

/ Descriptions

Silicon NPN transistor in a TO-220 Plastic Package.

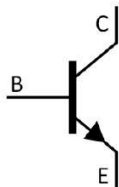
/ Features

Large current capacity with small package, low collector saturation voltage, pair with 2SA1129.

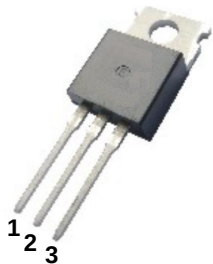
/ Applications

For low-frequency power amplifiers and mid-speed switching.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

/ h_{FE} Classifications & Marking

h_{FE} Classifications Symbol	M	L	K	J
h_{FE} Range	40 80	60 120	100 200	160 320

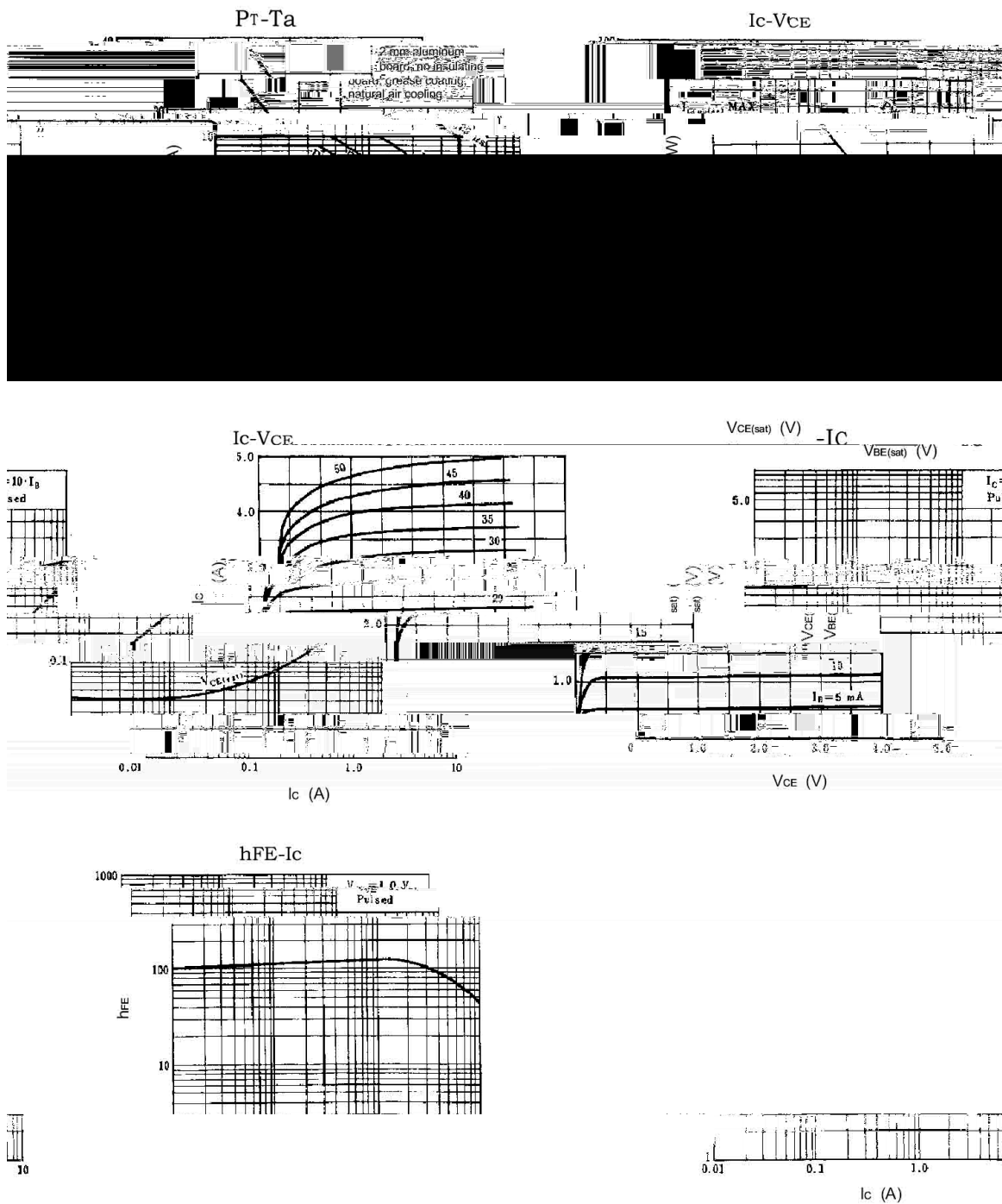
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	100	V
Collector to Emitter Voltage	V_{CEO}	40	V
Emitter to Base Voltage	V_{EBO}	7.0	V
Collector Current - Continuous	I_C	7.0	A
Collector Current – Continuous(Pulse)	I_{CP}	15	A
Base Current - Continuous	I_B	3.5	A
Collector Power Dissipation	$P_C(T_C=25)$	40	W
	P_C	1.5	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

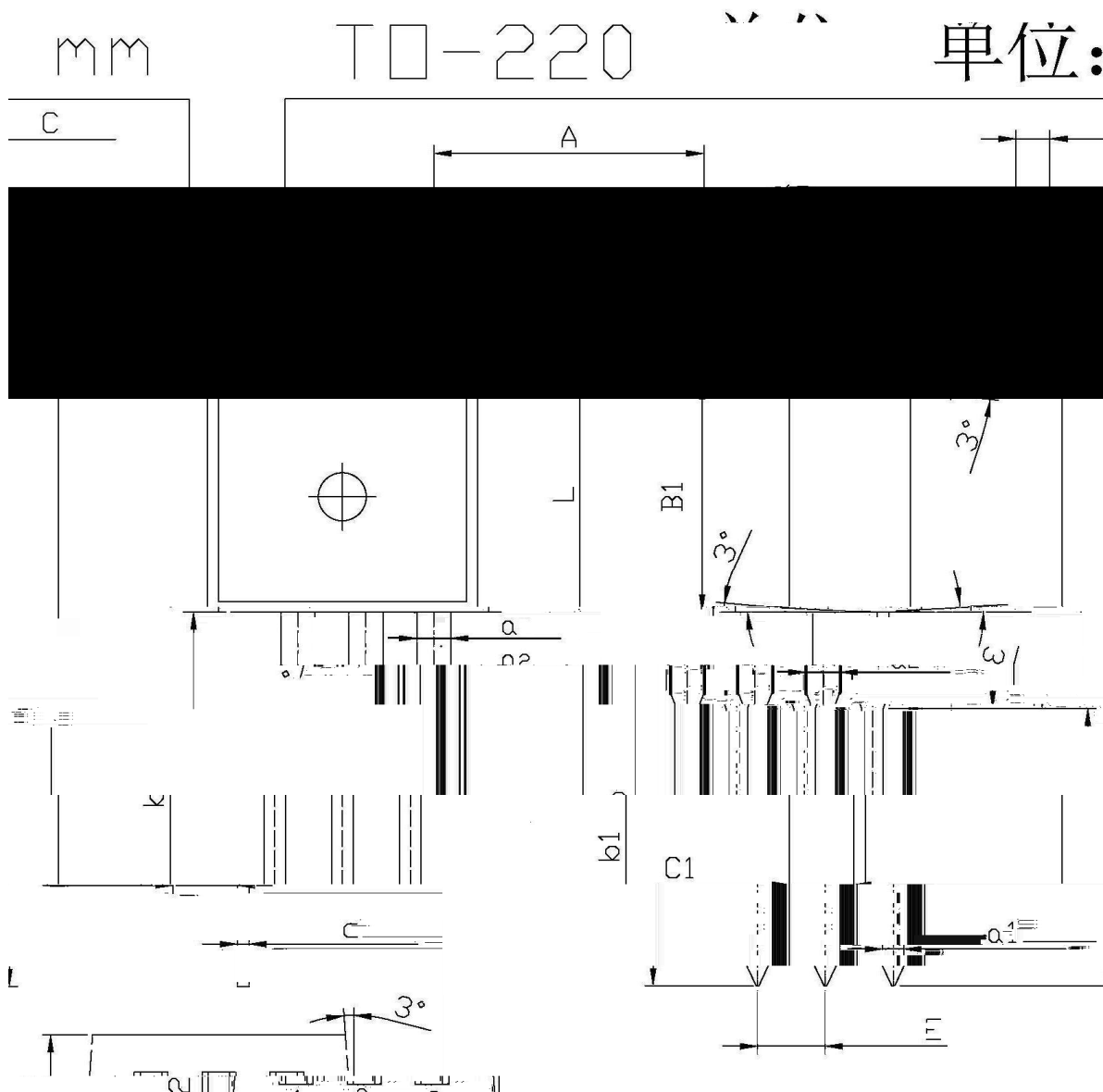
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	I_{CBO}	$V_{CB}=40V$ $I_E=0$			10	A
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=5.0V$ $I_C=0$			10	A
DC Current Gain	$h_{FE(1)}$	$V_{CE}=1.0V$ $I_C=3.0A$	40		320	
	$h_{FE(2)}$	$V_{CE}=1.0V$ $I_C=5.0A$	20			
Collector to Emitter Saturation Voltage	$V_{CE(sat)(1)}$	$I_C=3.0A$ $I_B=0.1A$			0.3	V
	$V_{CE(sat)(2)}$	$I_C=5.0A$ $I_B=0.5A$			0.6	V
Base to Emitter Saturation Voltage	$V_{BE(sat)(1)}$	$I_C=3.0A$ $I_B=0.1A$			1.5	V
	$V_{BE(sat)(2)}$	$I_C=5.0A$ $I_B=0.5A$			2.0	V
Turn-On Time	t_{on}	$I_C=5.0A$ $R_L=4.0$			1.0	s
Storage Time	t_{stg}	$I_{B1}=-I_{B2}=0.5A$, $V_{CC} 20V$ $PW 50 s$			2.5	s
Fall Time	t_f	duty cycle 2%			1.0	s

/ Electrical Characteristic Curve

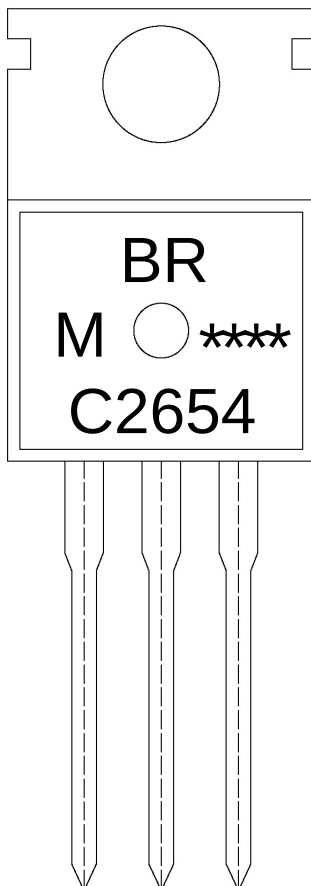


/ Package Dimensions



Symbol	Dimensions in Millimeters		Symbol	Dimensions in Millimeters	
	Min	Max		Min	Max
	9.8	10.2		1.2	1.4
	2.55	3.64		6.35	6.75
	9.0	9.4		15.7	16.1
	2.0	2.6		12.0	13.0
	0.7	0.8		9.6	10.6
	0.4	0.6		1.22	1.32
	1.45	1.55		1.02	1.25

/ Marking Instructions



Note:

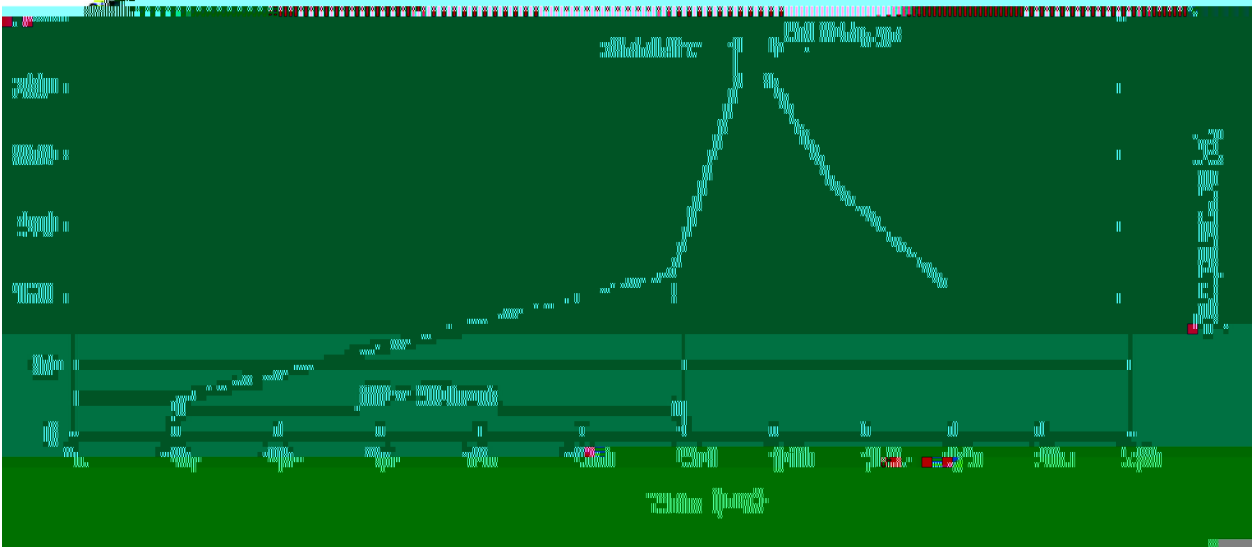
BR: Company Code

C2654: Product Type.

M: h_{FE} Classifications Symbol

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

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



Note:

- 1251506090sec;

2255550.5sec;

3210/sec.
- 1.Preheating:25~150 , Time:60~90sec.

2.Peak Temp.:255 5 , Duration:5 0.5sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

270 510 1 sec.Temp.:270±5Time: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	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