

/ Descriptions

WR0<5 M M QSQ æ M ç s ll 1 Silicon NPN transistor in a TO-92 Plastic Package.

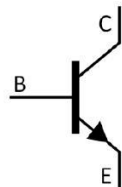
/ Features

æ è ' High transition frequency f_T .

/ Applications

æ ç W ç æ ç æ ç Optimum for RF amplification of FM/AM radios

/ Equivalent Circuit



/ Pinning



PIN1 χ Base PIN 2 χ Collector PIN 3 χ Emitter

/ hFE Classifications & Marking

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

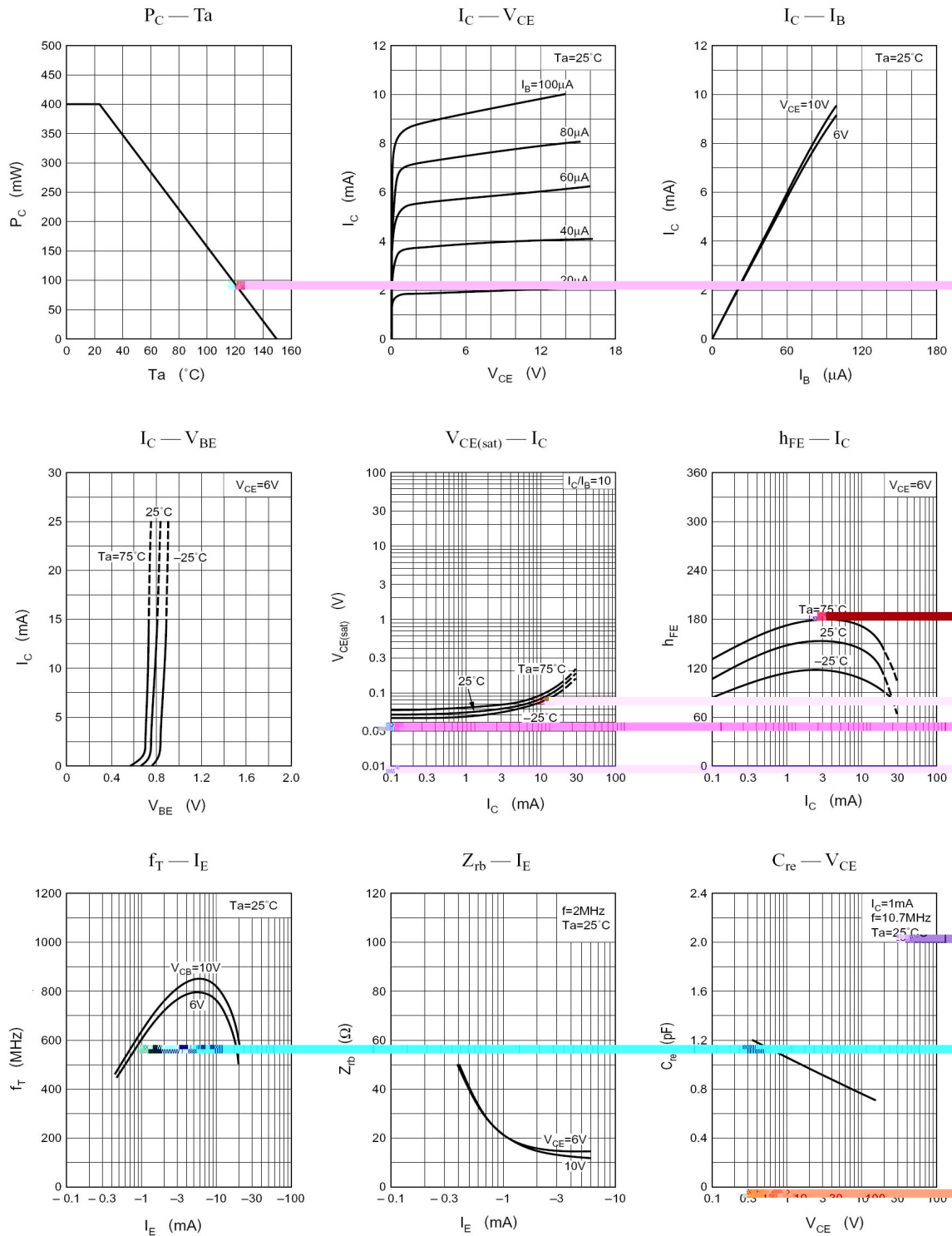
/ Absolute Maximum Ratings(Ta=25)

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

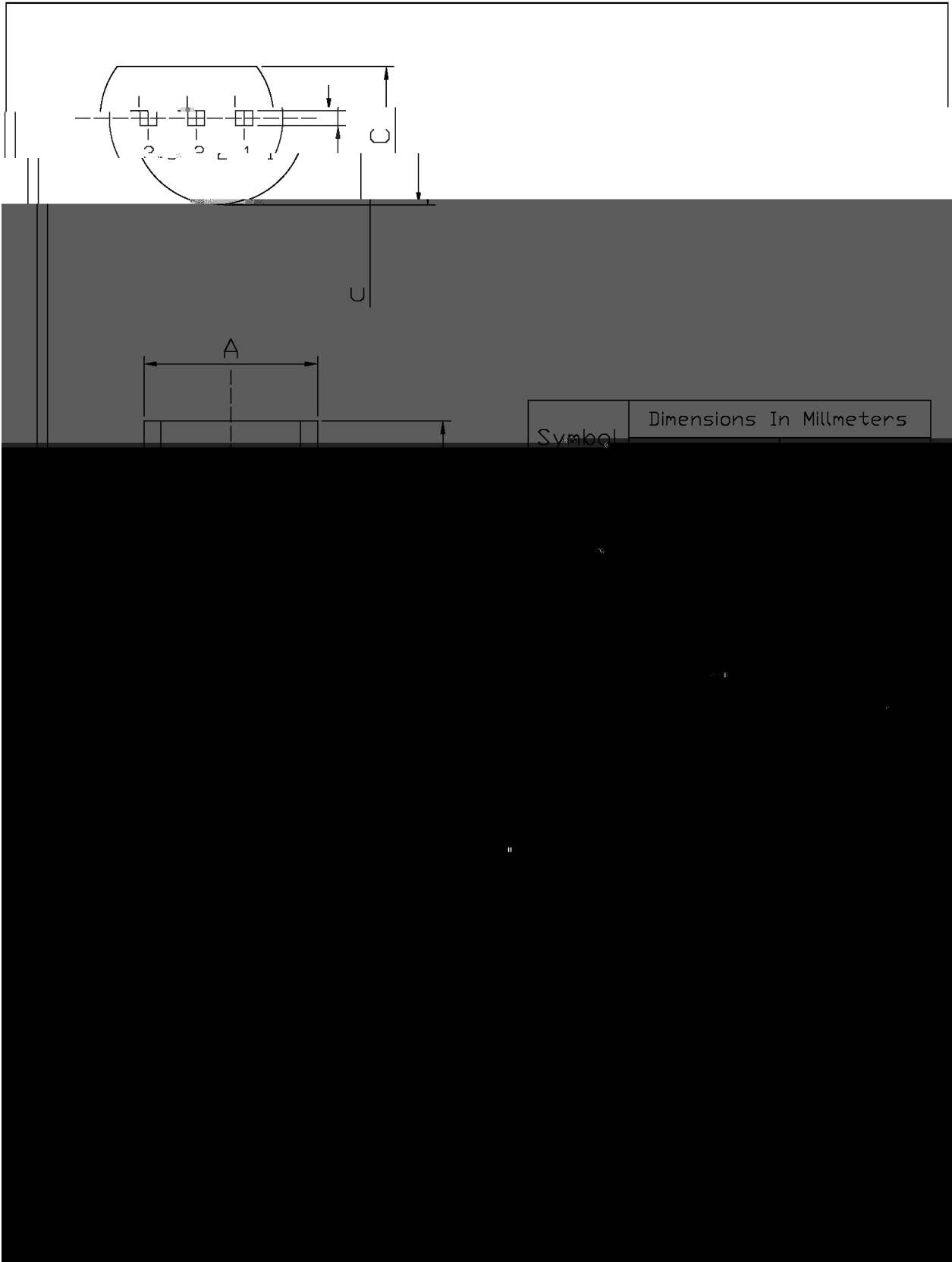
/ Electrical Characteristic Curve



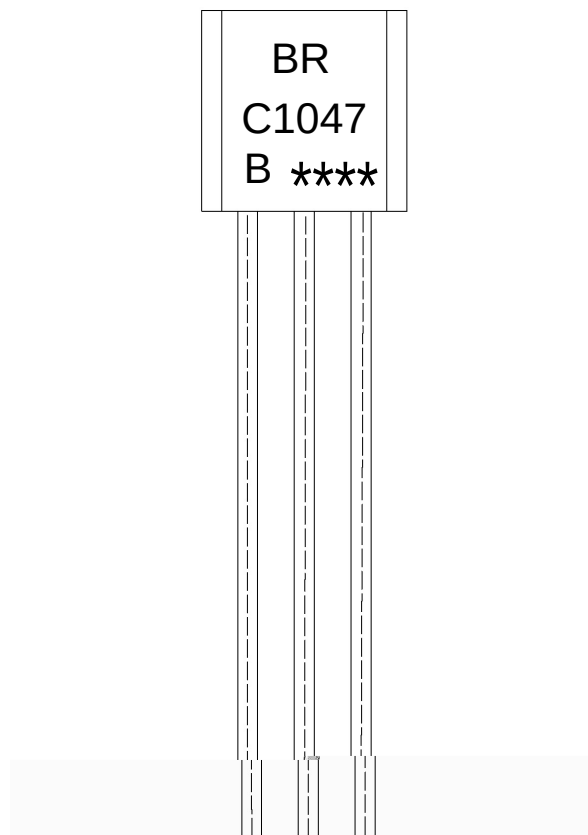
/ Package Dimensions

TO-92

Unit: mm



/ Marking Instructions



”	χ
EU:	⌘ 3 ^N Γb
F437:	χ 3 ^N Γb
E:	⌘ h _{FE} [‘] 6 Γb
----	χ 1 f ḡ ^N Γb 1 1 f ḡ ^N Ψ p
Note:	
BR:	Company Code.
C1047:	Product Type.
B:	h _{FE} Classifications Symbol
****:	Lot No. Code,code change with L

EU:	⌘ 3 ^N 7
F437: χ	⌘ 3 ^N 7
E:	⌘ h _{FE} [‘] 6 7
---- χ	⌘ 1 f ḡ ^N 7 1 1 f ḡ ^N ψ p
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Note:

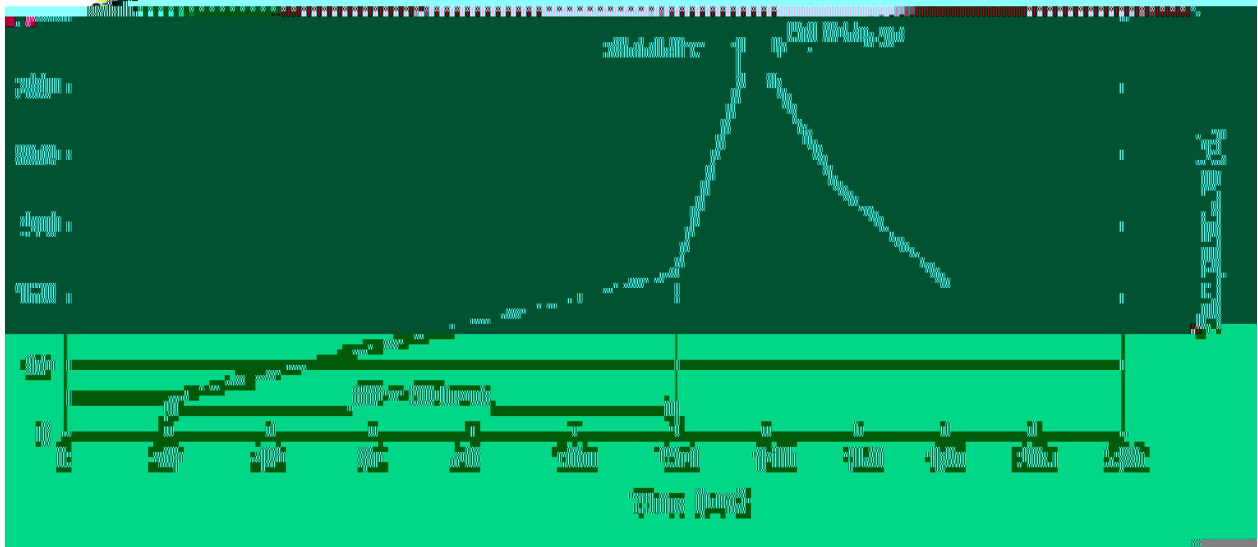
BR: Company Code.

C1047: Product Type.

B: h_{FE} Classifications Symbol

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

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



1. Preheating: 25~150 °C, Time: 60~90sec;
2. Peak Temp.: 255 °C, Duration: 5 °C 0.5sec;
3. Cooling Speed: 2~10 °C /sec.

- Note:
1. Preheating: 25~150 °C, Time: 60~90sec.
2. Peak Temp.: 255 °C, Duration: 5 °C 0.5sec.
3. Cooling Speed: 2~10 °C /sec.

/ Resistance to Soldering Heat Test Conditions

□ °C 270 ± 5 °C, Time: 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