TFN2150

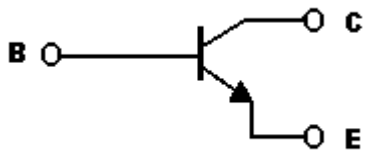
50V 4A NPN TRANSISTOR

Features

- Low $V_{CE(sat)}$, typically 0.25V at I_C / I_B = 2A / 0.1A
- Excellent current gain characteristics
- Complementary to TFN1424
- Pb-free package

Symbol

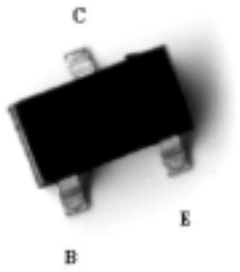
TFN2150



B：Base
C：Collector
E：Emitter

Outline

SOT-23



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limit	Unit
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current (DC)	I_C	4	A
Collector Current (Pulse)	I_{CP}	7 (Note 1)	A
Power Dissipation	Pd	225	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	°C/W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55~+150	°C

Note ： 1. Single Pulse Pw≦350μs, Duty≦2%.

Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	60	-	-	V	I_C=100μA, I_E=0
BV_{CEO}	50	-	-	V	I_C=1mA, I_B=0
BV_{EBO}	6	-	-	V	I_E=50μA, I_C=0
I_{CBO}	-	-	100	nA	V_{CB}=40V, I_E=0
I_{EBO}	-	-	100	nA	V_{EB}=5V, I_C=0
*$V_{CE(sat)}$	-	-	0.3	V	I_C=400mA, I_B=20mA
*$V_{CE(sat)}$	-	0.25	0.5	V	I_C=2A, I_B=100mA
*$V_{BE(sat)}$	-	-	1.5	V	I_C=2A, I_B=200mA
*$h_{FE}1$	200	-	-	-	V_{CE}=2V, I_C=100mA
*$h_{FE}2$	270	-	820	-	V_{CE}=2V, I_C=500mA
*$h_{FE}3$	100	-	-	-	V_{CE}=2V, I_C=1A
f_T	-	90	-	MHz	V_{CE}=5V, I_C=0.1A, f=100MHz
Cob	-	45	-	pF	V_{CB}=10V, f=1MHz

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

Classification Of h_{FE} 2

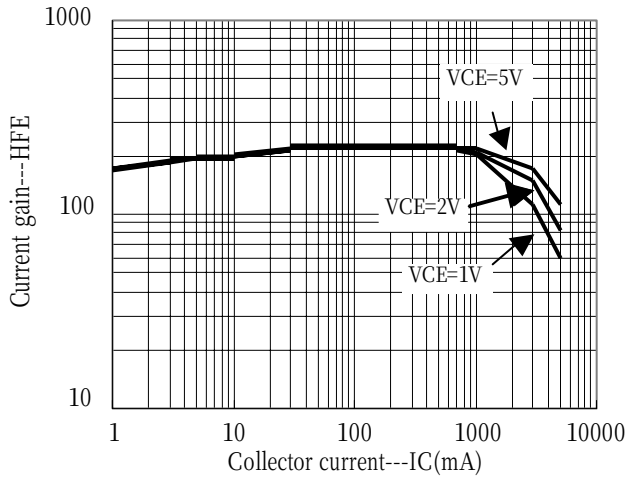
Rank	S	T
Range	270~560	390~820

Ordering Information

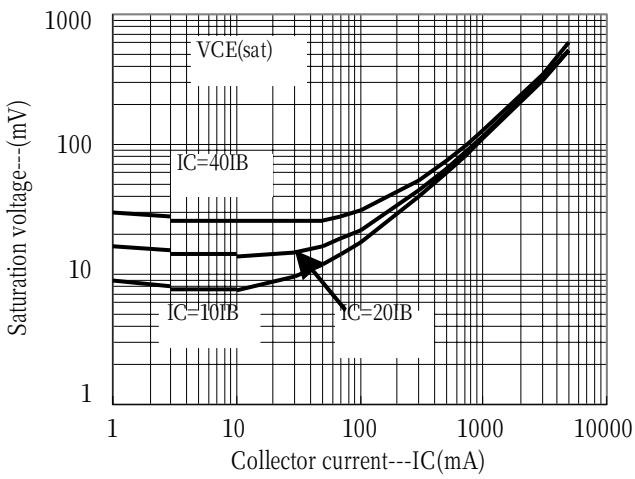
Device	Package	Shipping	Marking
TFN2150	SOT-23 (Pb-free)	3000 pcs / Tape & Reel	CF

Characteristic Curves

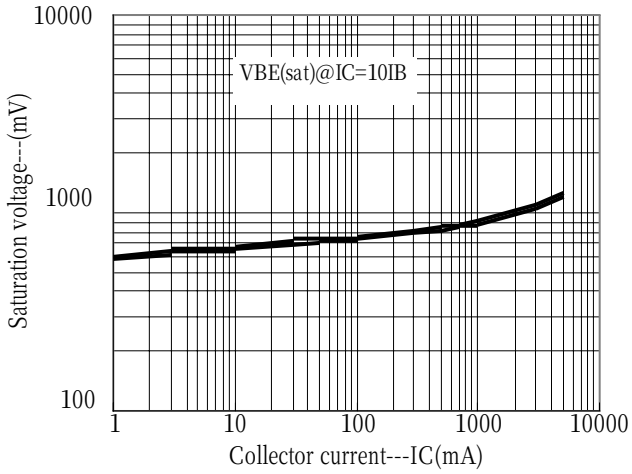
Current gain vs Collector current



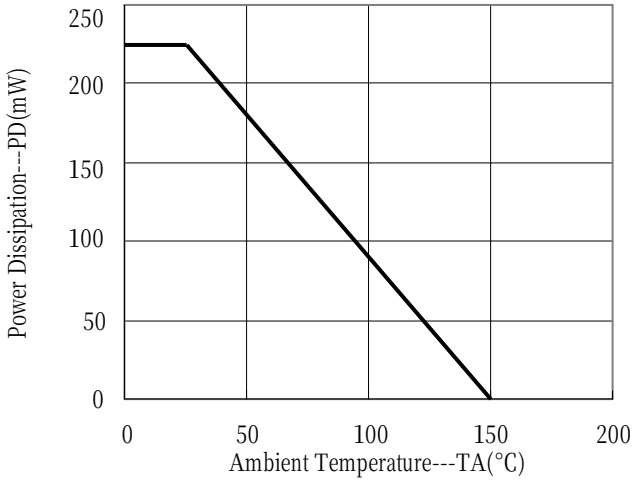
Saturation voltage vs Collector current



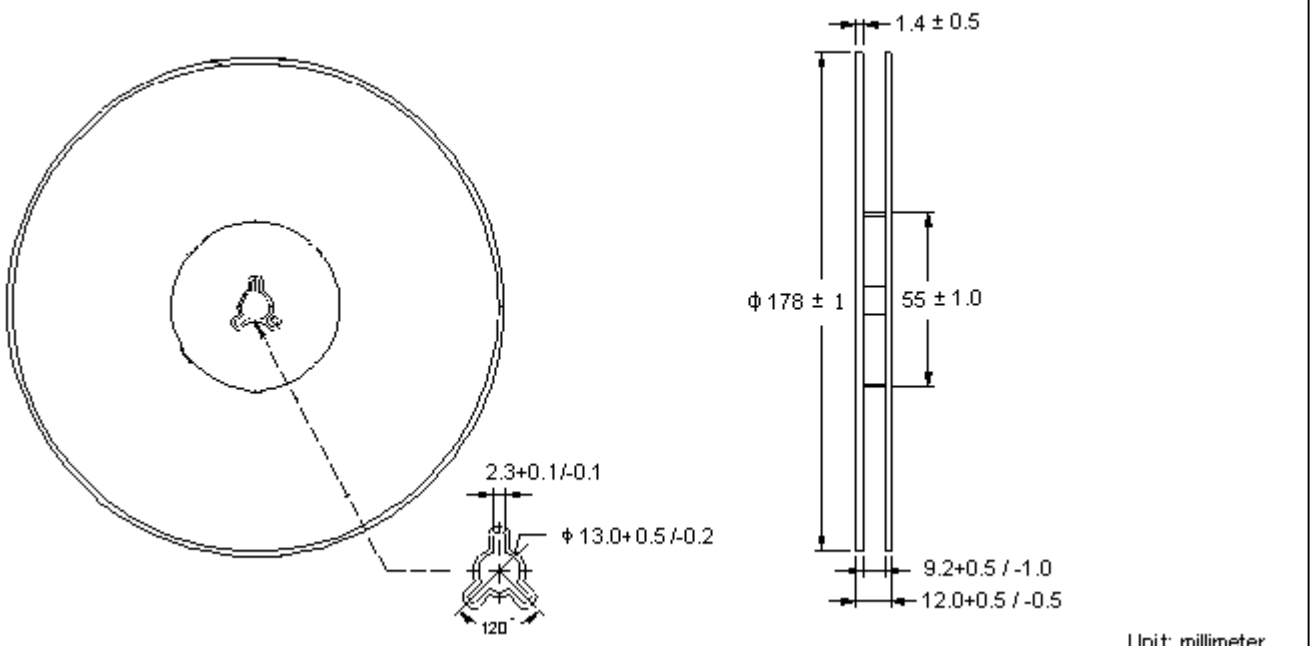
Saturation votlage vs Collector current



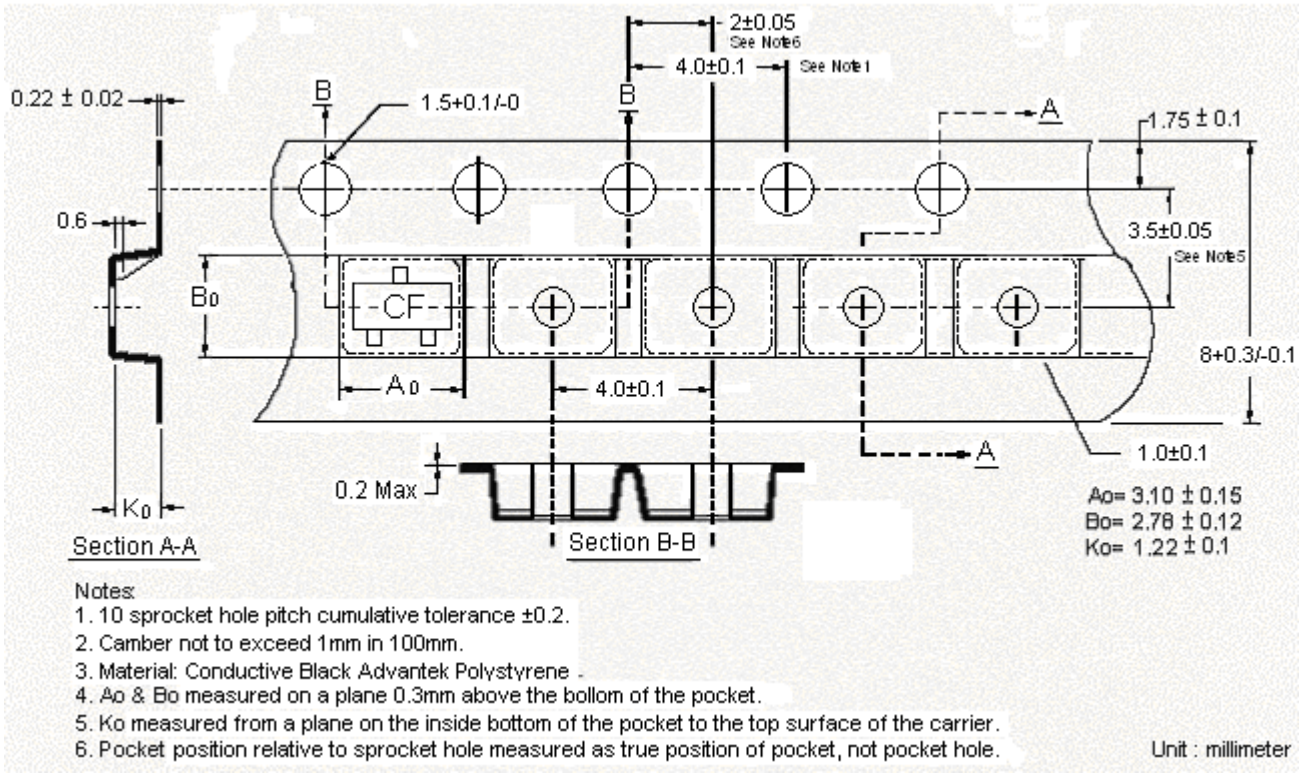
Power Derating Curve



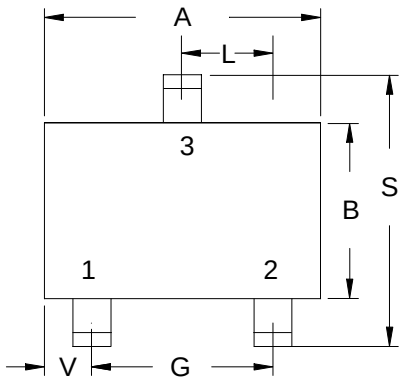
Reel Dimension

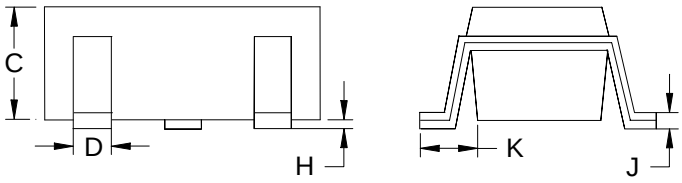


Carrier Tape Dimension

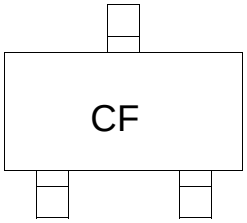


SOT-23 Dimension





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