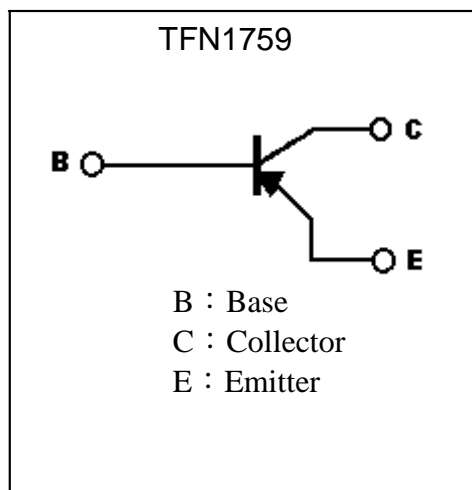


# TFN1759

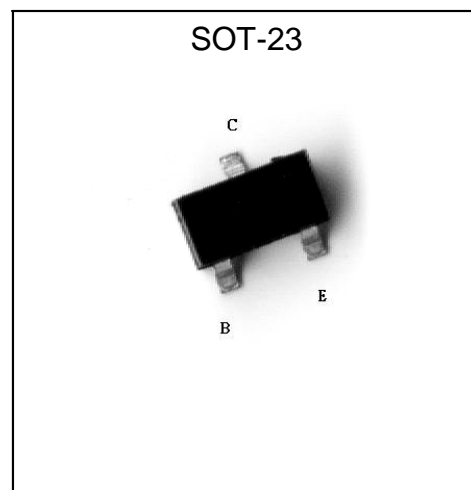
## Description

- High breakdown voltage. ( $BV_{CEO}=-400V$ )
- Low saturation voltage, typical  $V_{CE(sat)}=-0.2V$  at  $I_C/I_B=-20mA/-2mA$ .
- Wide SOA (safe operation area).
- Complementary to BTC4505N3.

## Symbol



## Outline



## Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	$V_{CBO}$	-400	V
Collector-Emitter Voltage	$V_{CEO}$	-400	V
Emitter-Base Voltage	$V_{EBO}$	-7	V
Collector Current	$I_C$	-300	mA
Power Dissipation	$P_d$	225	mW
Junction Temperature	$T_j$	150	°C
Storage Temperature	$T_{stg}$	-55~+150	°C



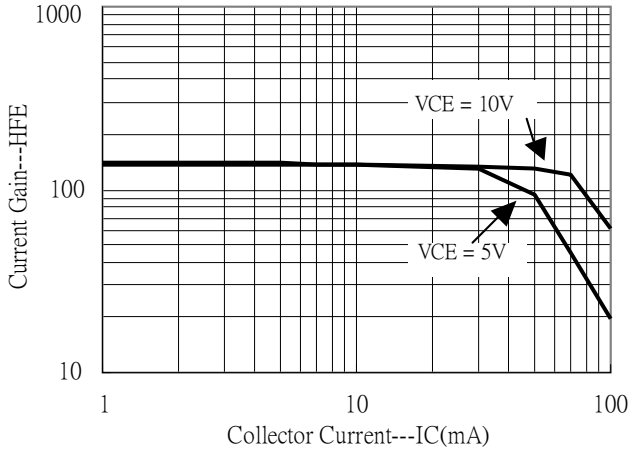
Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV <sub>CBO</sub>	-400	-	-	V	I <sub>C</sub> =-50μA
BV <sub>CEO</sub>	-400	-	-	V	I <sub>C</sub> =-1mA
BV <sub>EBO</sub>	-7	-	-	V	I <sub>E</sub> =-50μA
I <sub>CBO</sub>	-	-	-10	μA	V <sub>CB</sub> =-400V
I <sub>CER</sub>	-	-	-20	nA	V <sub>CE</sub> =-300V, R <sub>EB</sub> =4kΩ
I <sub>EBO</sub>	-	-	-10	μA	V <sub>EB</sub> =-6V
*V <sub>CE(sat)</sub>	-	-0.08	-0.5	V	I <sub>C</sub> =-20mA, I <sub>B</sub> =-2mA
*V <sub>BE(sat)</sub>	-	-	-1.2	V	I <sub>C</sub> =-20mA, I <sub>B</sub> =-2mA
*h <sub>FE</sub>	100	-	270	-	V <sub>CE</sub> =-10V, I <sub>C</sub> =-10mA
f <sub>T</sub>	-	12	-	MHz	V <sub>CE</sub> =-10V, I <sub>C</sub> =-10mA, f=5MHz
C <sub>ob</sub>	-	13	-	pF	V <sub>CB</sub> =-10V, I <sub>E</sub> =0A, f=1MHz

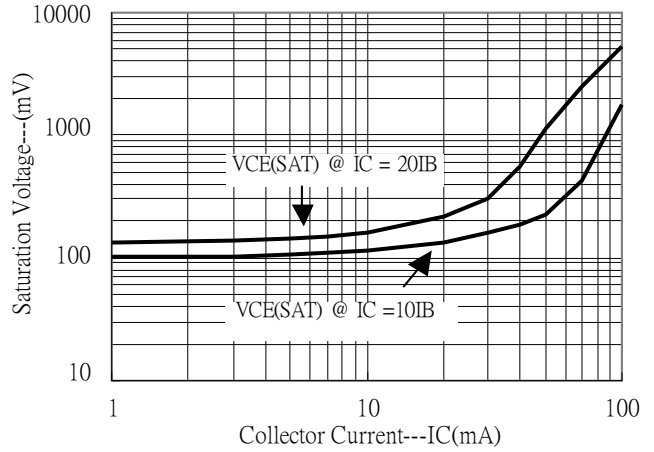
\*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

Characteristic Curves

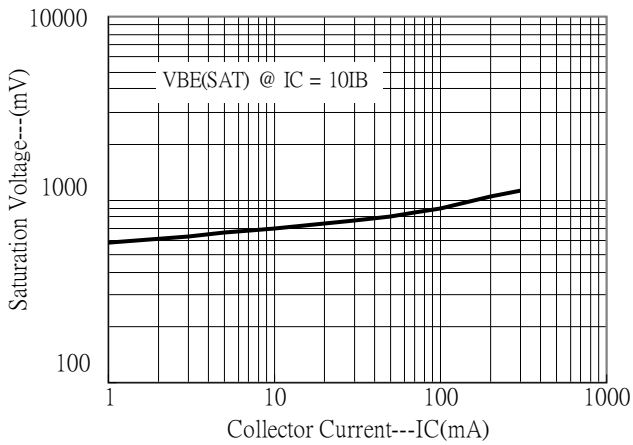
Current Gian vs Collector Current



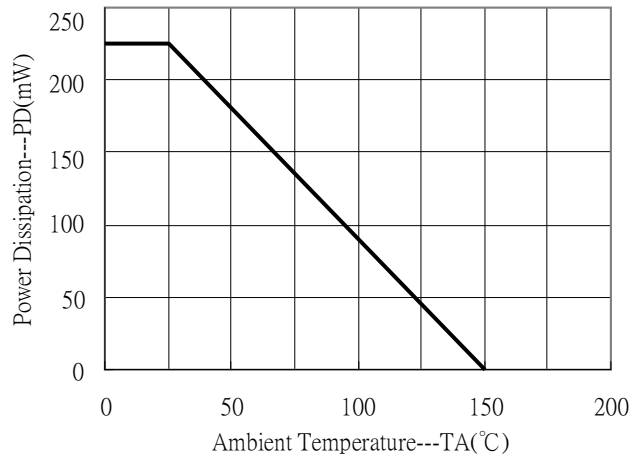
Saturation Voltage vs Collector Current



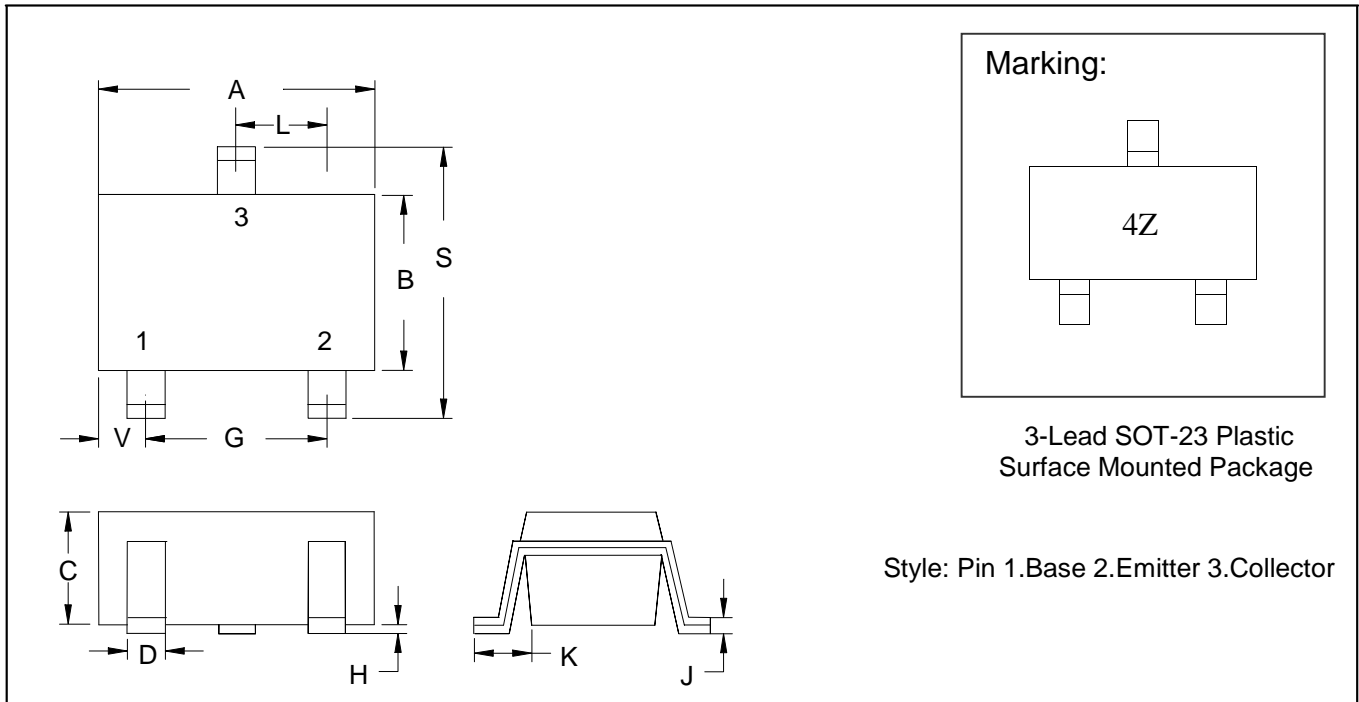
Saturation Voltage vs Collector Current



Power Derating Curve



## 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	0.0034	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

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