

/ Descriptions

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

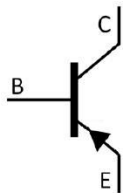
/ Features

High V_{CEO} , SOA, High transition frequency and small C_{ob} .

/ Applications

power amplifier applications.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

/ h_{FE} Classifications & Marking

h_{FE} Classifications Symbol	D	E	F
h_{FE} Range	60~120	100~200	160~320

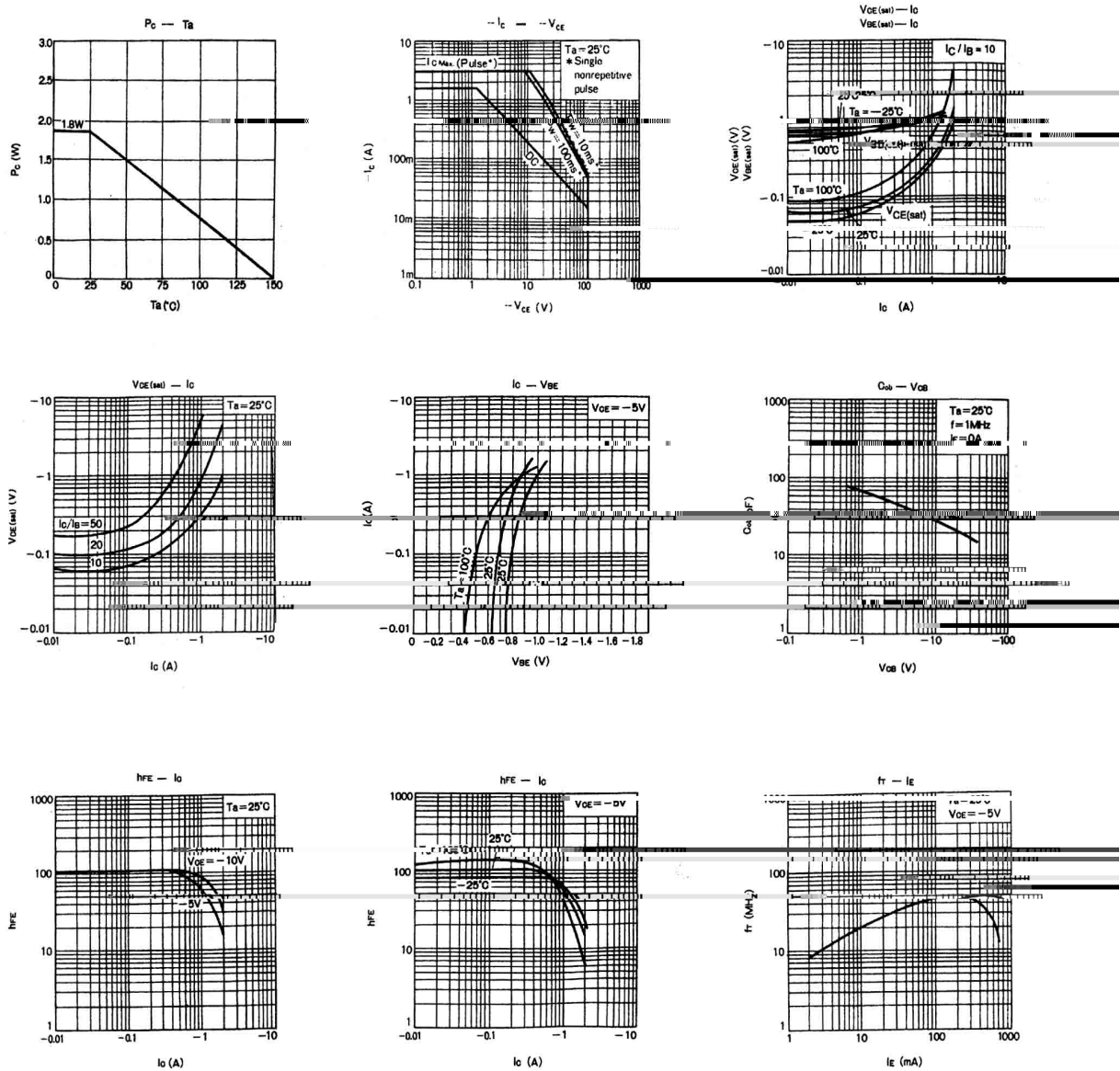
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	-120	V
Collector to Emitter Voltage	V_{CEO}	-120	V
Emitter to Base Voltage	V_{EBO}	-5.0	V
Collector Current - Continuous	I_C	-1.5	A
Collector Current – Continuous(Pulse)	I_{CP}	-3.0	A
Collector Power Dissipation	P_C	1.8	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

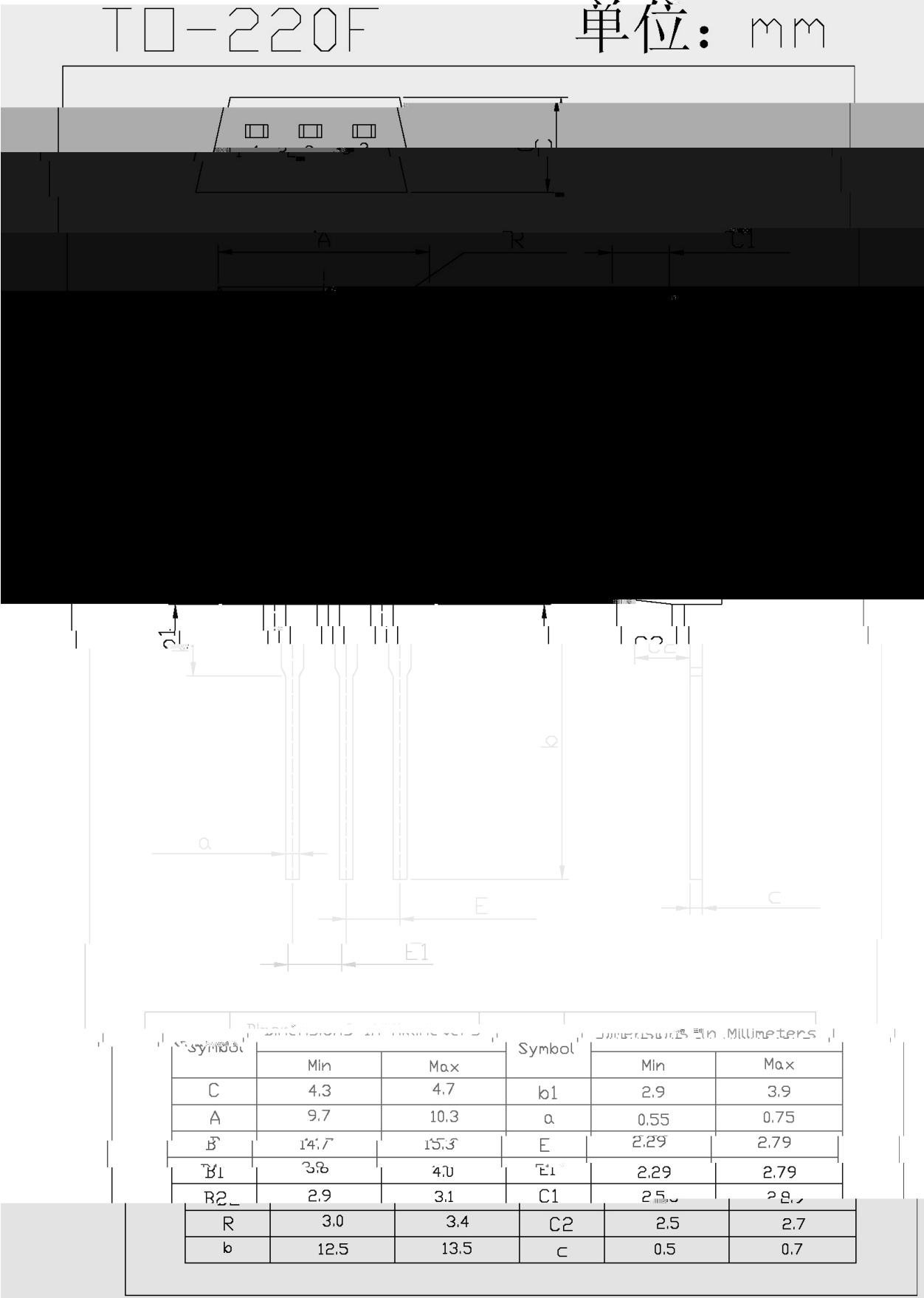
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C = -50\mu A$	-120			V
Collector to Base Breakdown Voltage	V_{CEO}	$I_C = -1.0mA$	-120			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E = -50\mu A$	-5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB} = -100V$			-1.0	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB} = -4.0V$			-1.0	μA
DC Current Gain	h_{FE}	$V_{CE} = -5.0V$ $I_C = -0.1A$	60		320	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -1.0A$ $I_B = -0.1A$			-2.0	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -1.0A$ $I_B = -0.1A$			-1.5	V
Transition Frequency	f_T	$V_{CE} = -5.0V$ $f = 30MHz$ $I_E = 0.1A$		50		MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10V$ $f = 1.0MHz$ $I_E = 0$		30		pF

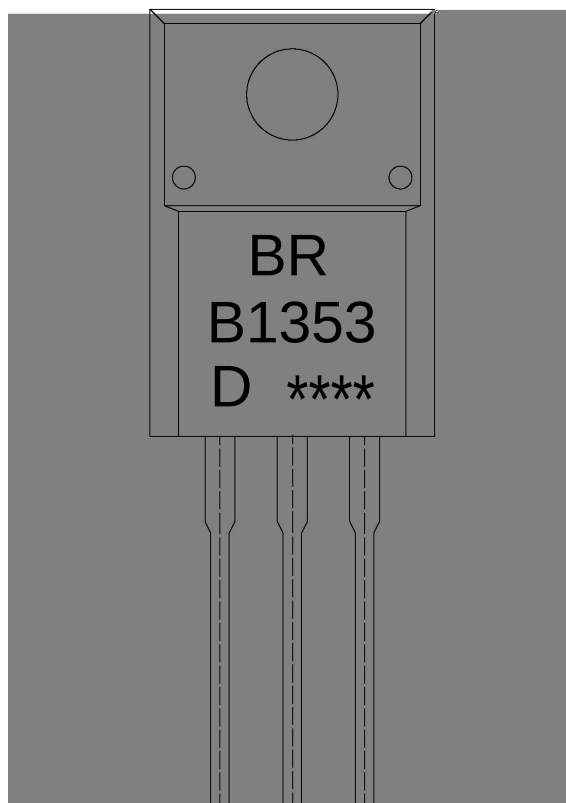
/ Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions



BR

B1353

D: h_{FE}

Note:

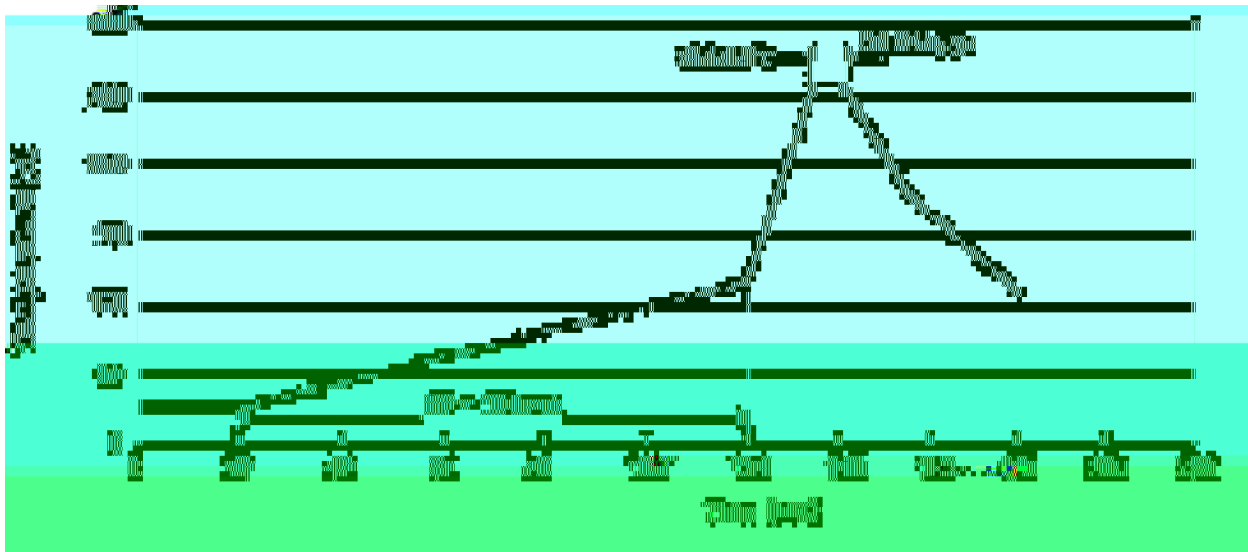
BR: Company Code.

B1353: 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 /	