

**/ Descriptions**

Silicon NPN transistor in a TO-92 Plastic Package.

**/ Features**

High transition frequency  $f_T$ .

**/ Applications**

Optimum for RF amplification of FM/AM radios

**/ Equivalent Circuit**



**/ Pinning**



PIN1 Base      PIN 2 Collector      PIN 3 Emitter

**/ hFE Classifications & Marking**

$h_{FE}$ Classifications Symbol	B	C	D
$h_{FE}$ Range	40~110	65~160	100~260

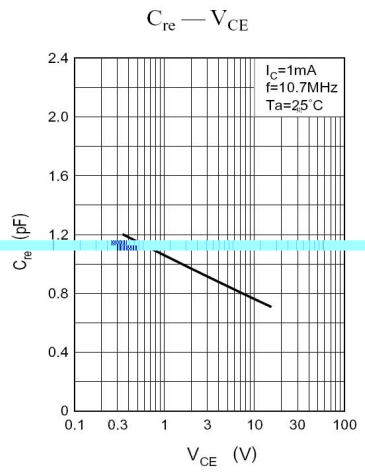
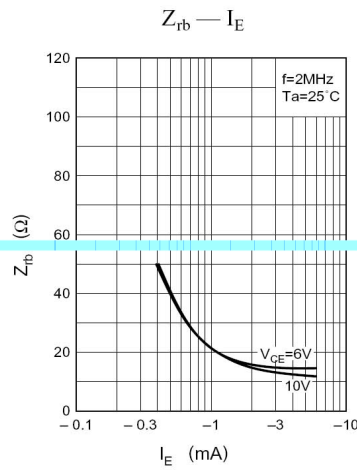
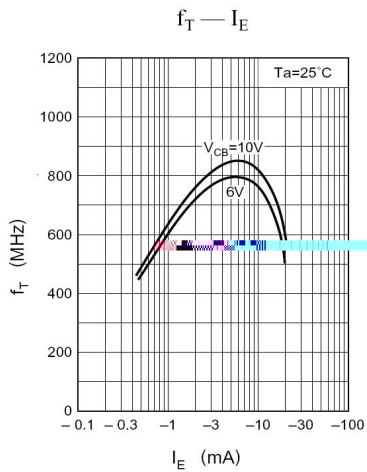
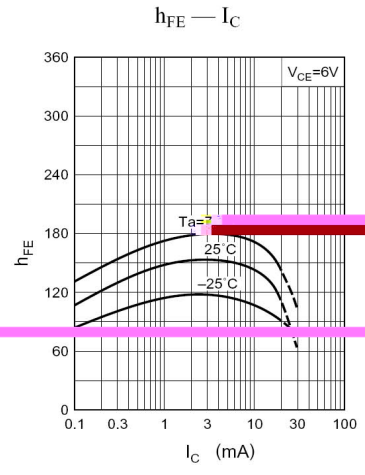
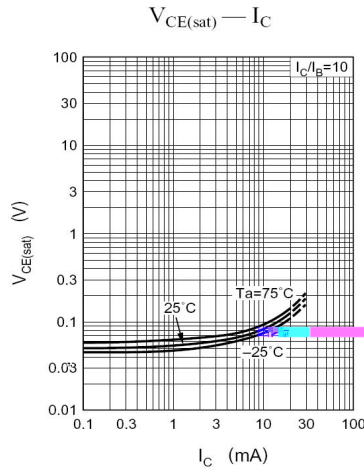
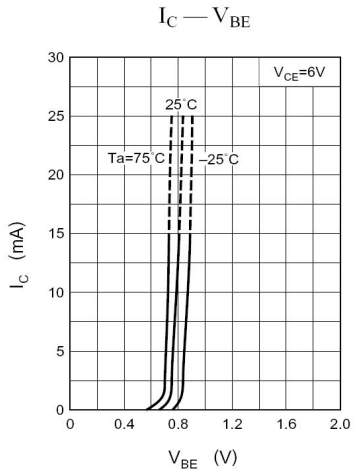
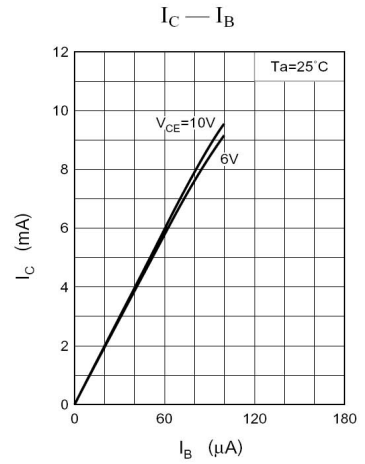
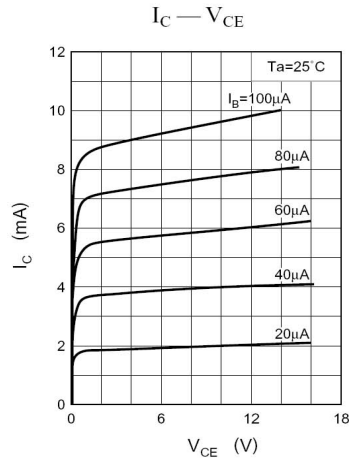
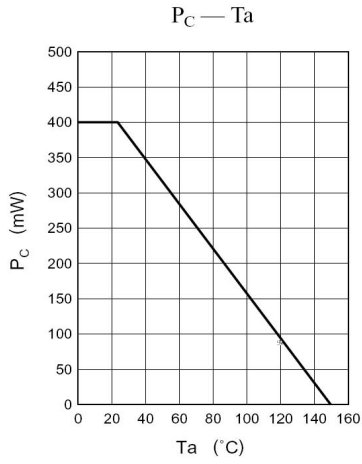
**/ Absolute Maximum Ratings(Ta=25 )**

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	$V_{CBO}$	30	V
Collector to Emitter Voltage	$V_{CEO}$	20	V
Emitter to Base Voltage	$V_{EBO}$	3	V
Collector Current - Continuous	$I_C$	20	mA
Collector Power Dissipation	$P_C$	400	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 to Base Breakdown Voltage	$V_{CBO}$	$I_C=10\mu A$ $I_E=0$	30			V
Emitter to Base Breakdown Voltage	$V_{EBO}$	$I_E=10\mu A$ $I_C=0$	3			V
DC Current Gain	$h_{FE}$	$V_{CB}=6V$ $I_C=1.0mA$	40		260	
Base to Emitter Voltage	$V_{BE}$	$V_{CB}=6V$ $I_C=1.0mA$		0.72		V
Transition Frequency	$f_T$	$V_{CB}=6V$ $I_E=-1mA$ $f=200MHz$	450	650		MHz
Common Emitter Reverse Transfer Capacitance	$C_{re}$	$V_{CE}=6V$ $I_C=1mA$ $f=10.7MHz$		0.8	1	pF
Noise Figure	NF	$V_{CB}=6V$ $I_E=-1mA$ $f=100MHz$		3.5	5	dB
Power Gain	PG	$V_{CB}=6V$ $I_E=-1mA$ $f=100MHz$	20			dB

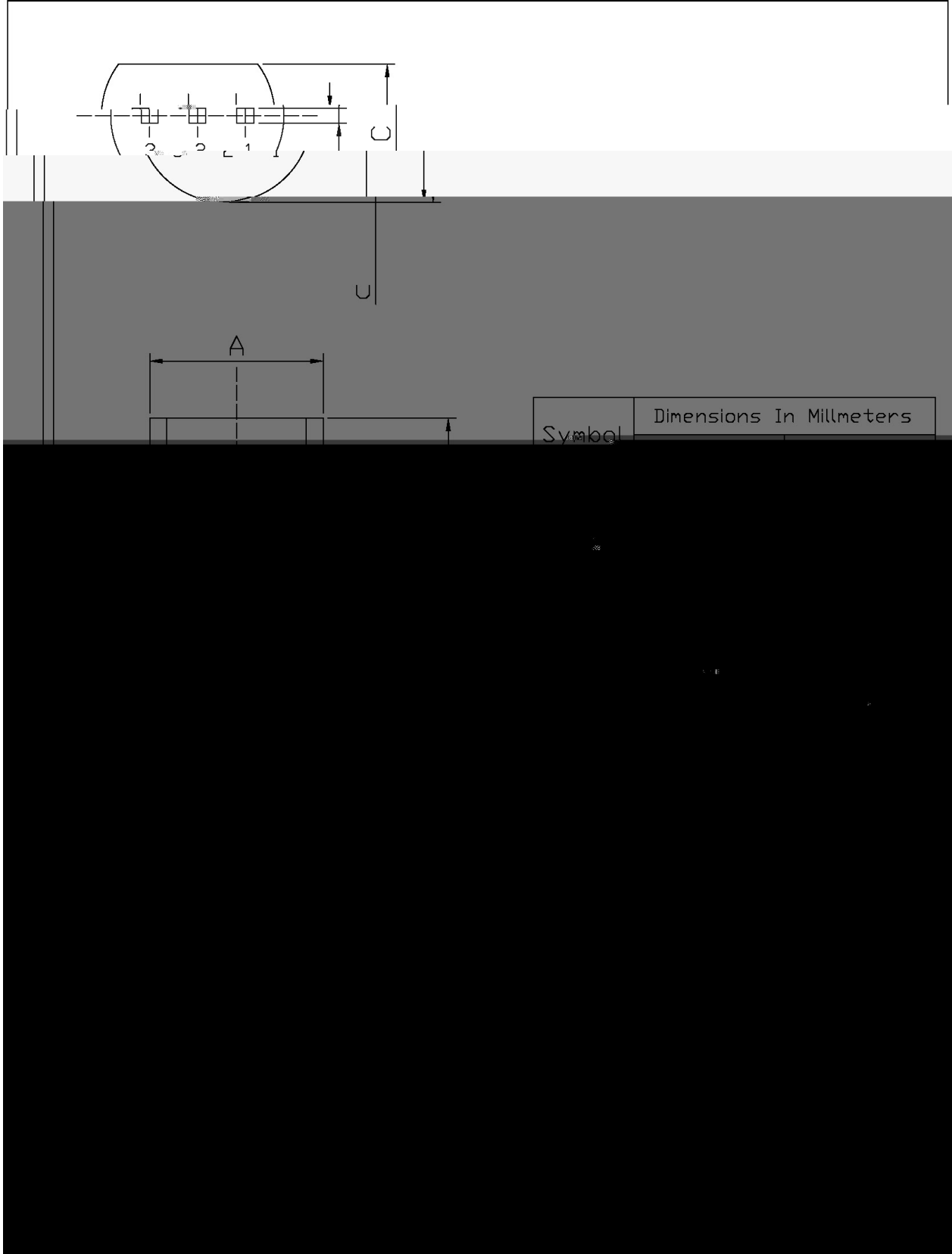
**/ Electrical Characteristic Curve**



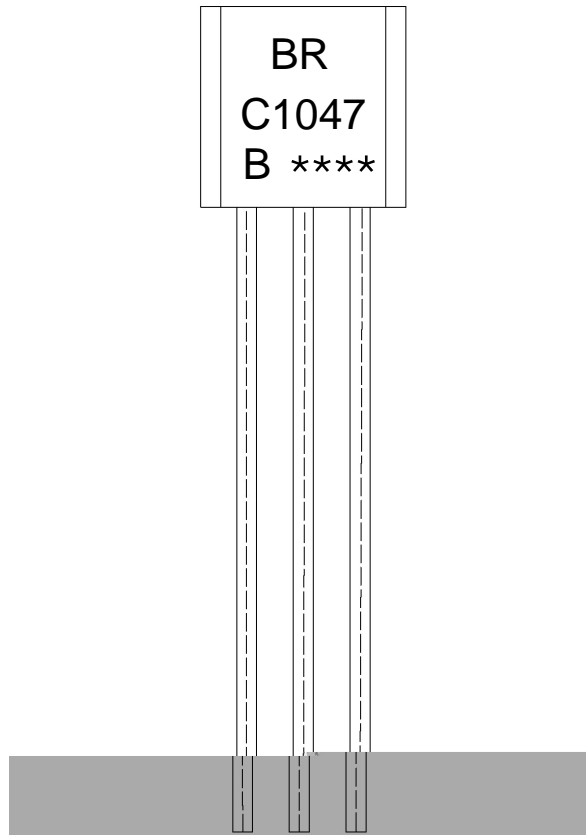
/ Package Dimensions

T0-92

Unit: mm



/ Marking Instructions



$h_{FE}$

Note:

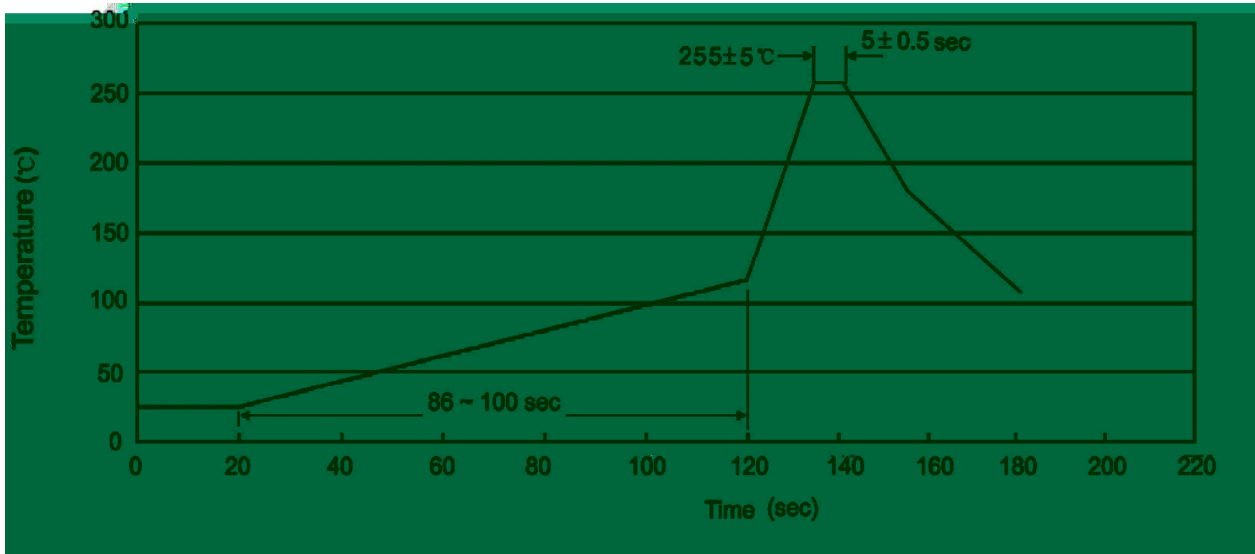
BR: Company Code.

C1047: Product Type.

B:  $h_{FE}$  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 mm3)		
	Units/Bag /	Bags/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Bag	Inner Box	Outer Box
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	Units					Dimension (unit mm3)	
	Units/tape /	Tape/Inner Box /	Rows/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Inner Box	Outer Box
TO-92	3,000	1	120	10	30,000	328×230×42	480×346×235 547×407×268

/ Notices