

# BC639

Rev.E Mar.-2016

## / Descriptions

Silicon NPN transistor in a TO-92 Plastic Package.

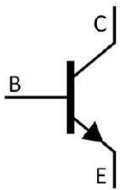
## / Features

High  $I_C$ , Complementary pair with BC640.

## / Applications

Driver stages of audio or video amplifiers applications.

## / Equivalent Circuit



## / Pinning



PIN1 Base      PIN 2 Collector      PIN 3 Emitter

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

$h_{FE}$ Classifications Symbol	10	16
$h_{FE}$ Range	63~160	100~250

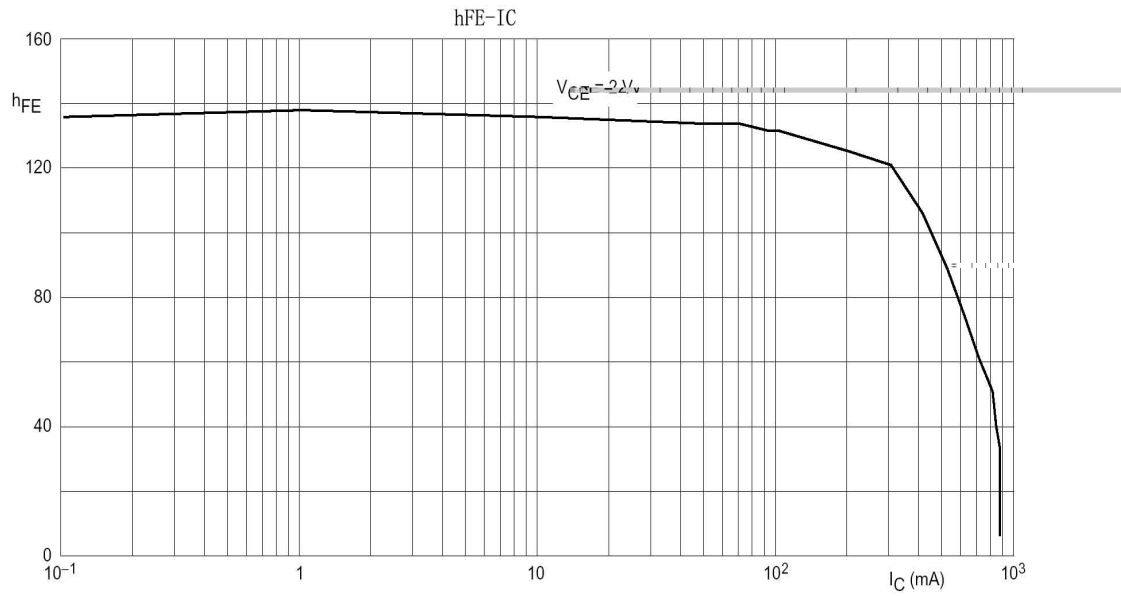
## / Absolute Maximum Ratings(Ta=25 )

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	$V_{CBO}$	100	V
Collector to Emitter Voltage	$V_{CEO}$	80	V
Emitter to Base Voltage	$V_{EBO}$	5.0	V
Collector Current - Continuous	$I_C$	1.0	A
Peak Collector Current	$I_{CM}$	1.5	A
Peak Base Current	$I_{BM}$	200	mA
Total Power Dissipation	$P_{tot}$	830	mW
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	A
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=5.0V$ $I_C=0$			0.1	A
DC Current Gain	$h_{FE(1)}$	$V_{CE}=2.0V$ $I_C=150mA$	63		250	
	$h_{FE(2)}$	$V_{CE}=2.0V$ $I_C=5.0mA$	63			
	$h_{FE(3)}$	$V_{CE}=2.0V$ $I_C=500mA$	40			
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	$f_T$	$V_{CE}=5.0V$ $f=100MHz$ $I_C=50mA$	100			MHz

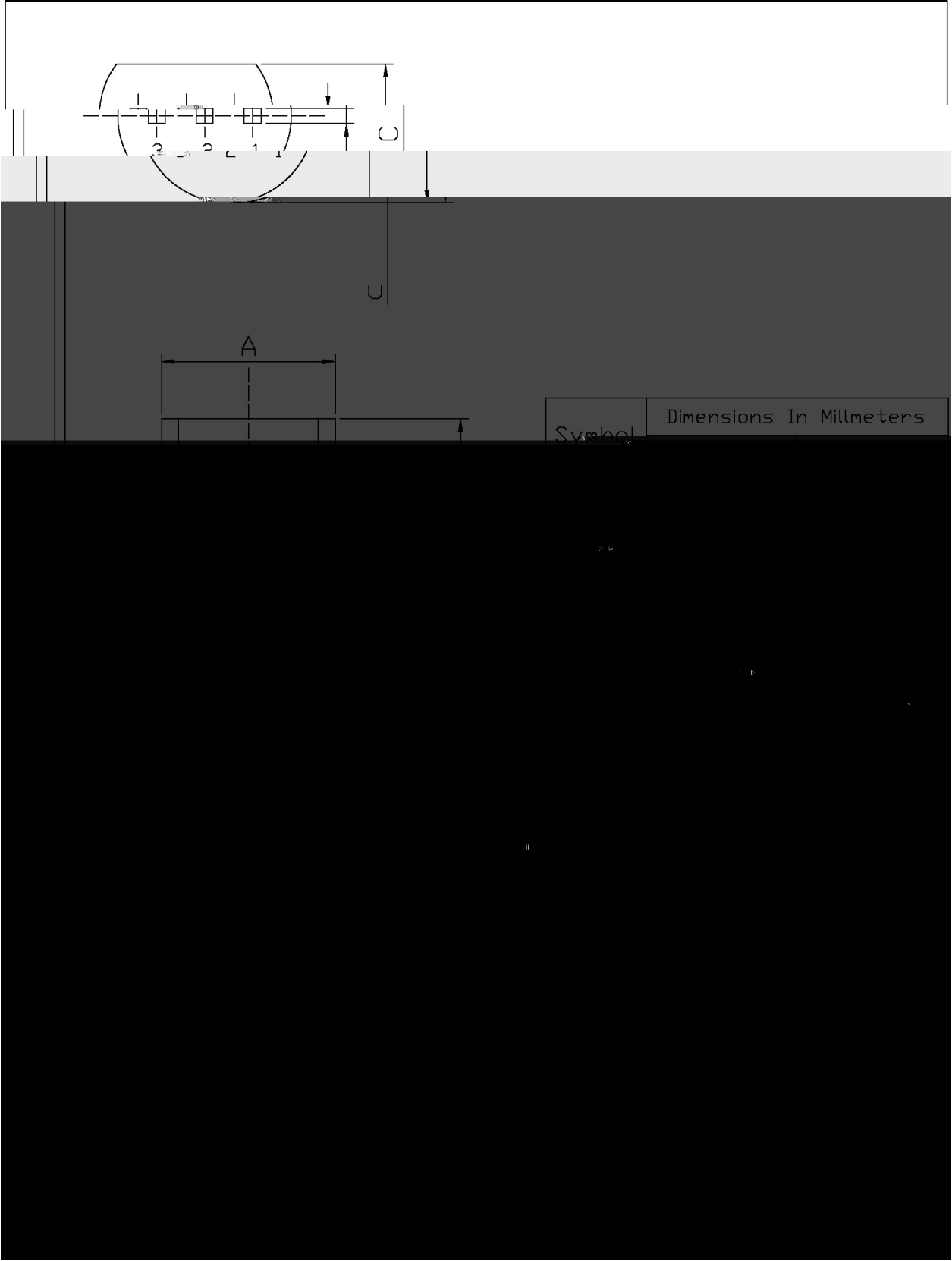
/ Electrical Characteristic Curve



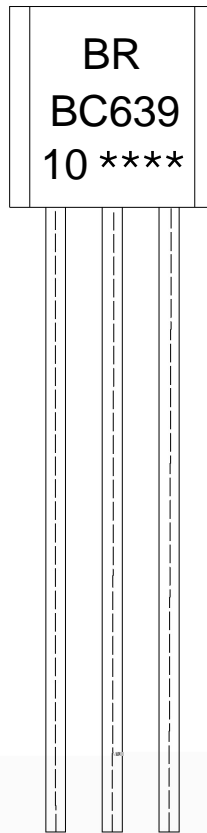
/ Package Dimensions

TO-92

Unit: mm



**/ Marking Instructions**



Note:

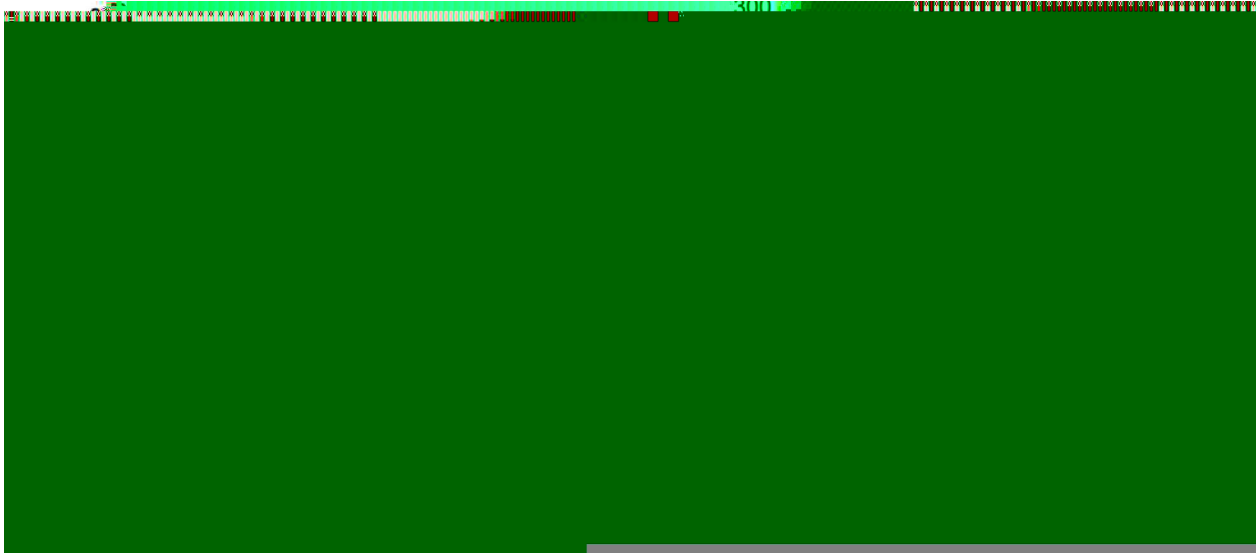
BR: Company Code.

BC639: 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 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm3)		
	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-92	1,000	10	10,000	5	50,000	135×190	237×172×102	560×245×195
	1,000	10	10,000	10	100,000	135×190	237×172×102	560×245×375

/ AMMO

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm3)	
	Units/tape 只/纸带	Tape/Inner Box 纸带/盒	Rows/Inner Box 纸带层/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Inner Box 盒	Outer Box 箱
TO-92	3,000	1	120	10	30,000	328×230×42	小箱 480×346×235, 大箱 547×407×268

/ Notices