

/ Descriptions

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

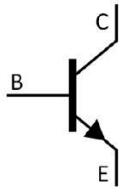
/ Features

High breakdown voltage, low collector output capacitance, wide SOA.

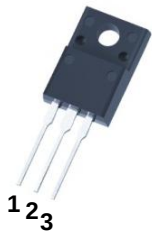
/ Applications

Ideal for Color TV chroma output and amplification of video signals.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

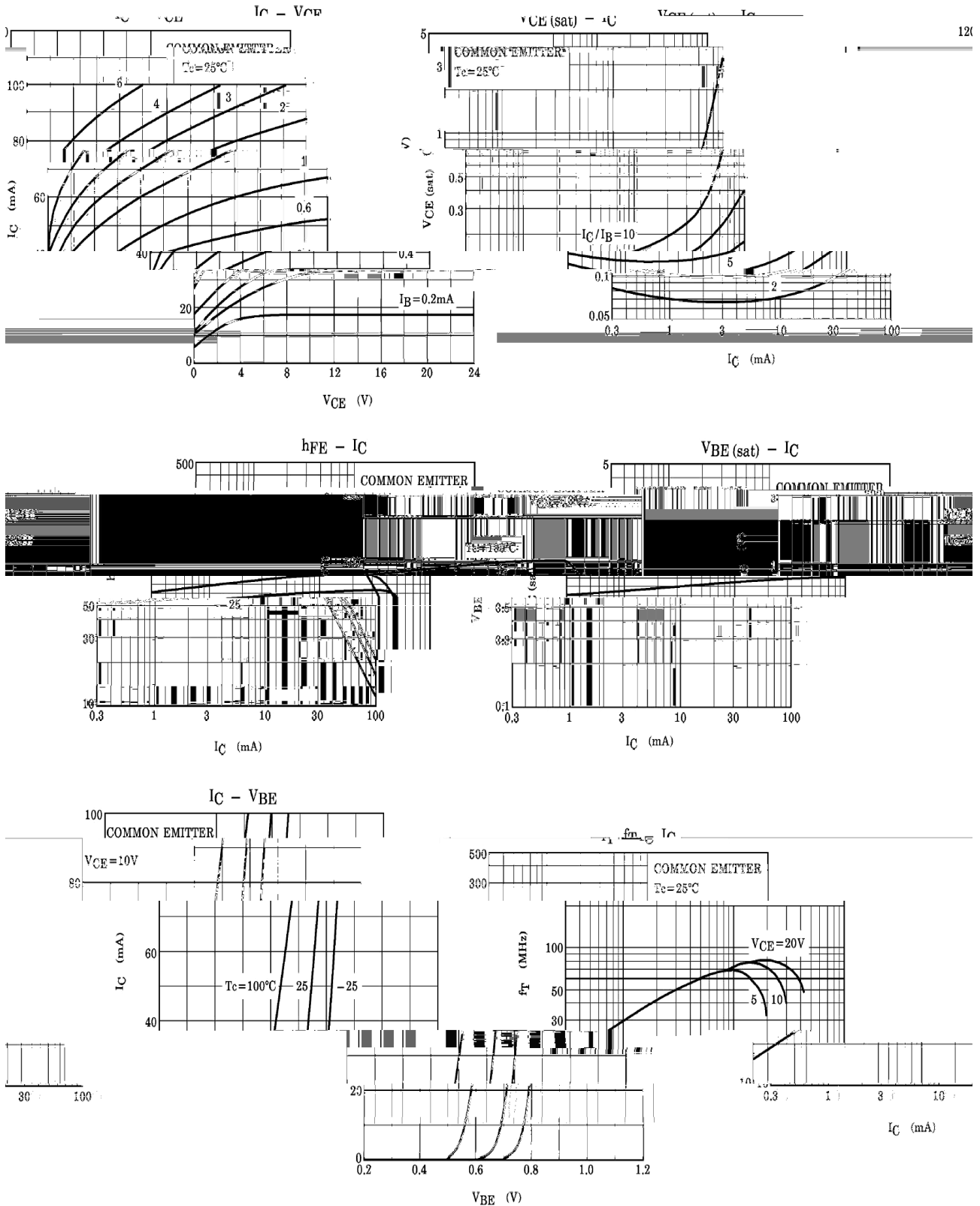
/ h_{FE} Classifications & Marking

h_{FE} Classifications Symbol	D	E
h_{FE} Range	60~120	100~200

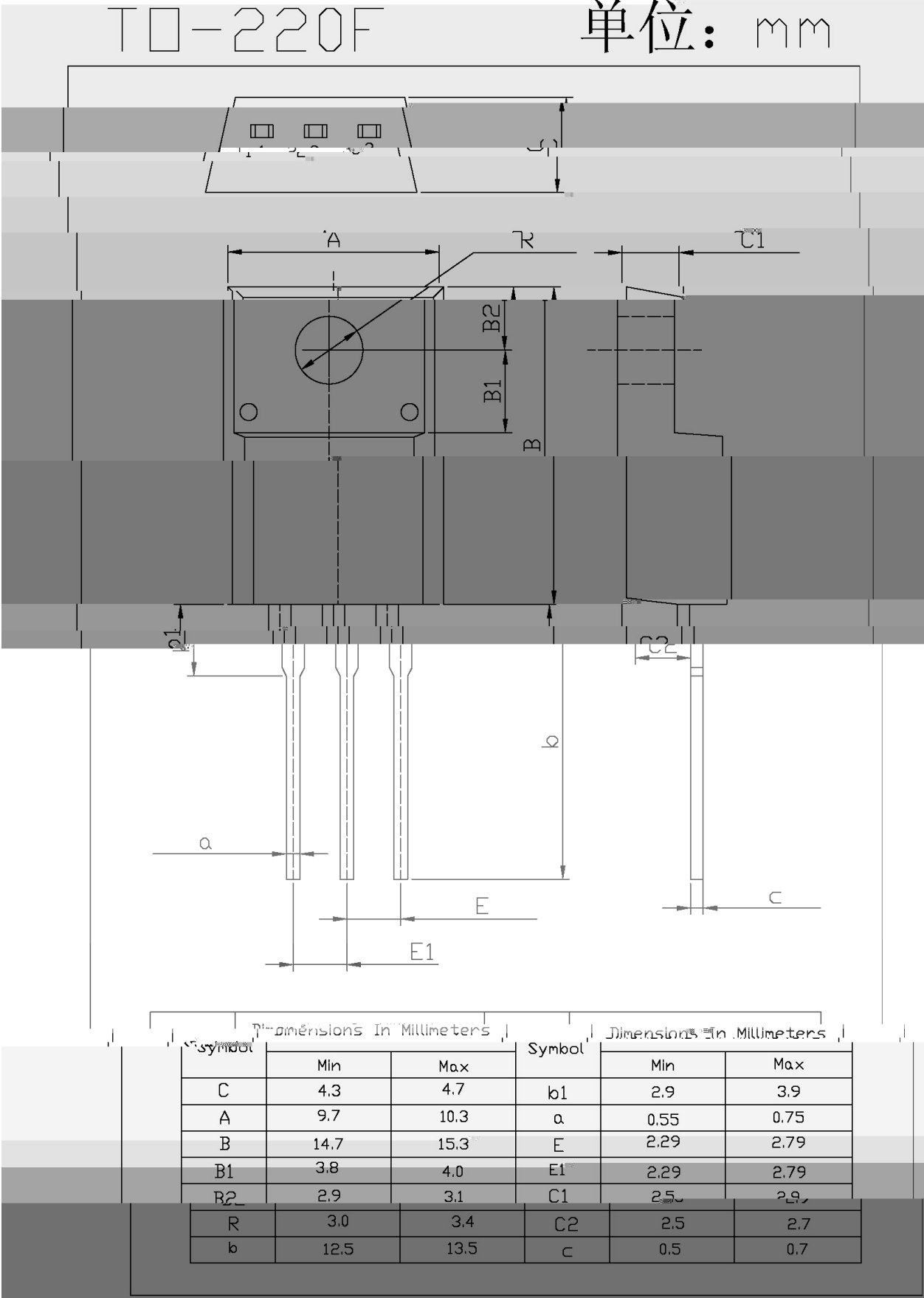
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	300	V
Collector to Emitter Voltage	V_{CEO}	300	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	100	mA
Collector Power Dissipation	P_C	2.0	W
Collector Power Dissipation	$P_C(T_c=25^\circ\text{C})$	10	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55~150	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=50\mu\text{A}$ $I_E=0$	300			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=100\mu\text{A}$ $I_B=0$	300			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=50\mu\text{A}$ $I_C=0$	5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=200\text{V}$ $I_B=0$			0.5	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=4.0\text{V}$ $I_B=0$			0.5	μA
DC Current Gain	h_{FE}	$V_{CE}=10\text{V}$ $I_C=10\text{mA}$	60		200	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=50\text{mA}$ $I_B=5.0\text{mA}$		0.2	1.0	V

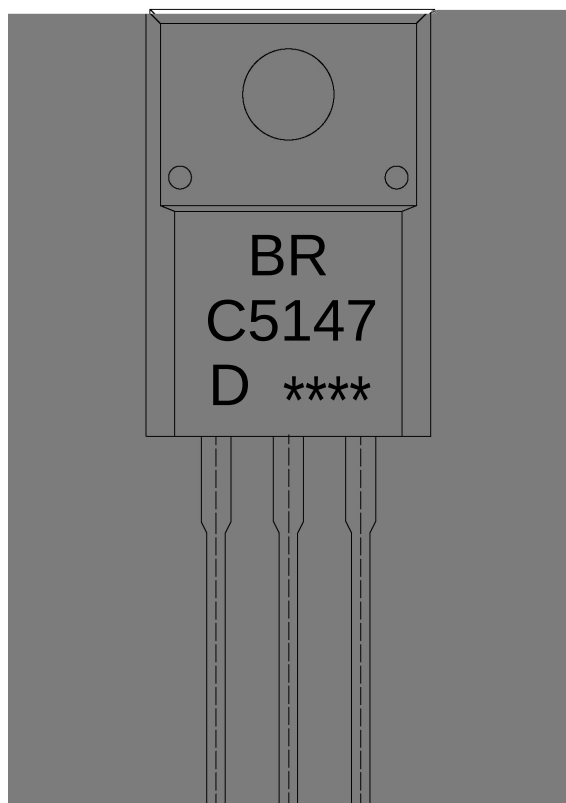
/ Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions



BR

C5147

D: h_{FE}

Note:

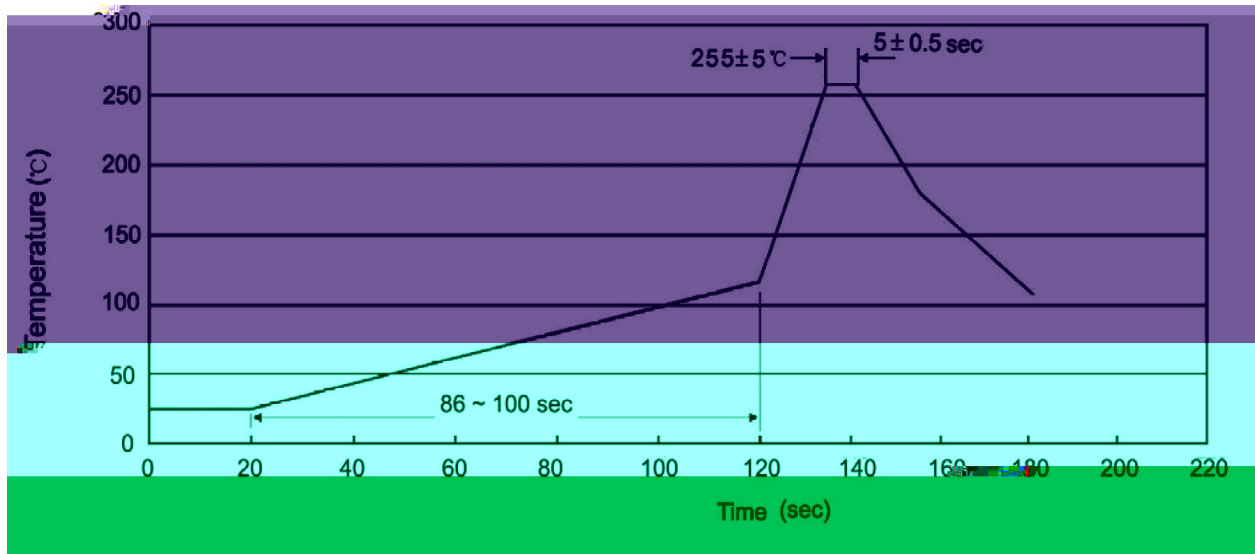
BR: Company Code.

C5147: Product Type.

D: h_{FE} Classifications Symbol

****: 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					Dimension (unit mm ³)		
	Units/Bag /	Bags/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Bag	Inner Box	Outer Box
TO-220/F	200	10	2,000	5	10,000	135×190	237×172×102	560×245×195

/ TUBE

Package Type	Units					Dimension (unit mm ³)		
	Units/Tube /	Tubes/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Tube	Inner Box	Outer Box
TO-220/F	50	20	1,000	5	5,000	532×31.4×5.5	555×164×50	575×290×180

/ Notices