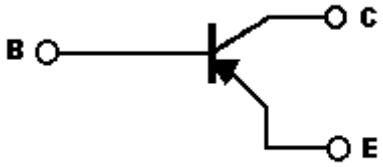
TFN807

Description

- The TFN807 is designed for general purpose switching and amplification applications. It is housed in the SOT-23/SC-59 package which is designed for low power surface mount applications.
- Low $V_{CE(sat)}$
- High switching speed.
- Complementary to BC817N3

Equivalent Circuit

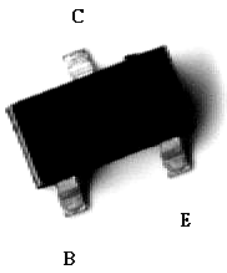
TFN807



B：Base
C：Collector
E：Emitter

Outline

SOT-23



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-45	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-500	mA
Power Dissipation @T_A=25℃	Pd	225 (Note 1)	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556 (Note 1)	°C/W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55~+150	°C

Note 1:When mounted on a FR-5 board with area measuring 1.0×0.75×0.062 in.

Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	-50	-	-	V	I_C=-10μA
*BV_{CEO}	-45	-	-	V	I_C=-10mA
BV_{EBO}	-5	-	-	V	I_E=-10μA
I_{CBO}	-	-	-100	nA	V_{CB}=-20V
I_{EBO}	-	-	-100	nA	V_{EB}=-5V
*$V_{CE(sat)}$	-	-0.5	-0.7	V	I_C=-500mA, I_B=-50mA
*$V_{BE(on)}$	-	-	-1.2	V	V_{CE}=-1V, I_C=-500mA
*h_{FE} 1	100	-	600	-	V_{CE}=-1V, I_C=-100mA
*h_{FE}	40	-	-	-	V_{CE}=-1V, I_C=-500mA
f_T	80	-	-	MHz	V_{CE}=-5V, I_C=-10mA, f=100MHz
Cob	-	9	-	pF	V_{CB}=-10V, I_E=0A,f=1MHz

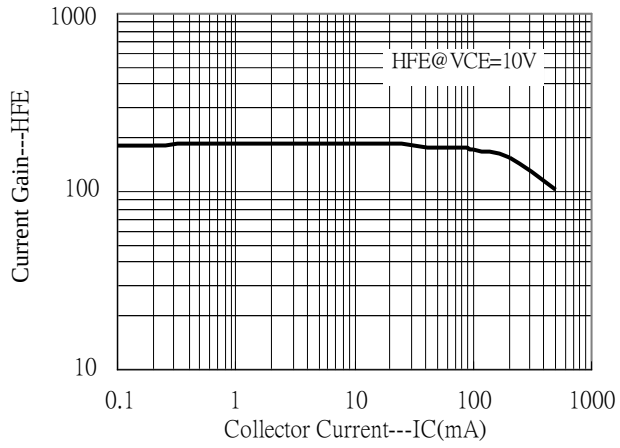
*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

Classification of h_{FE} 1:

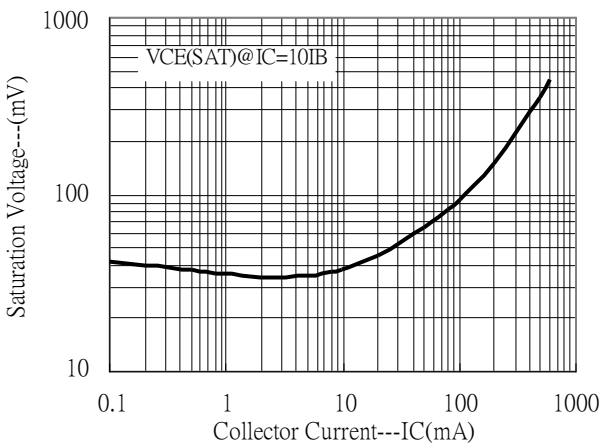
Rank	16	25	40
Range	100--250	160--400	250--600

Characteristic Curves

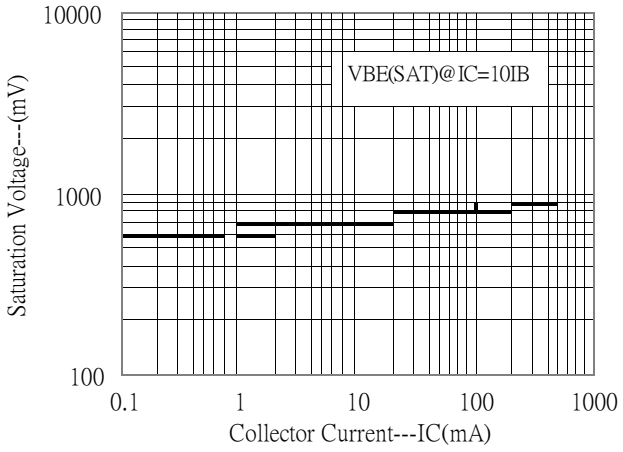
Current Gain vs Collector Current



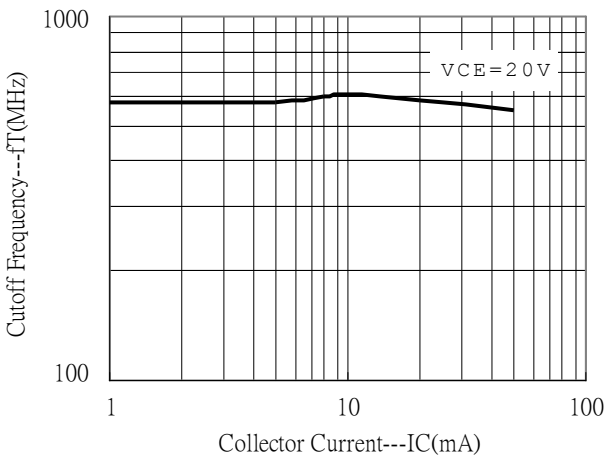
Saturation Voltage vs Collector Current



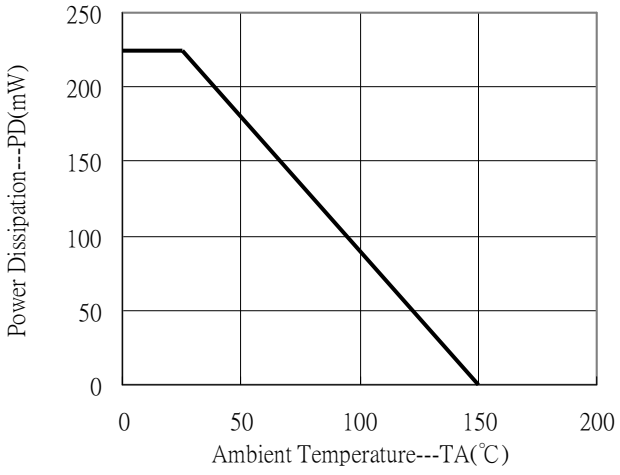
Saturation Voltage vs Collector Current



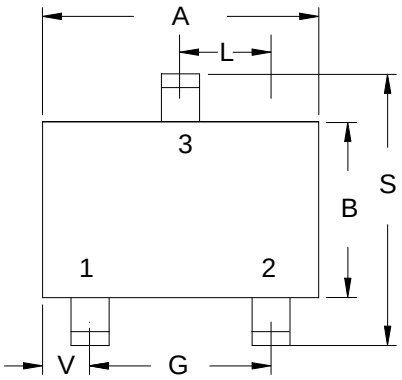
Cutoff Frequency vs Collector Current

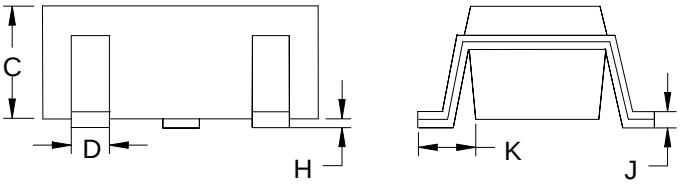


Power Derating Curve

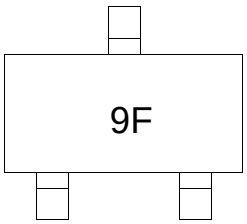


SOT-23 Dimension





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