

/ Descriptions

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

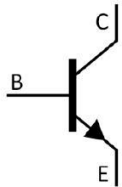
/ Features

2SA1930
High f_T , complementary pair with 2SA1930.

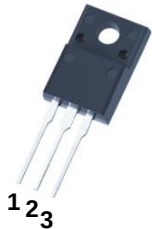
/ Applications

General power and driver stage amplifier applications.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

/ h_{FE} Classifications & Marking

See Marking Instructions.

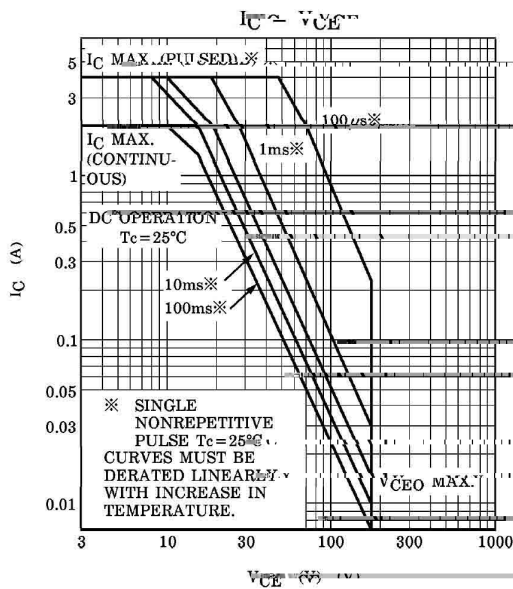
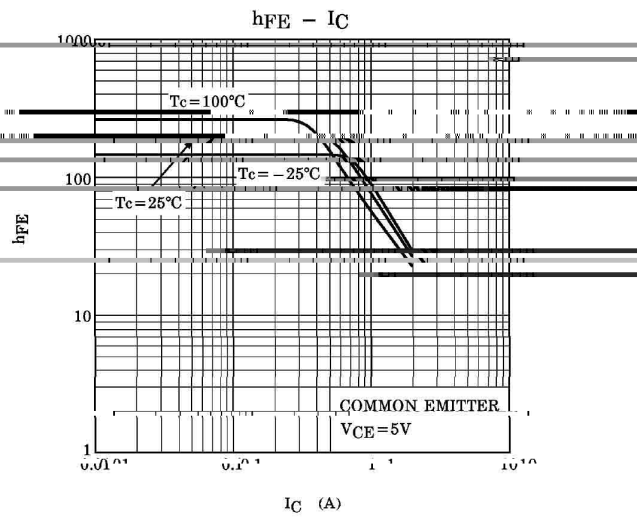
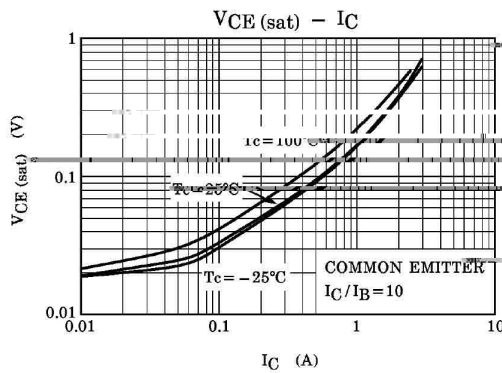
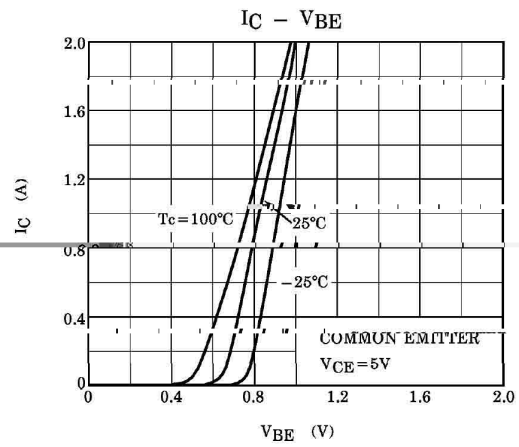
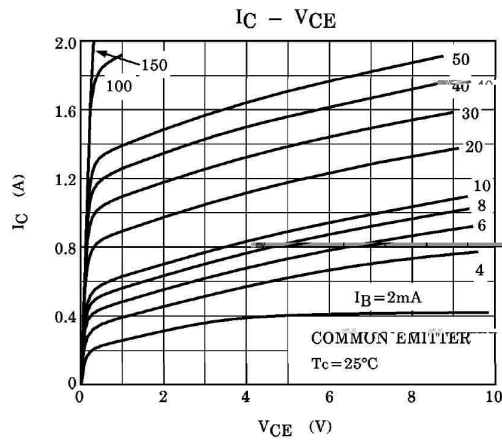
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	180	V
Collector to Emitter Voltage	V_{CEO}	180	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	2.0	A
Base Current - Continuous	I_B	1.0	A
Collector Power Dissipation	P_C	2.0	W
Collector Power Dissipation	$P_C(T_c=25^{\circ}C)$	20	W
Junction Temperature	T_j	150	$^{\circ}C$
Storage Temperature Range	T_{stg}	-55~150	$^{\circ}C$

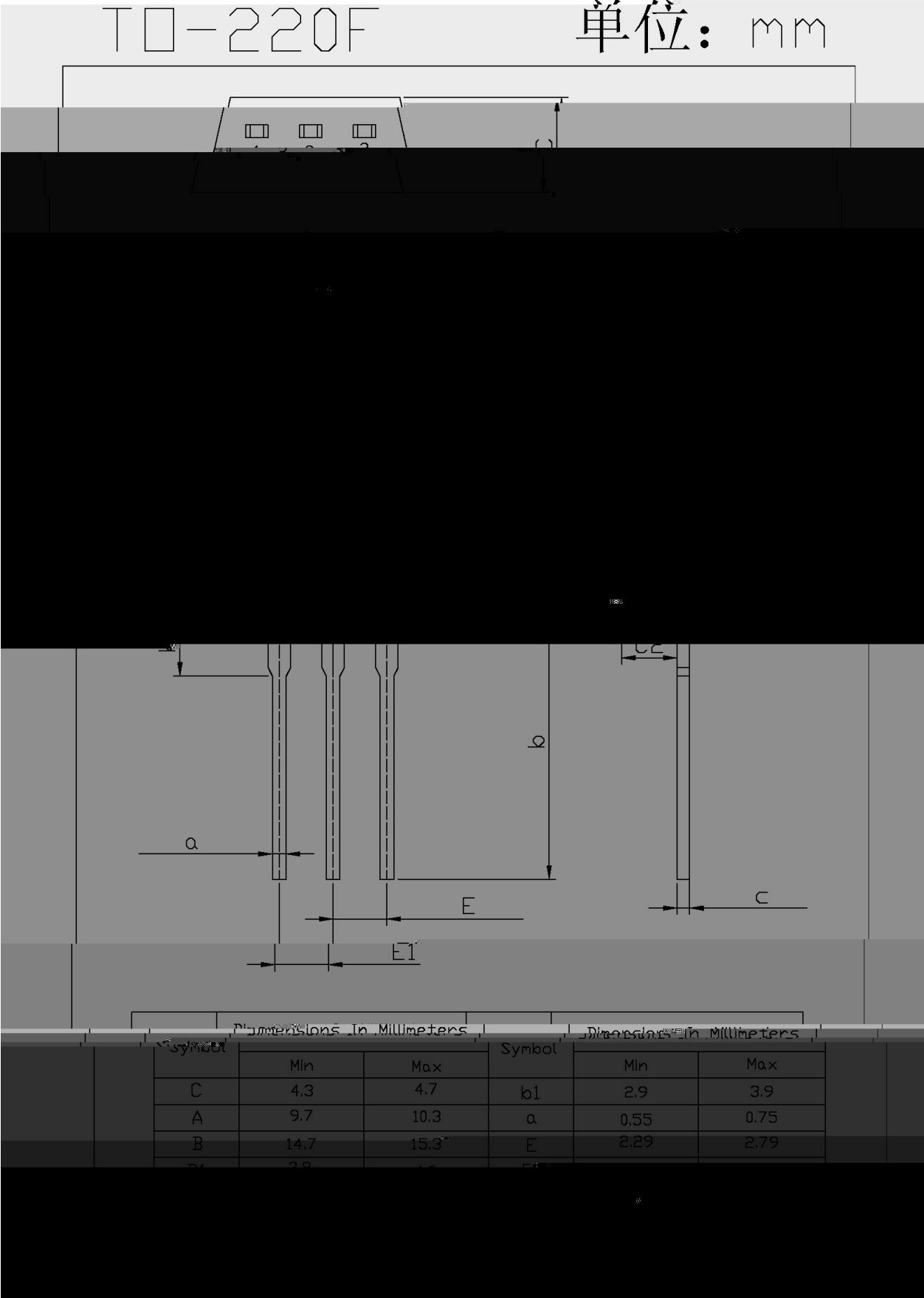
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=10mA$ $I_B=0$	180			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=180V$ $I_E=0$			5.0	A
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=5.0V$ $I_C=0$			5.0	A
DC Current Gain	$h_{FE(1)}$	$V_{CE}=5.0V$ $I_C=100mA$	100		320	
	$h_{FE(2)}$	$V_{CE}=5.0V$ $I_C=1.0A$	50			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=1.0A$ $I_B=100mA$		0.16	1.0	V
Base to Emitter Voltage	V_{BE}	$V_{CE}=5.0V$ $I_C=1.0A$		0.68	1.5	V
Transition Frequency	f_T	$V_{CE}=5.0V$ $I_C=300mA$		200		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V$ $f=1.0MHz$ $I_E=0$		16		pF

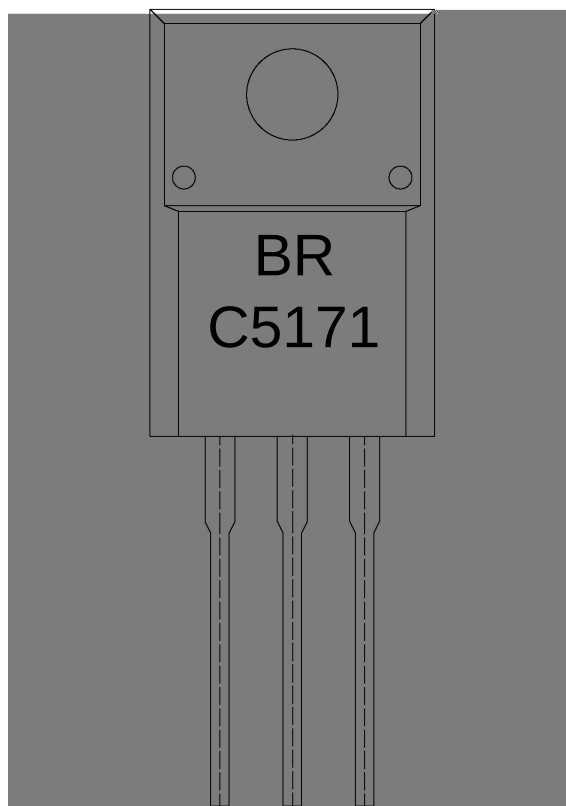
/ Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions



BR

C5171

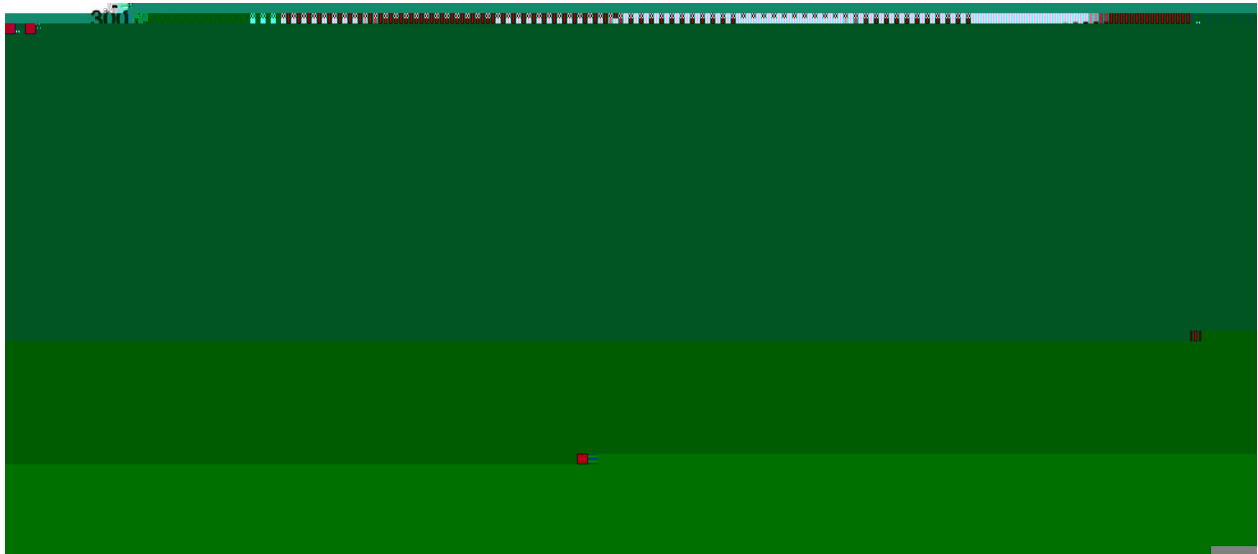
Note:

BR: Company Code.

C5171: Product Type.

****: Lot No. Code, code change with Lot No.

() / 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	Units 包装数量			Dimension 包装尺寸 (unit: mm ³)
封装形式	只 袋	袋 盒	只 盒	