mA, f=100MHz
Cob	-	-	6	pF	V_{CB}=-20V, f=1MHz

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

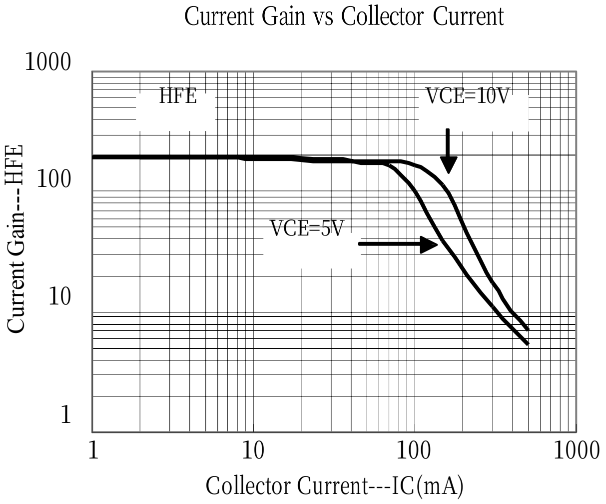
Classification Of h_{FE}

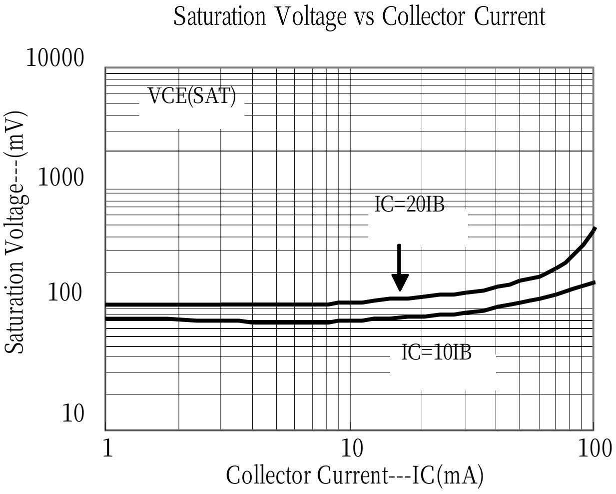
Rank	P	Q
Range	100~180	120~270

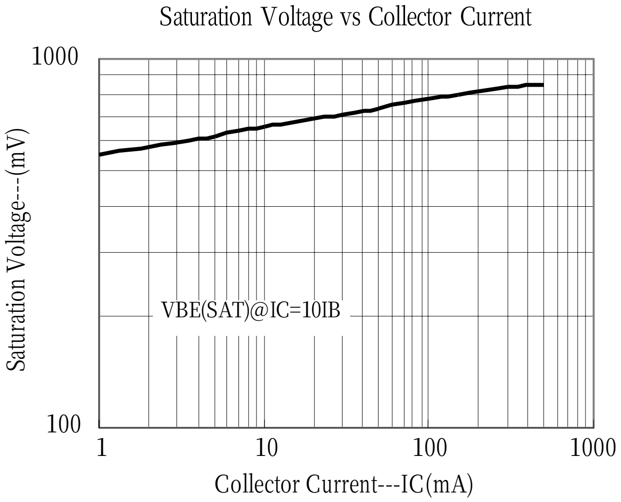
Ordering Information

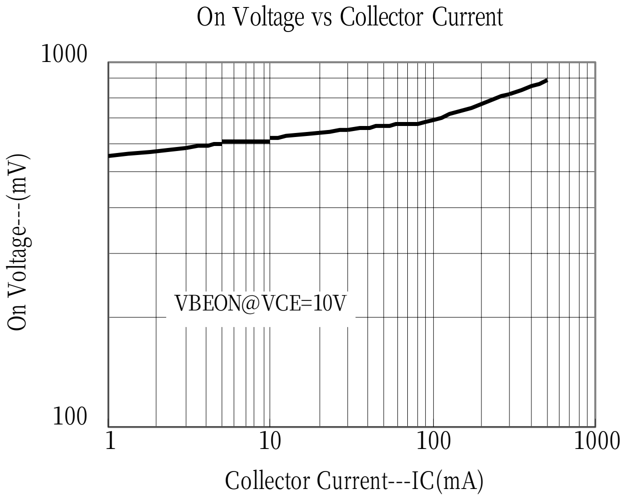
Device	Package	Shipping	Marking
TFN1721	SOT-23 (Pb-free)	3000 pcs / Tape & Reel	2D

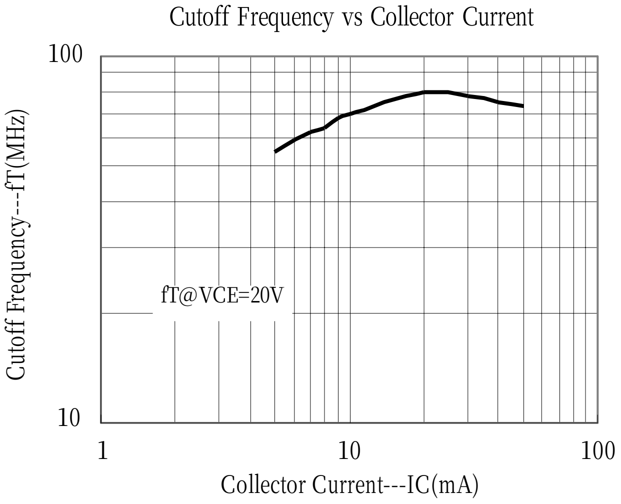
Characteristic Curves

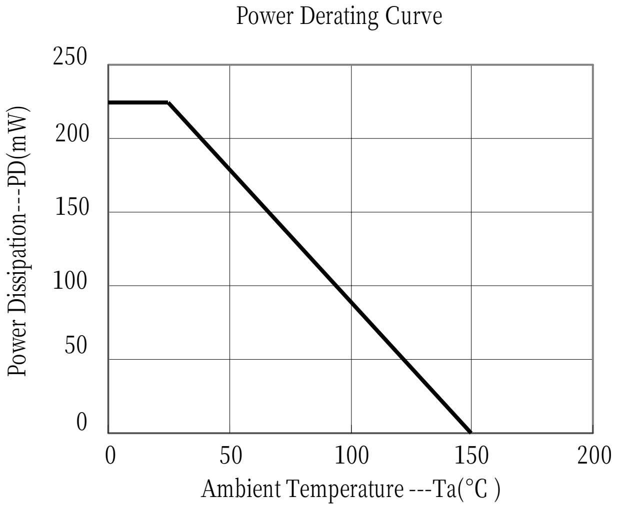




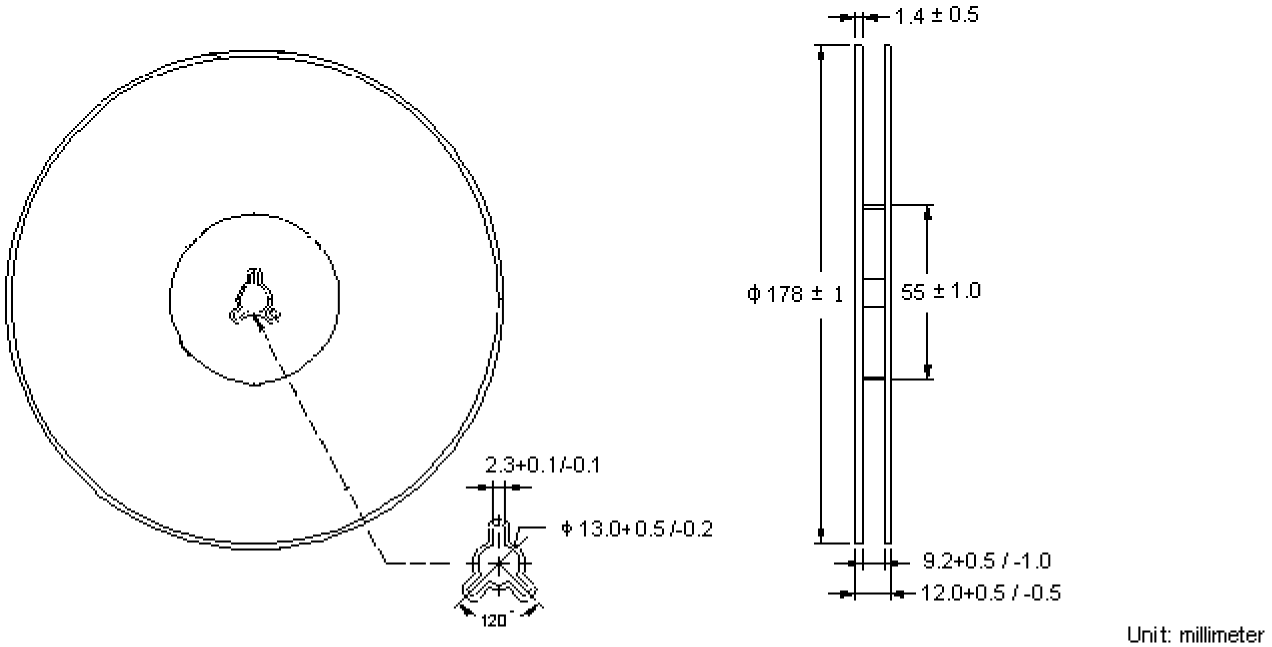




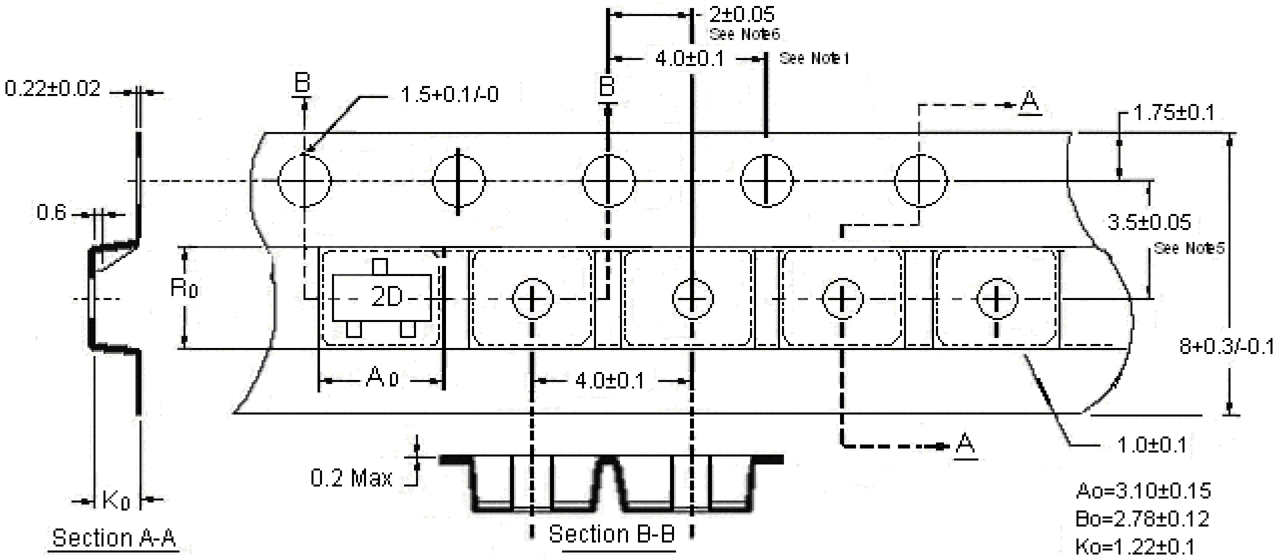




Reel Dimension



Carrier Tape Dimension



Notes:

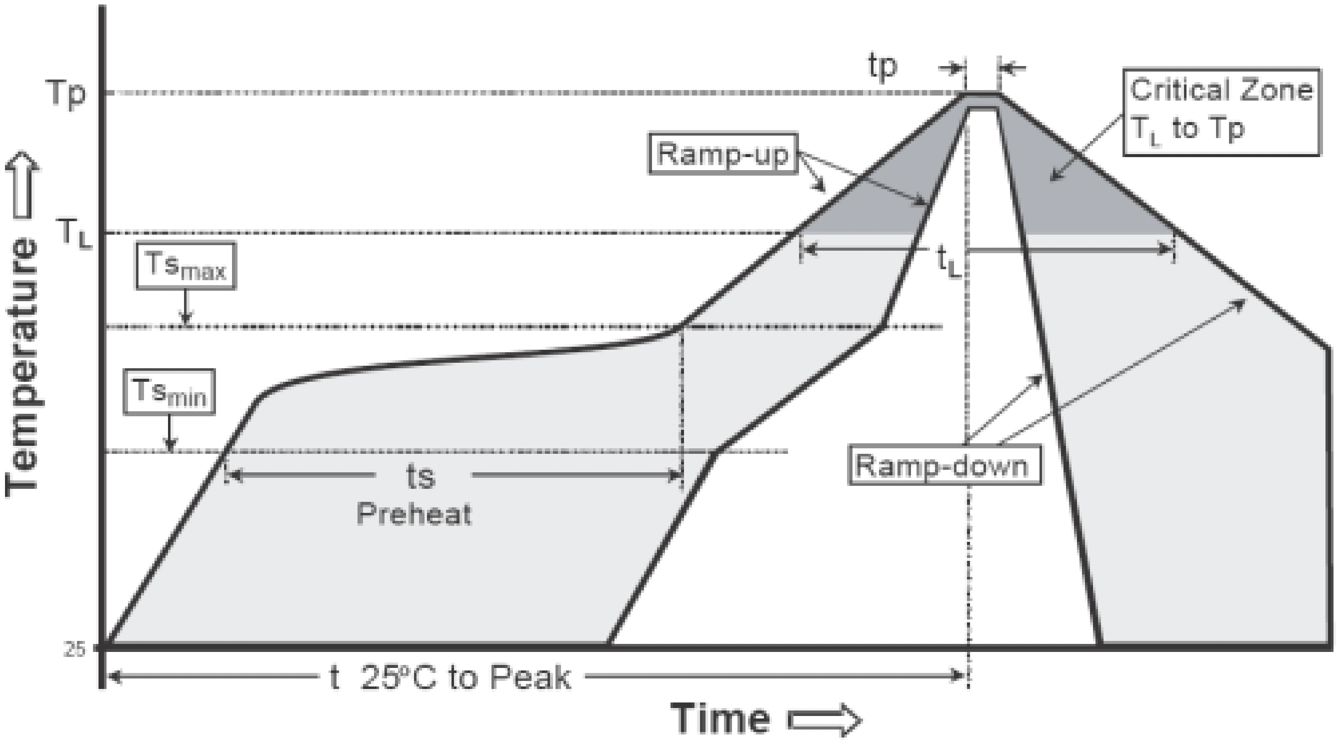
1. 10 sprocket hole pitch cumulative tolerance ±0.2.
2. Camber not to exceed 1mm in 100mm.
3. Material : conductive Black Polystyrene.
4. Ao & Bo measured on a plane 0.3mm above the bottom of the pocket.
5. Ko measured from a plane on the inside bottom of the pocket to the top surface of the carrier.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

Unit : millimeter

Recommended wave soldering condition

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

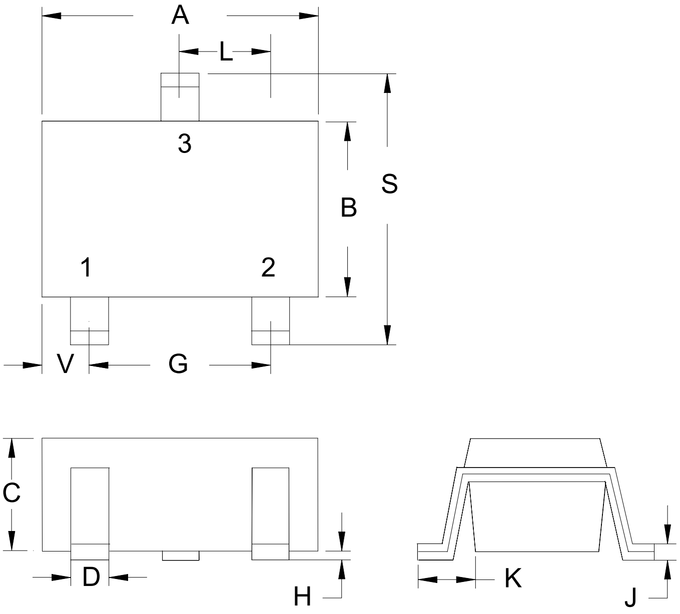
Recommended temperature profile for IR reflow

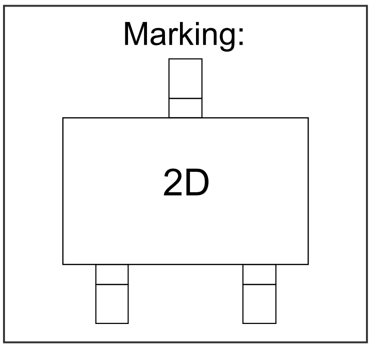


Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (Tsmax to Tp)	3°C/second max.	3°C/second max.
Preheat −Temperature Min(Ts min) −Temperature Max(Ts max) −Time(ts min to ts max)	 100°C 150°C 60-120 seconds	 150°C 200°C 60-180 seconds
Time maintained above: −Temperature (TL)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





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: 42 Alloy ; solder plating
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

Important Notice:

- All rights are reserved. Reproduction in whole or in part is prohibited without the prior written approval of Tin Far.
- Tin Far reserves the right to make changes to its products without notice.
- Tin Far ***semiconductor products are not warranted to be suitable for use in Life-Support Applications, or systems.***
- Tin Far assumes no liability for any consequence of customer product design, infringement of patents, or application assistance.