

/ Descriptions

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

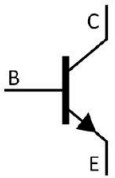
/ Features

Low saturation voltage, complementary to KTB1366.

/ Applications

General Purpose Application.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

/ h_{FE} Classifications & Marking

h _{FE} Classifications Symbol	O	Y
h _{FE} Range	60~120	100~200

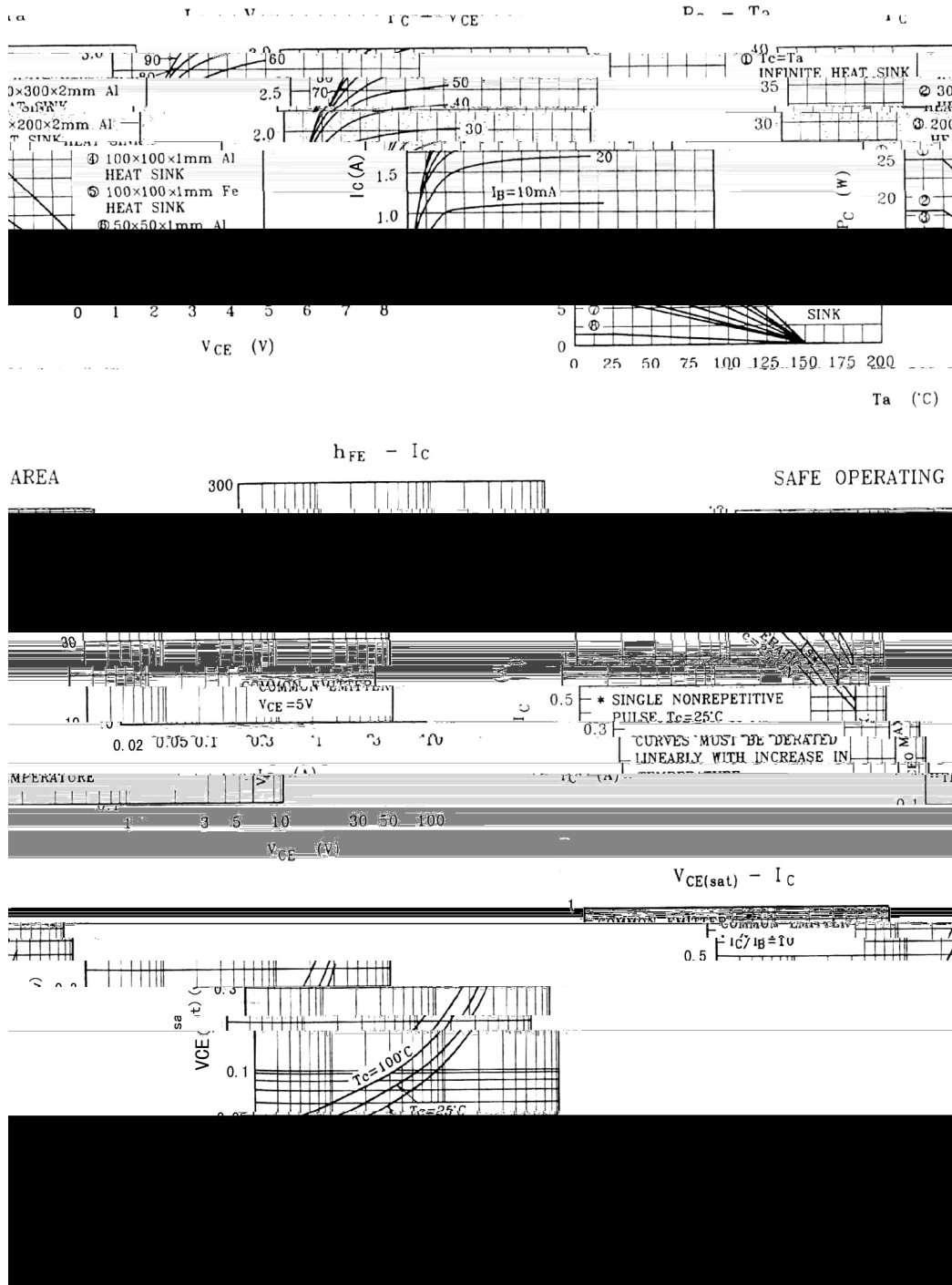
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	60	V
Collector to Emitter Voltage	V_{CEO}	60	V
Emitter to Base Voltage	V_{EBO}	7.0	V
Collector Current - Continuous	I_C	3.0	A
Base Current	I_B	0.5	A
Collector Power Dissipation	P_C	2.0	W
Collector Power Dissipation	$P_C(T_c=25)$	25	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{sag}	-55 150	

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Emitter Breakdown Voltage	V_{CEO}	$I_C=50mA$ $I_B=0$	60			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=60V$ $I_E=0$			100	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=7.0V$ $I_C=0$			100	μA
DC Current Gain	h_{FE}	$V_{CE}=5.0V$ $I_C=500mA$	60		200	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=2.0A$ $I_B=200mA$		0.25	1.0	V
Base-Emitter Voltage	V_{BE}	$V_{CE}=5.0V$ $I_C=500mA$		0.7	1.0	V
Transition Frequency	f_T	$V_{CE}=5.0V$ $I_C=500mA$		3.0		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V$ $I_E=0$ $f=1.0MHz$		35		pF
Turn-On Time	t_{on}	$I_{B1}=-I_{B2}=0.2A$		0.65		μS
Storage Time	t_{stg}	$I_{B1}=-I_{B2}=0.2A$		1.3		μS
Fall Time	t_f	$I_{B1}=-I_{B2}=0.2A$		0.65		μS

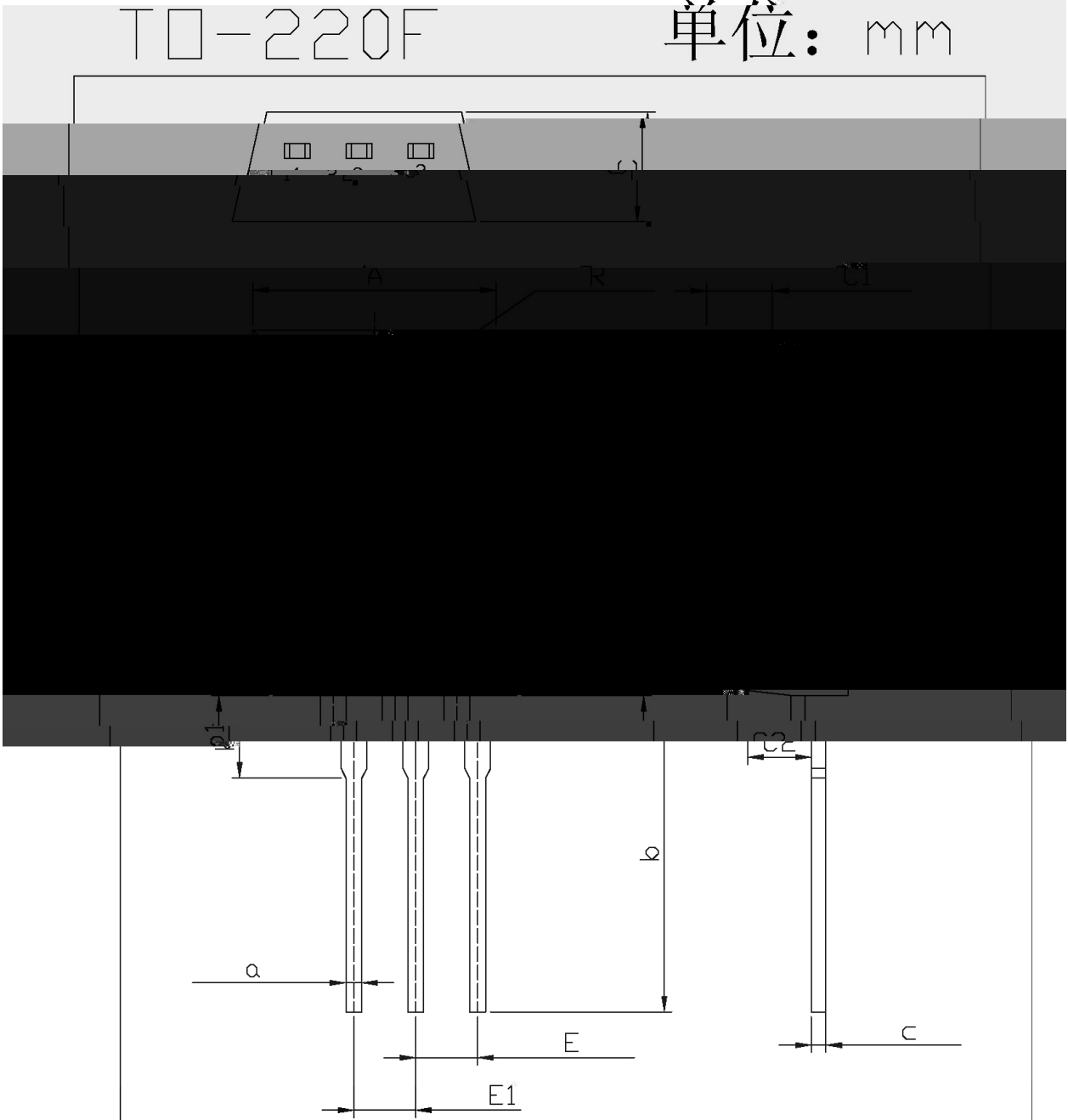
/ Electrical Characteristic Curve



/ Package Dimensions

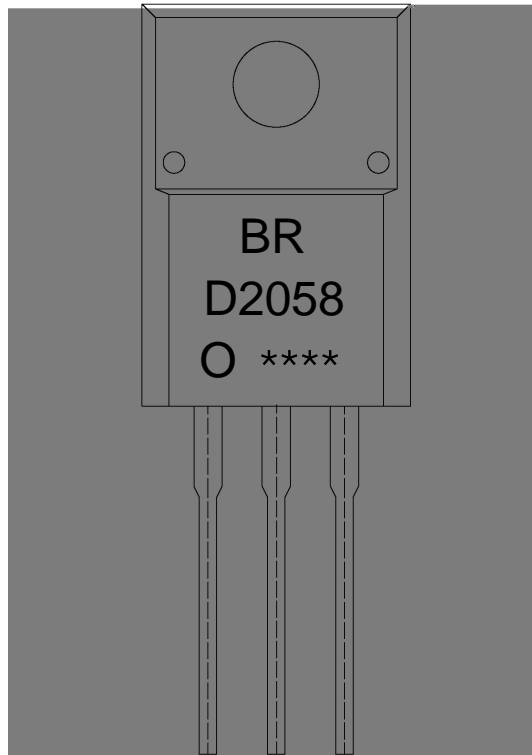
T0-220F

单位: mm



Dimensions In Millimeters			Dimensions In Millimeters		
Symbol	Min	Max	Symbol	Min	Max
C	4.3	4.7	b1	2.9	3.9
A	9.7	10.3	a	0.55	0.75
B	14.7	15.3	E	2.29	2.79
b1	2.9	4.0	E1	2.29	2.79
B2	2.9	3.1	C1	2.5	2.9
R	3.0	3.4	C2	2.5	2.7
b	12.5	13.5	c	0.5	0.7

/ Marking Instructions



Note:

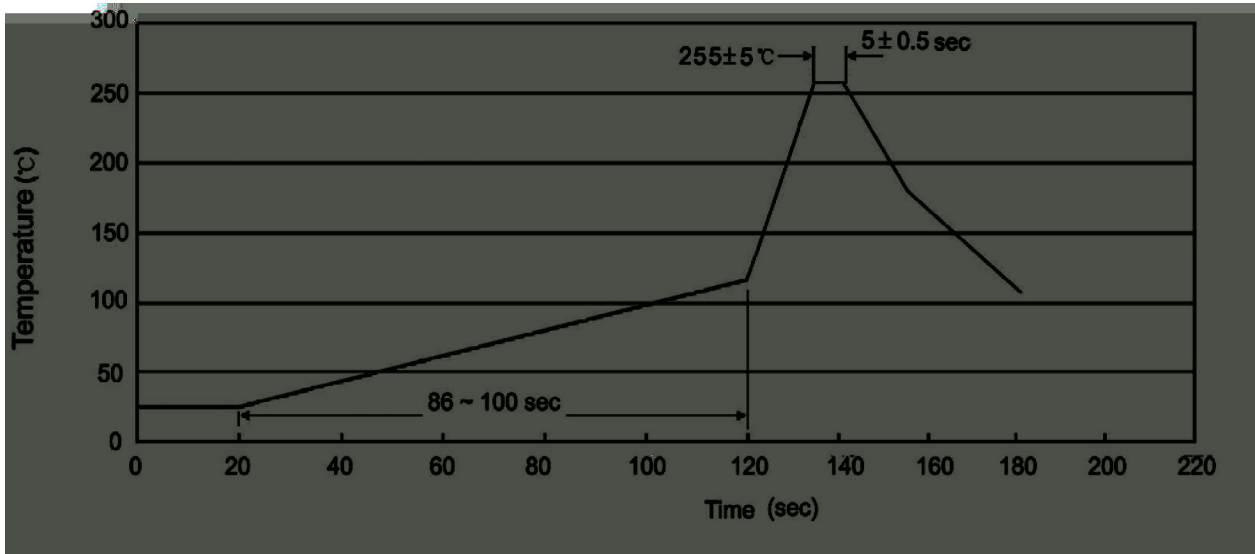
BR: Company Code.

D2058: Product Type.

O: 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 mm3)		
	Units/Bag /	Bags/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Bag	Inner Box	Outer Box

TO-220F