

# BC638

Rev.E Mar.-2016

## / Descriptions

TO-92          PNP          Silicon PNP transistor in a TO-92 Plastic Package.

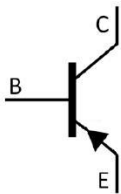
## / Features

High current, Low voltage.

## / Applications

Driver stages of audio or video amplifiers applications.

## / Equivalent Circuit



## / Pinning



PIN1 Base          PIN 2 Collector          PIN 3 Emitter

## / hFE Classifications & Marking

h <sub>FE</sub> Classifications Symbol	10	16
h <sub>FE</sub> Range	63~160	100~250

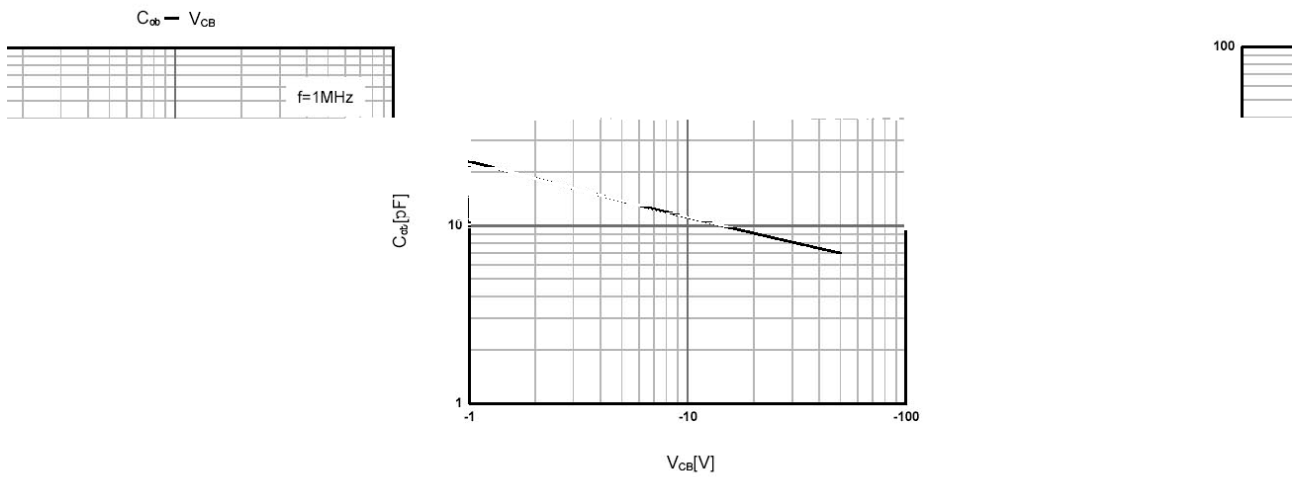
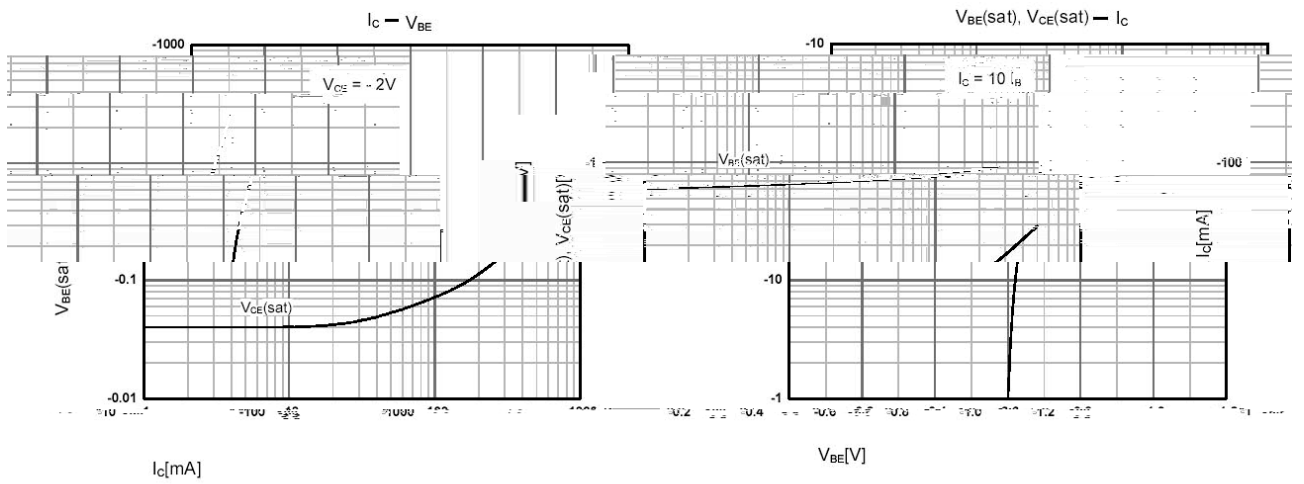
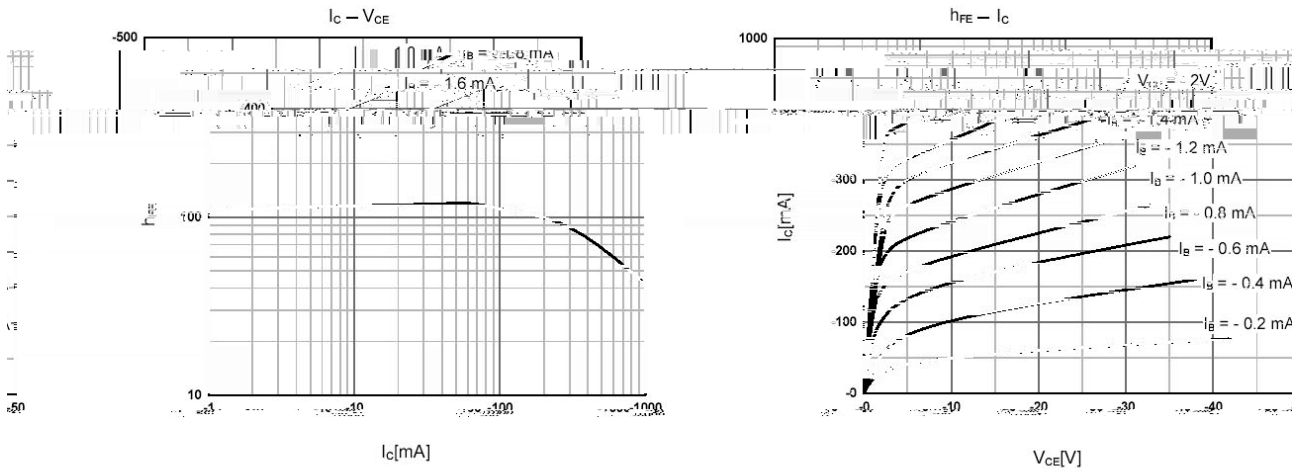
## / Absolute Maximum Ratings(Ta=25 )

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	$V_{CBO}$	-60	V
Collector to Emitter Voltage	$V_{CEO}$	-60	V
Emitter to Base Voltage	$V_{EBO}$	-5	V
Collector Current - Continuous	$I_C$	-1	A
Peak Collector Current	$I_{CM}$	-1.5	A
Peak Base Current	$I_{BM}$	-200	mA
Total Power Dissipation	$P_{tot}$	0.83	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 Cut-Off Current	$I_{CBO}$	$V_{CB}=-30V$ $I_E=0$			-0.1	$\mu A$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=-5.0V$ $I_C=0$			-0.1	$\mu A$
DC Current Gain	$h_{FE(1)}$	$V_{CE}=-2.0V$ $I_C=-150mA$	63		250	
	$h_{FE(2)}$	$V_{CE}=-2.0V$ $I_C=-5mA$	40			
	$h_{FE(3)}$	$V_{CE}=-2.0V$ $I_C=-500mA$	25			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-500mA$ $I_B=-50mA$			-0.5	V
Base to Emitter Voltage	$V_{BE}$	$I_C=-500mA$ $V_{CE}=-2.0V$			-1.0	V
Transition Frequency	$f_T$	$V_{CE}=-5.0V$ $I_C=-50mA$ $f=100MHz$	100			MHz
Insertion Gain	$\frac{h_{FE1}}{h_{FE1}}$	$ I_C =150mA$ $ V_{CE} =2V$			1.6	

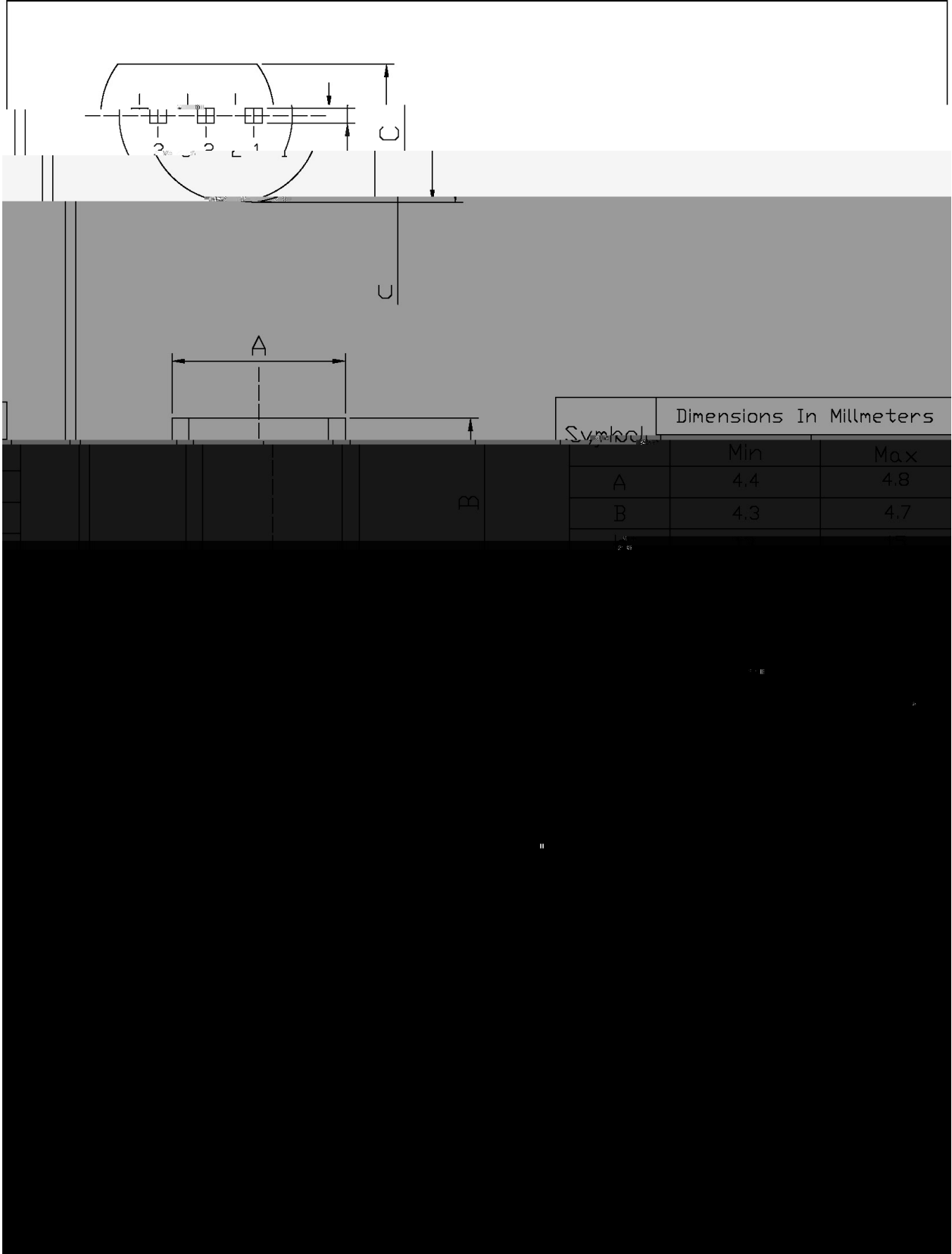
/ Electrical Characteristic Curve



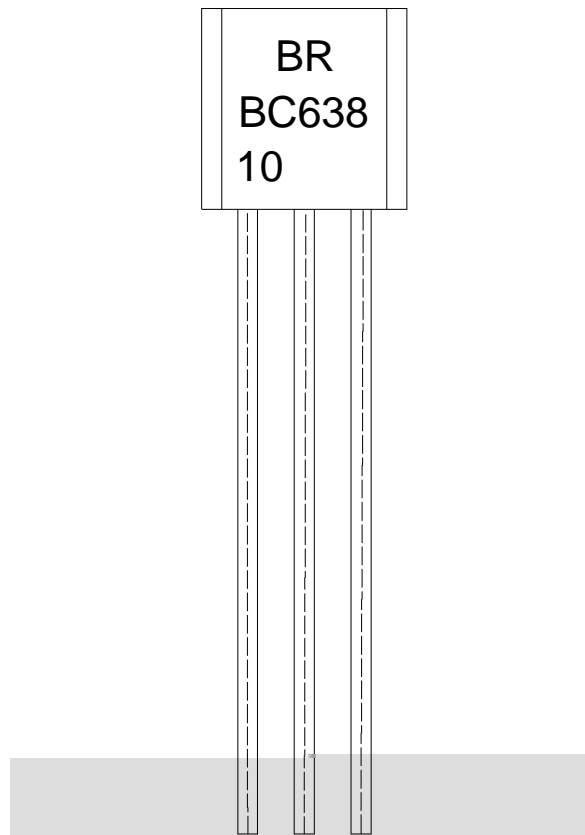
**/ Package Dimensions**

TO-92

Unit: mm



/ Marking Instructions



BR:

BC638

10:  $h_{FE}$

\*\*\*\*

Note:

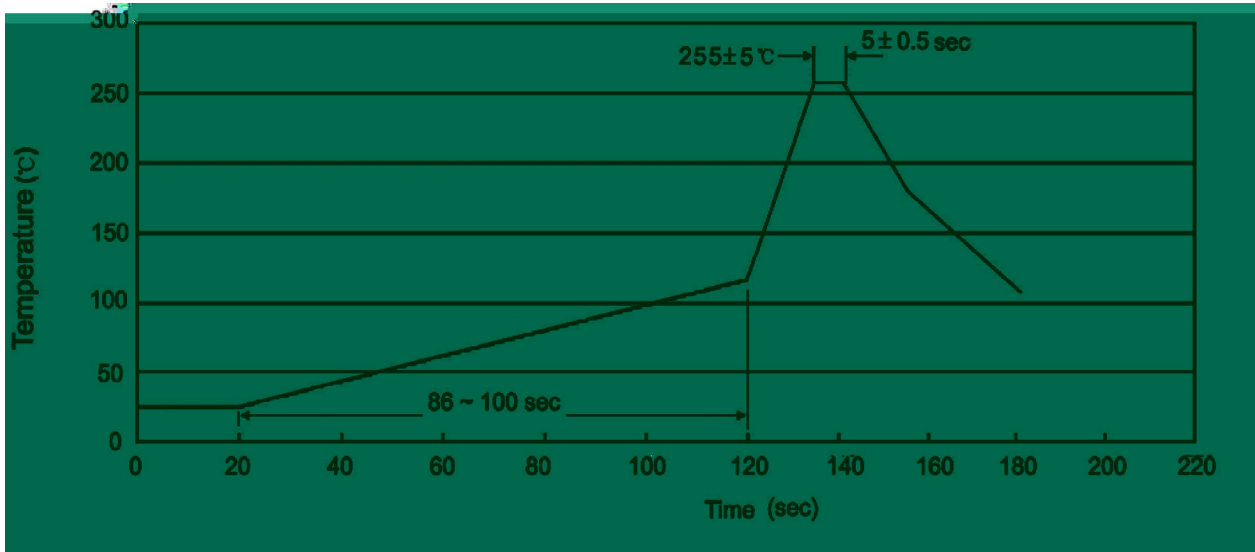
BR: Company Code.

BC638: Product Type.

10:  $h_{FE}$  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°C                      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> )

/ Notices