

# BC550

Rev.F Mar.-2016

## / Descriptions

TO-92(R)      NPN      Silicon NPN transistor in a TO-92(R) Plastic Package.

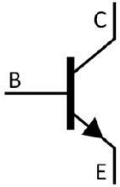
## / Features

High Voltage, Low Noise.

## / Applications

Low noise amplifier application.

## / Equivalent Circuit



## / Pinning



PIN1    Emitter      PIN 2    Base      PIN 3    Collector

## / $h_{FE}$ Classifications & Marking

$h_{FE}$ Classifications Symbol	A	B	C
$h_{FE}$ Range	110 220	200 450	420 800

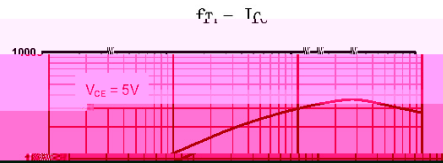
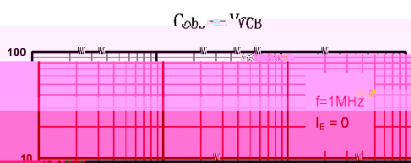
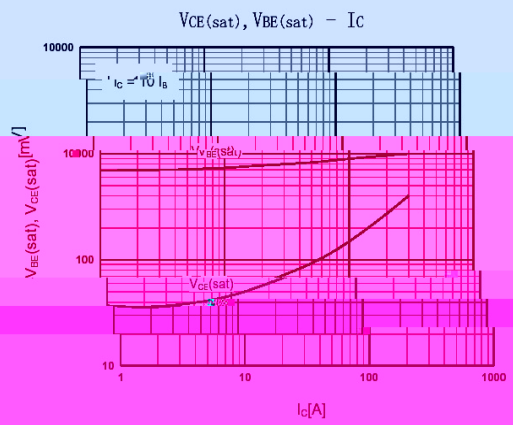
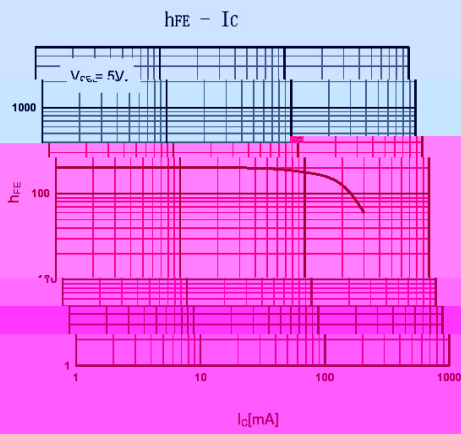
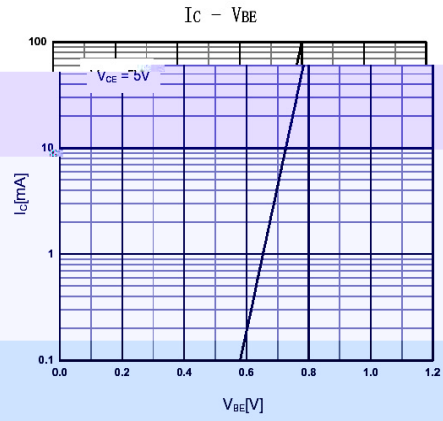
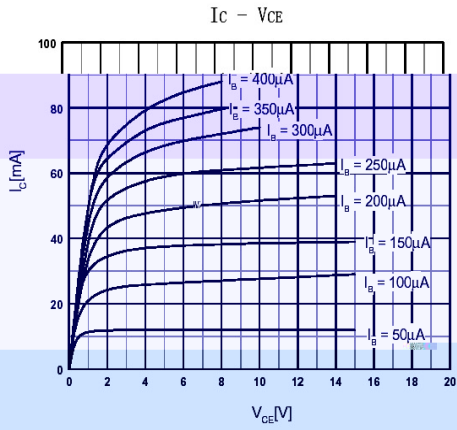
**/ Absolute Maximum Ratings(Ta=25 )**

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	$V_{CBO}$	50	V
Collector to Emitter Voltage	$V_{CEO}$	45	V
Emitter to Base Voltage	$V_{EBO}$	5.0	V
Collector Current - Continuous	$I_C$	100	mA
Collector Power Dissipation	$P_C$	625	mW
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 to Emitter Breakdown Voltage	$V_{CEO}$	$I_C=10mA$ $I_B=0$	45			V
Collector to Base Breakdown Voltage	$V_{CBO}$	$I_C=10\mu A$ $I_E=0$	50			V
Emitter to Base Breakdown Voltage	$V_{EBO}$	$I_E=10\mu A$ $I_C=0$	5.0			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=30V$ $I_E=0$			0.015	$\mu A$
DC Current Gain	$h_{FE}$	$V_{CE}=5.0V$ $I_C=2.0mA$	110		800	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100mA$ $I_B=5.0mA$			0.6	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=100mA$ $I_B=5.0mA$		0.9		V
Base-Emitter Voltage	$V_{BE(on)}$	$V_{CE}=5.0V$ $I_C=2.0mA$	0.55		0.7	V
Current Gain Bandwidth Product	$f_T$	$V_{CE}=5.0V$ $f=100MHz$ $I_E=10mA$		300		MHz
Transition Frequency	$C_{ob}$	$V_{CB}=10V$ $f=1.0MHz$ $I_E=0$			4.5	pF
Noise Figure	NF	$V_{CE}=5.0V$ $I_C=200\mu A$ $R_g=10K\Omega$ $f=1.0KHz$			10	dB

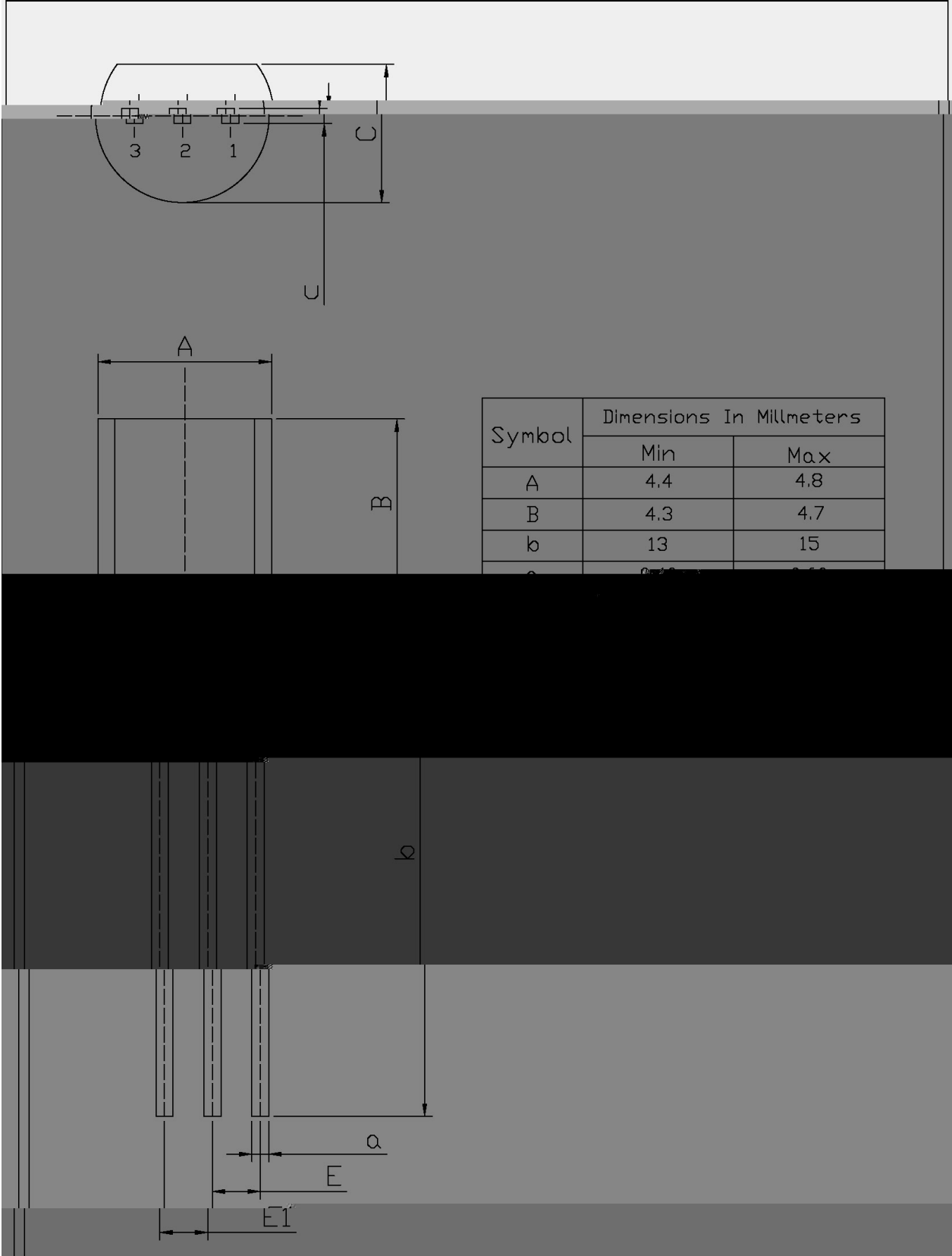
/ Electrical Characteristic Curve



**/ Package Dimensions**

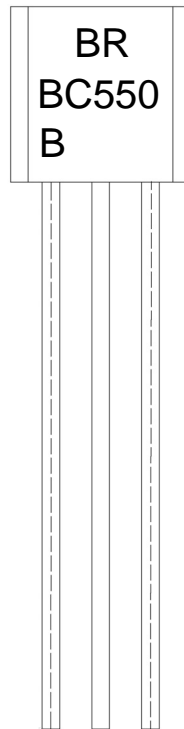
TO-92(R)

Unit: mm



Symbol	Dimensions In Millimeters	
	Min	Max
A	4.4	4.8
B	4.3	4.7
b	13	15
a	0.25	0.50

/ Marking Instructions



BR

BC550

B                     $h_{FE}$

\*\*\*\*

Note:

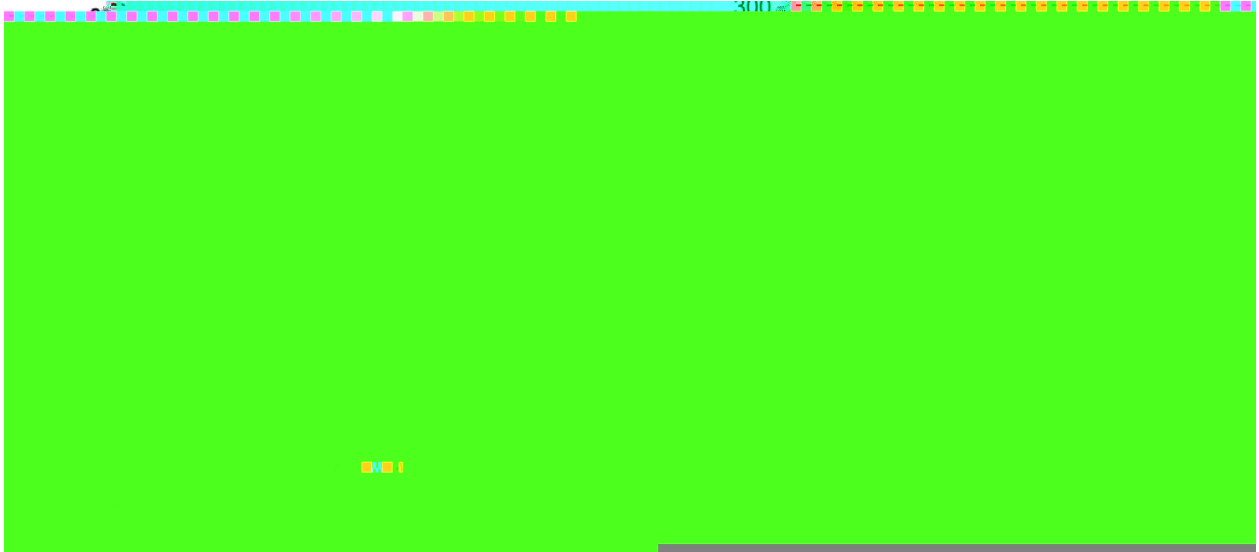
BR:                    Company Code.

BC550:                Product Type.

B                         $h_{FE}$  Classifications Symbol

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

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



- |   |       |     |           |        |   |                                      |
|---|-------|-----|-----------|--------|---|--------------------------------------|
| 1 | 25    | 150 | 60        | 90sec; | Note:                                   | 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 <sup>3</sup> )

/ AMMO

Package Type	Units	Dimension	(unit mm <sup>3</sup> )