

TIP122

Rev. H Oct.-2018

/ Descriptions

TO-220 NPN Silicon NPN transistor in a TO-220 Plastic Package.

/ Features

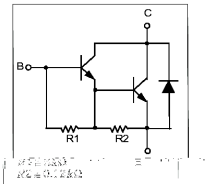
TIP127

Complement to TIP127.

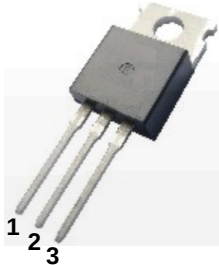
/ Applications

Medium power linear switching applications.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

/ h_{FE} Classifications & Marking

See Marking Instructions.

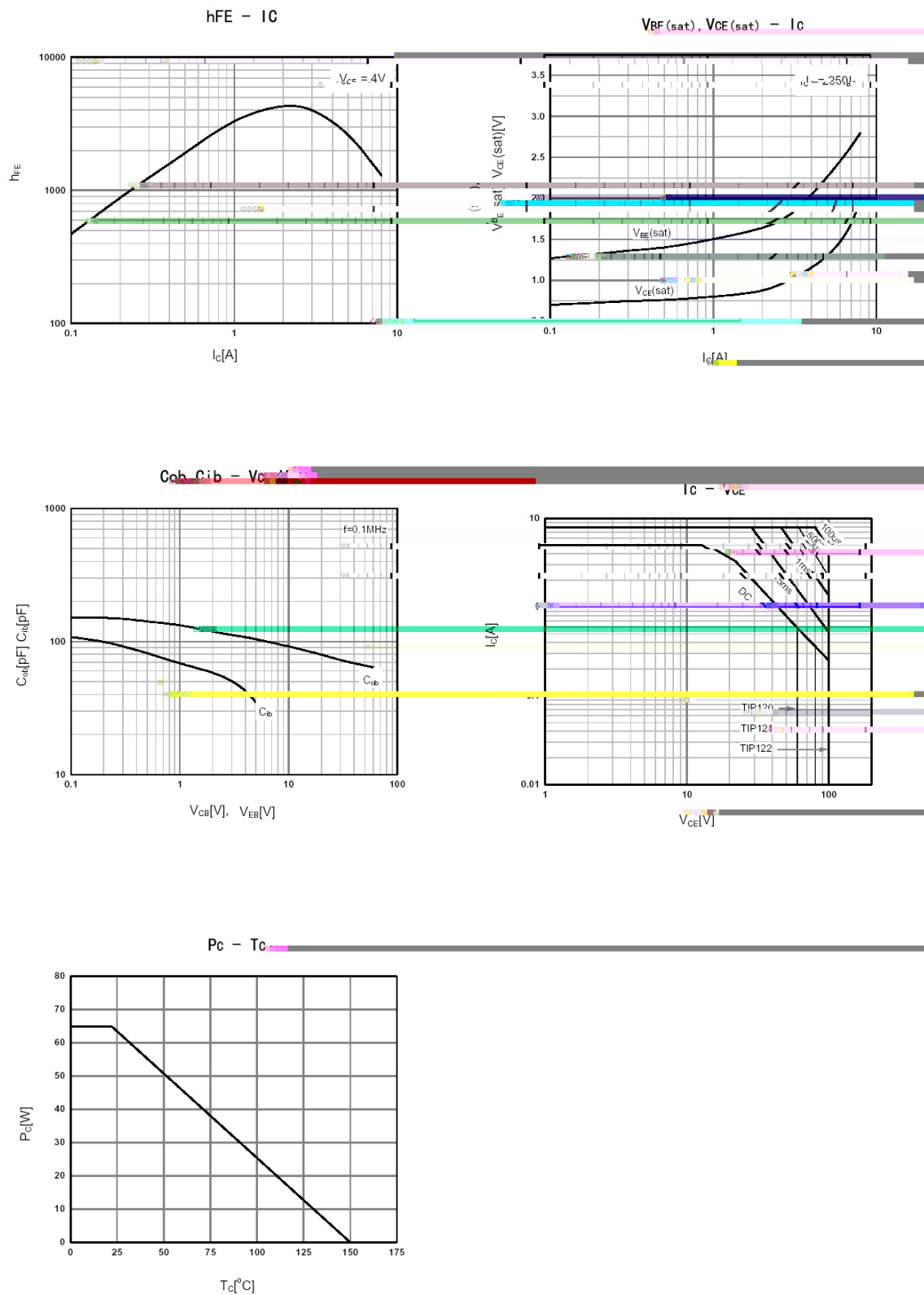
/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	100	V
Collector to Emitter Voltage	V_{CEO}	100	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	5.0	A
Peak Collector Current	I_{CP}	8.0	A
Base Current - Continuous	I_B	120	mA
Collector Power Dissipation	P_C	2.0	W
Collector Power Dissipation	$P_C(T_c=25^\circ\text{C})$	65	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 ~ 150	

/ Electrical Characteristics($T_a=25^\circ\text{C}$)

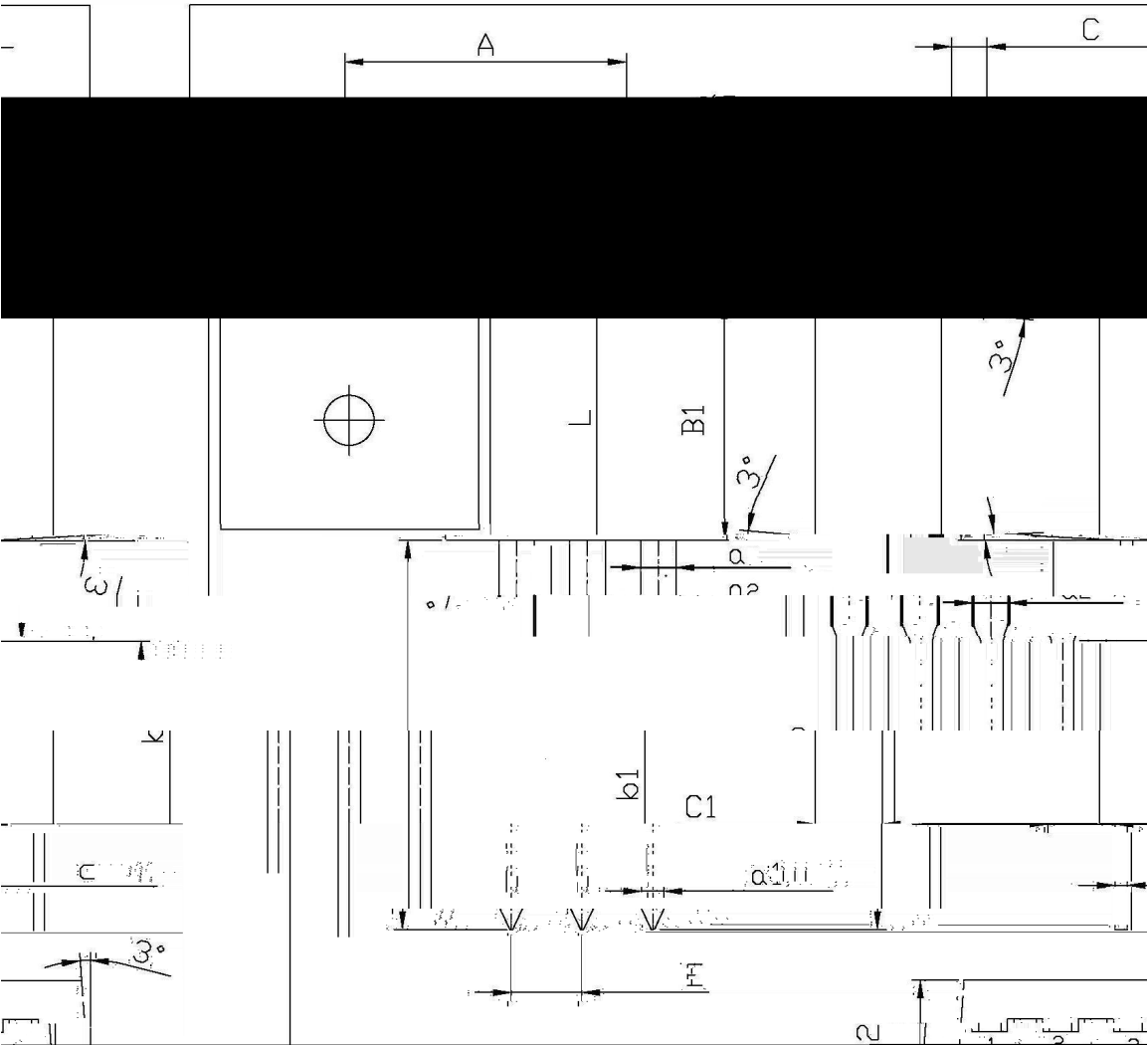
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=100\text{mA}$ $I_B=0$	100			V
Collector Cut-Off Current	I_{CEO}	$V_{CE}=50\text{V}$ $I_B=0$			0.5	mA
Collector Cut-Off Current	I_{CBO}	$V_{CB}=100\text{V}$ $I_E=0$			0.2	mA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=5.0\text{V}$ $I_C=0$			2.0	mA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=3.0\text{V}$ $I_C=0.5\text{A}$	1000			
	$h_{FE(2)}$	$V_{CE}=3.0\text{V}$ $I_C=3.0\text{A}$	1000			
Collector to Emitter Saturation Voltage	$V_{CE(sat)(1)}$	$I_C=3.0\text{A}$ $I_B=12\text{mA}$			2.0	V
	$V_{CE(sat)(2)}$	$I_C=5.0\text{A}$ $I_B=20\text{mA}$			4.0	V
Base to Emitter Voltage	V_{BE}	$I_C=3.0\text{A}$ $V_{CE}=3.0\text{V}$			2.5	V
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}$ $I_E=0$ $f=0.1\text{MHz}$			200	pF

/ Electrical Characteristic Curve



/ Package Dimensions

单位: mm

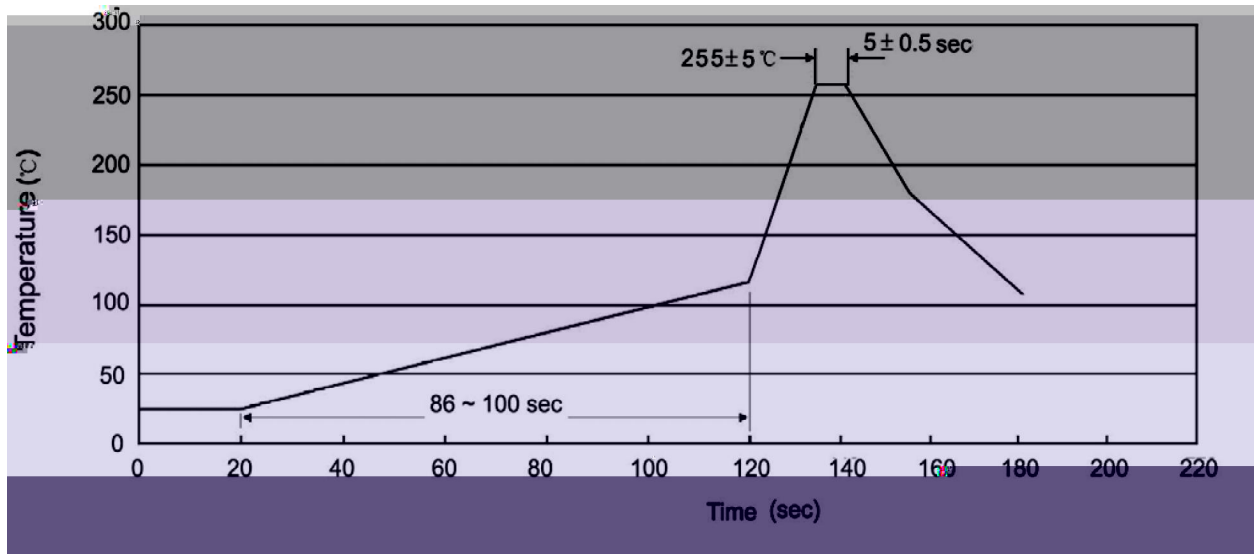


Dimensions in Millimeters			Dimensions in Millimeters		
Symbol	Min	Max	Symbol	Min	Max
A	9.8	10.2	C	1.2	1.4
B	3.56	3.64	B1	6.3	6.7
B1	9.0	9.4	C1	15.7	16.1
F	2.54	2.54	F	2.54	2.54

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() / Temperature Profile for Dip Soldering(Pb-Free)



Note:

- | | | | | | |
|---|-------|-----|-----------|--------|---|
| 1 | 25 | 150 | 60 | 90sec; | 1.Preheating:25~150 , Time:60~90sec. |
| 2 | 255±5 | | 5±0.5sec; | | 2.Peak Temp.:255±5 , Duration:5±0.5sec. |
| 3 | | 2 | 10 | /sec. | 3. Cooling Speed: 2~10 /sec. |

/ Resistance to Soldering Heat Test Conditions

270±5 10±1 sec. Temp.:270±5 Time:10±1 sec

/ Packaging SPEC.

/ BULK

Package Type 封装形式	Units 包装数量		Dimension 包装尺寸 (unit: mm ³)	
	Units/Bag 只/袋	Bags/Inner Box 袋/盒	Units/Inner Box 只/盒	InmoOu