

2N6131

Rev.H Oct.-2018

/ Descriptions

TO-220

NPN

Silicon NPN transistor in a TO-220 Plastic Package.

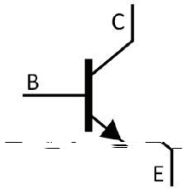
/ Features

Fast switching time.

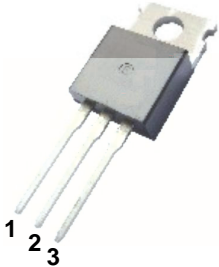
/ Applications

Medium power linear, fast switching applications.

/ Equivalent Circuit



/ Pinning



PIN1 Base

PIN 2 Collector

PIN 3 Emitter

/ h_{FE} Classifications & Marking

See Marking Instructions.

/ Absolute Maximum Ratings(Ta=25)

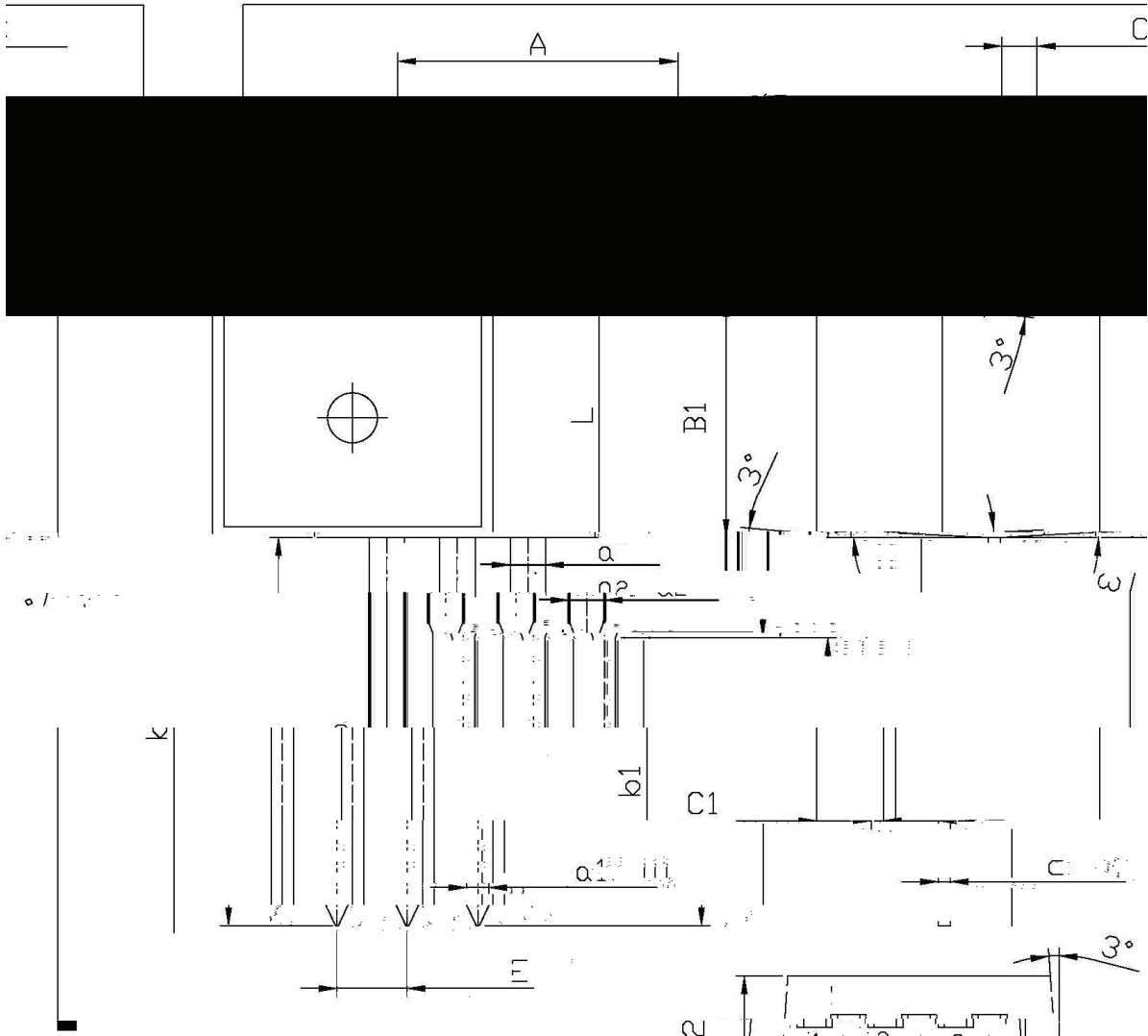
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	100	V
Collector to Emitter Voltage	V_{CEO}	80	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	7.0	A
Peak Collector Current	I_{CM}	10.0	A
Collector Power Dissipation	$P_C(T_C=25)$	50	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=100mA$ $I_B=0$	100			V
Collector to Emitter Breakdown Voltage	V_{CBO}	$I_C=1mA$ $I_E=0$	80			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=1mA$ $I_C=0$	5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=80V$ $I_E=0$			0.1	mA
Collector Cut-Off Current	I_{CEO}	$V_{CE}=80V$ $I_B=0$			1.0	mA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=5.0V$ $I_C=0$			1.0	mA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=4.0V$ $I_C=3.0A$	10		100	
	$h_{FE(2)}$	$V_{CE}=4.0V$ $I_C=5.0A$	5.0			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=6.0A$ $I_B=1.0A$			1.5	V
Base to Emitter On Voltage	$V_{BE(on)}$	$I_C=6.0A$ $V_{CE}=4.0V$			2.0	V
Transition Frequency	f_T	$I_C=1.0A$ $V_{CE}=4.0V$	3.0			MHz

/ Package Dimensions

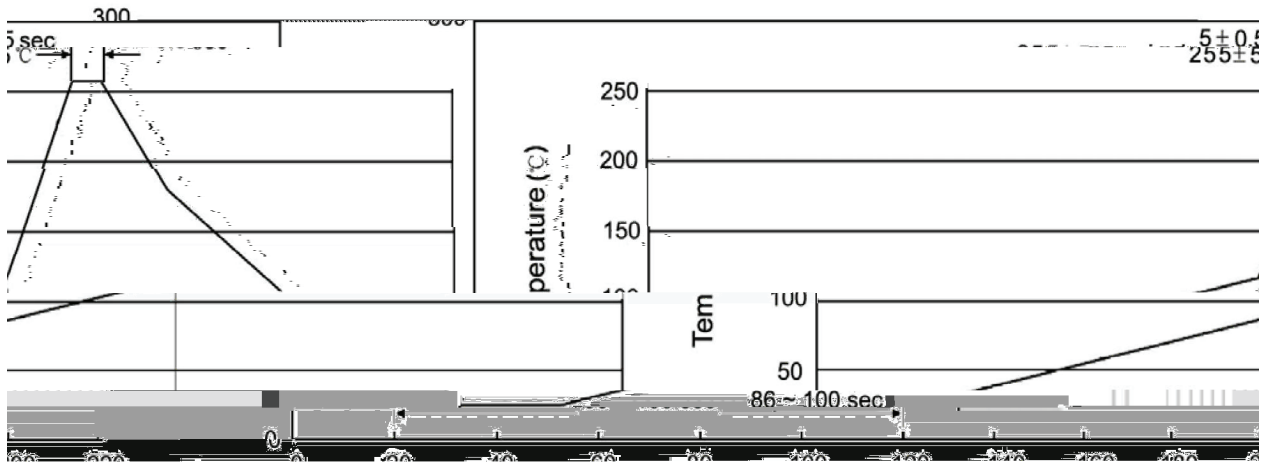
mm TO-220 单位:



Symbol	Dimensions in millimeters		Symbol	Dimensions in millimeters	
	Min	Max		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	L	16.1	15.7
a	0.6	0.7	a	0.2	0.3
c	0.4	0.6			
	1.25	1.45			

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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	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Bag 袋	Inner Box 盒	Outer Box 箱
TO-220/F	200	10	2,000	5	10,000	135×190	237×172×102	560×245×195

/ TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Tube 只/套管	Tubes/Inner Box 套管/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Tube 套管	Inner Box 盒	Outer Box 箱
TO-220/F	50	20	1,000	5	5,000	532×31.4×5.5	555×164×50	575×290×180

/ Notices