

/ Descriptions

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

/ Features

Small reverse transfer capacitance, low noise figure.

/ Applications

High frequency low noise amplifier, VHF band amplifier application.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

/ hFE Classifications & Marking

h_{FE} Classifications Symbol	R	O	Y
h_{FE} Range	40~80	70~140	120~200

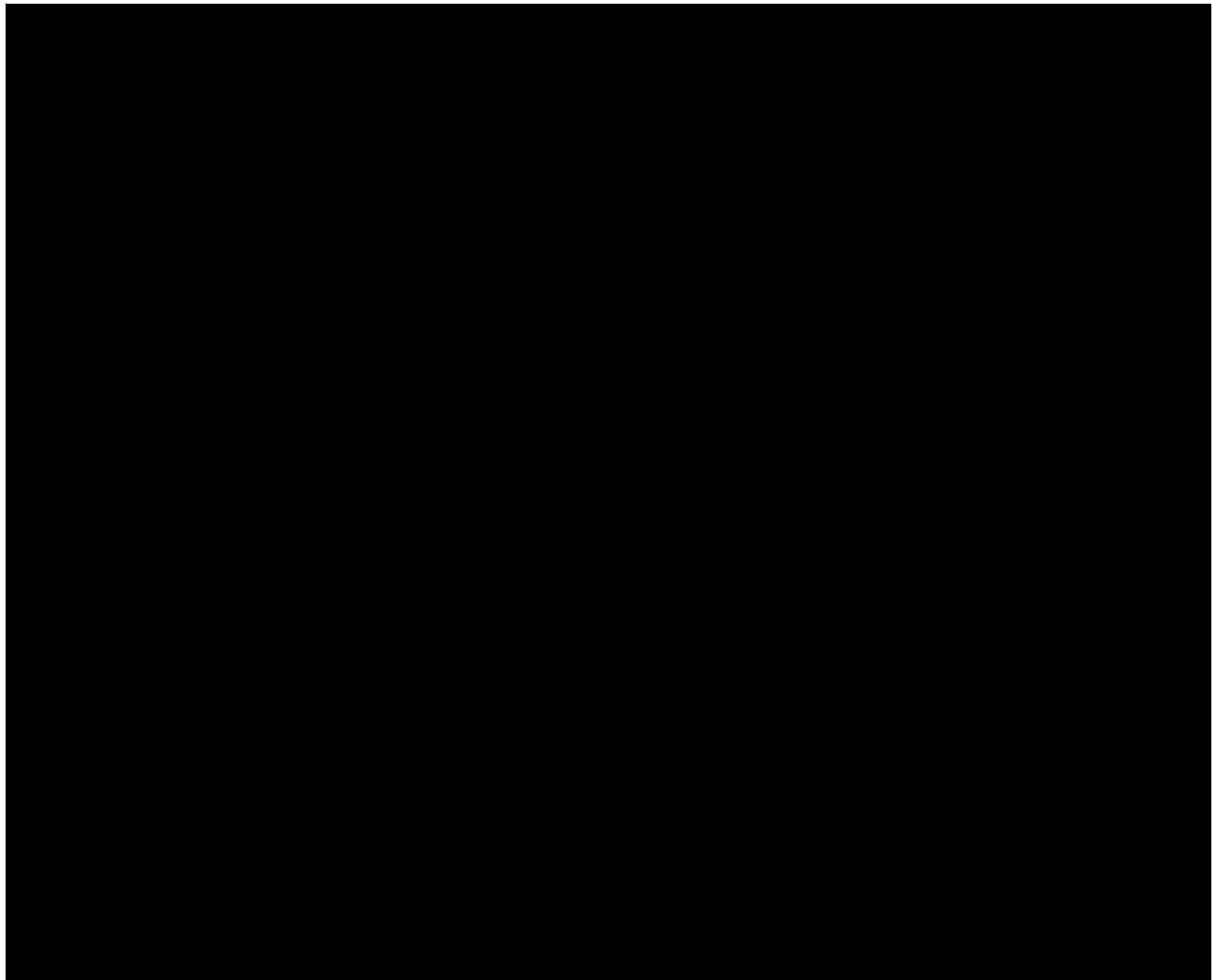
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	40	V
Collector to Emitter Voltage	V_{CEO}	30	V
Emitter to Base Voltage	V_{EBO}	4.0	V
Collector Current - Continuous	I_C	20	mA
Emitter Current - Continuous	I_E	-20	mA
Collector Power Dissipation	P_C	625	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}	$V_{CB}=40V$ $I_E=0$			0.5	A
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=4.0V$ $I_C=0$			0.5	A
DC Current Gain	h_{FE}	$V_{CE}=6.0V$ $I_C=1.0mA$	40		200	
Transition Frequency	f_T	$V_{CE}=6.0V$ $I_C=1.0mA$		550		MHz
Power Gain	G_{pe}	$V_{CC}=6.0V$ $f=100MHz$ $I_E=-1.0mA$	15	18		dB
Noise Figure	NF	$V_{CC}=6.0V$ $f=100MHz$ $I_E=-1.0mA$		2.5	5.0	dB
Collector- Base Time Constant	$C_c, r_{bb'}$	$V_{CB}=6.0V$ $f=30MHz$ $I_E=-1.0mA$			30	pS
Reverse Transfer Capacitance	C_{re}	$V_{CE}=6.0V$ $f=1.0MHz$		0.7		pF

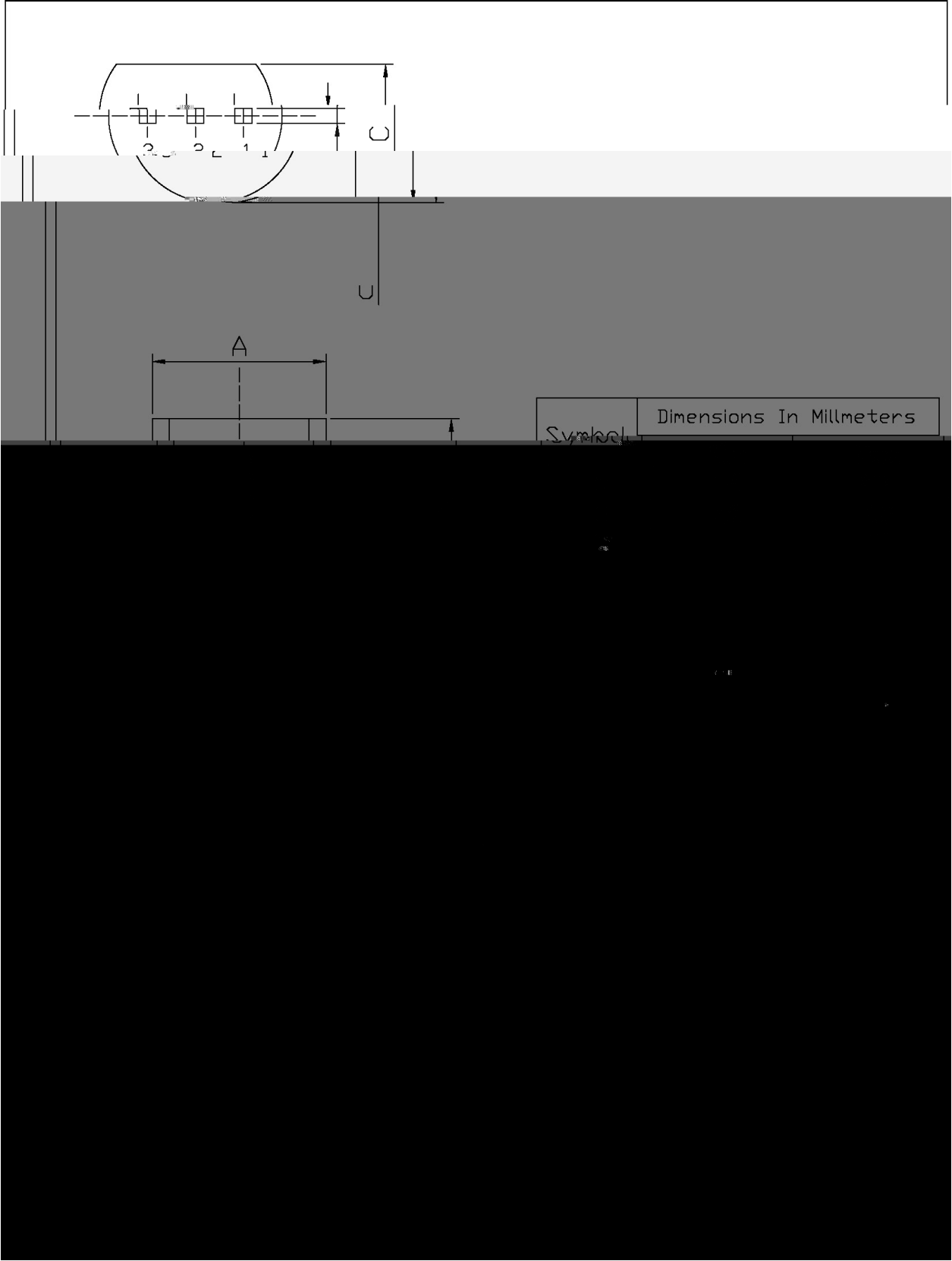
/ Electrical Characteristic Curve



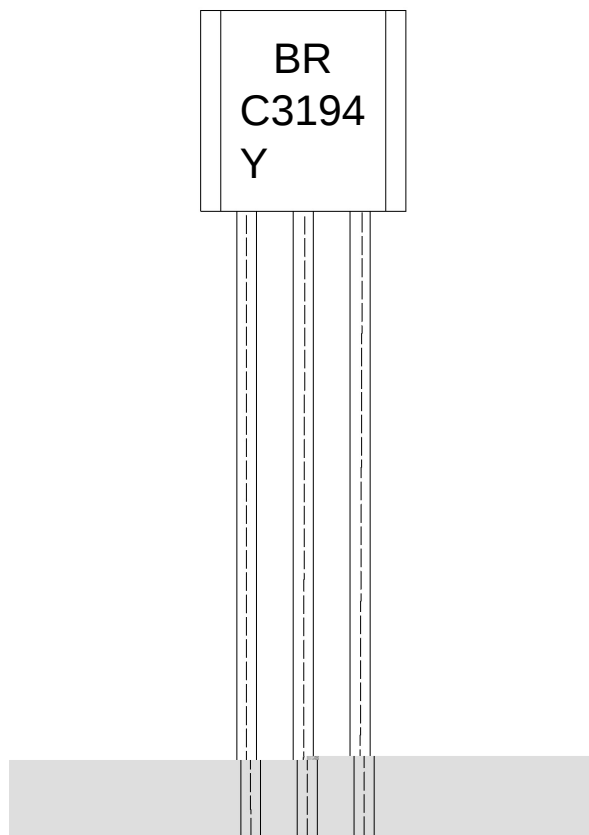
/ Package Dimensions

T0-92

Unit: mm



/ Marking Instructions



BR:

C3194

Y: h_{FE}

Note:

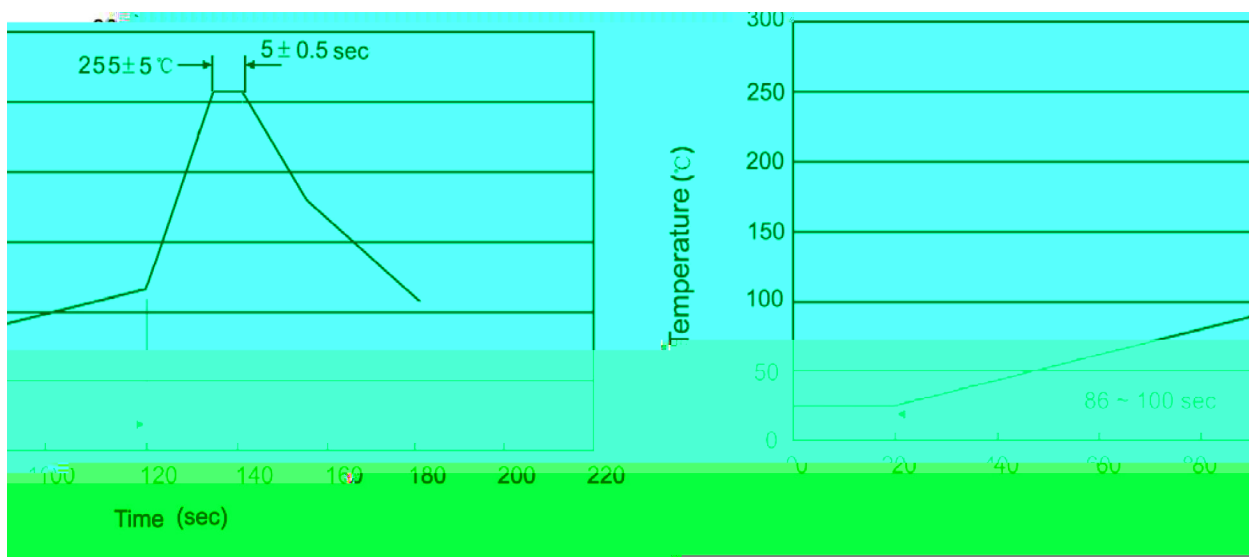
BR: Company Code.

C3194: Product Type.

Y: 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)

/ AMMO

Package Type	Units					Dimension		(unit mm3)

/ Notices