

9016

Rev.E Mar.-2016

/ Descriptions

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

/ Features

P_c
High P_c .

AM FM

AM converter, FM low noise figure high frequency amplifier.



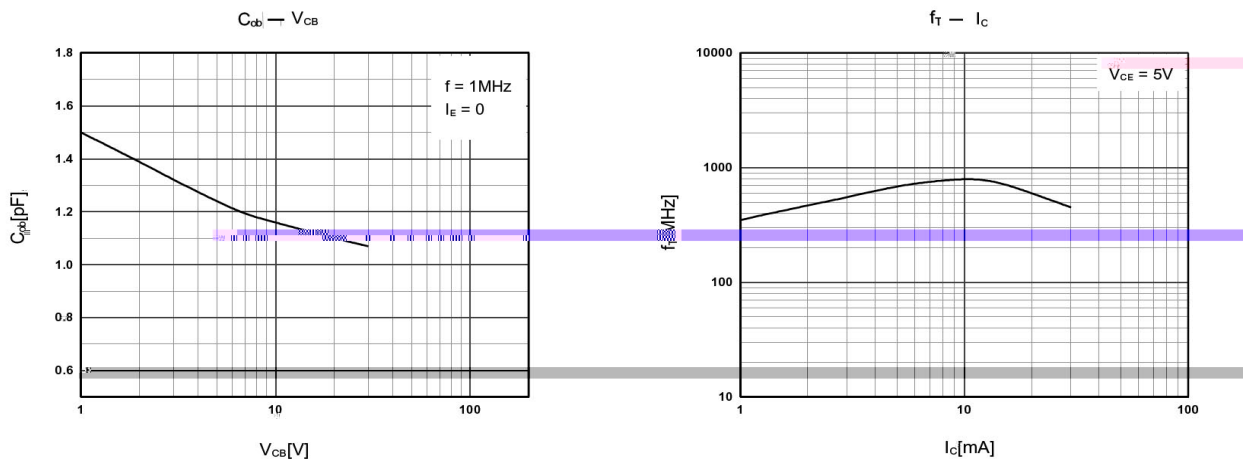
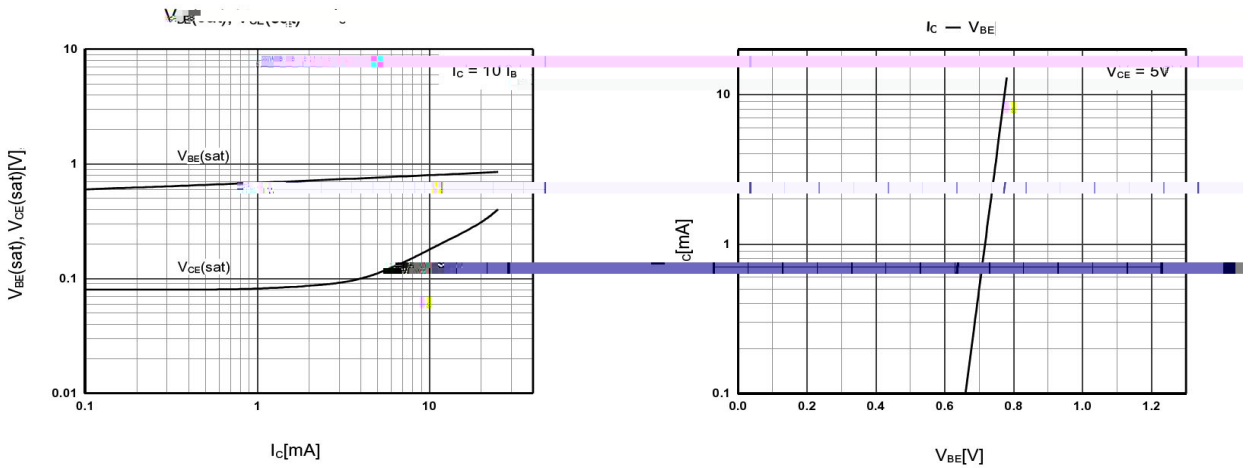
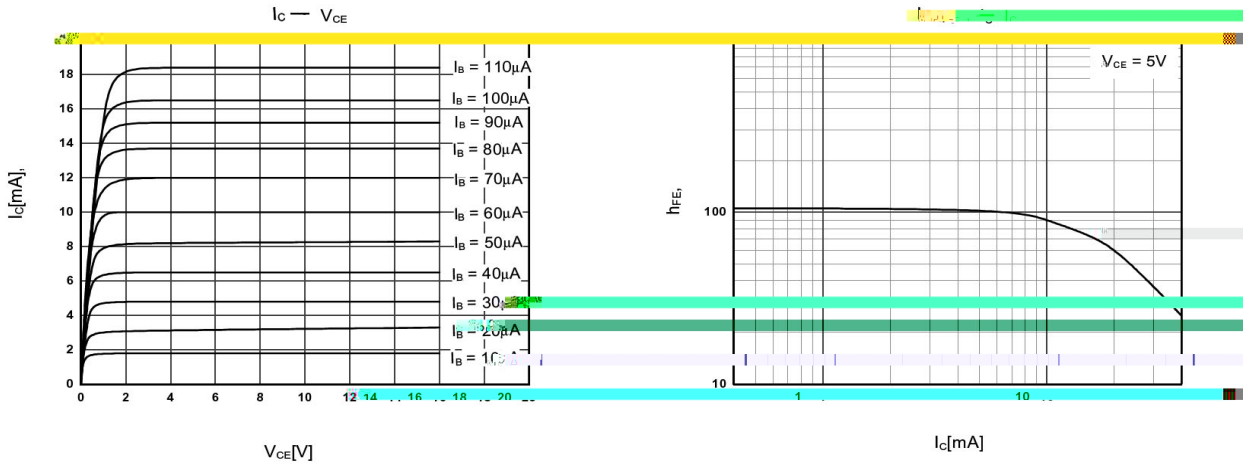
PIN1 Collector PIN 2 Base PIN 3 Emitter

/ h_{FE} Classifications & Marking

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}	4.0	V
Collector Current - Continuous	I_C	25	mA
Base Current - Continuous	I_B	5.0	mA
Collector Power Dissipation	P_C	400	mW
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=0.1mA$ $I_E=0$	30			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=1.0mA$ $I_B=0$	20			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=30V$ $I_E=0$			0.1	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=3.0V$ $I_C=0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=5.0V$ $I_C=1.0mA$	28		198	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10mA$ $I_B=1.0mA$		0.1	0.3	V
Base to Emitter Voltage	V_{BE}	$V_{CE}=5.0V$ $I_C=1.0mA$		0.72		V
Transition Frequency	f_T	$V_{CE}=5.0V$ $I_C=1.0mA$	400	620		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$ $I_E=0$ $f=1.0MHz$		1.2	1.6	pF
Noise Figure	NF	$V_{CE}=5.0V$ $R_g=50$ $I_C=1.0mA$ $f=100MHz$		3.0	5.0	dB

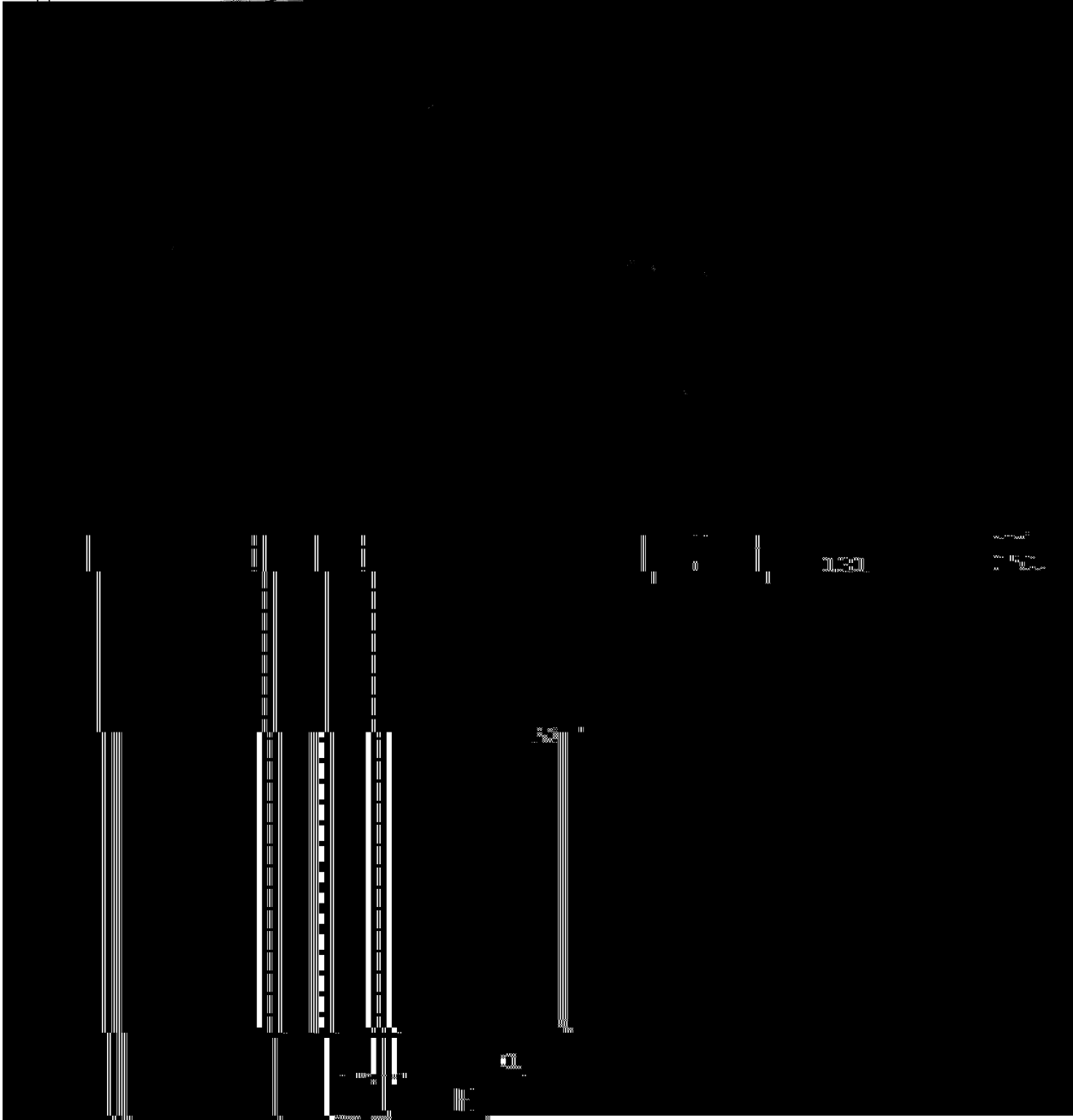
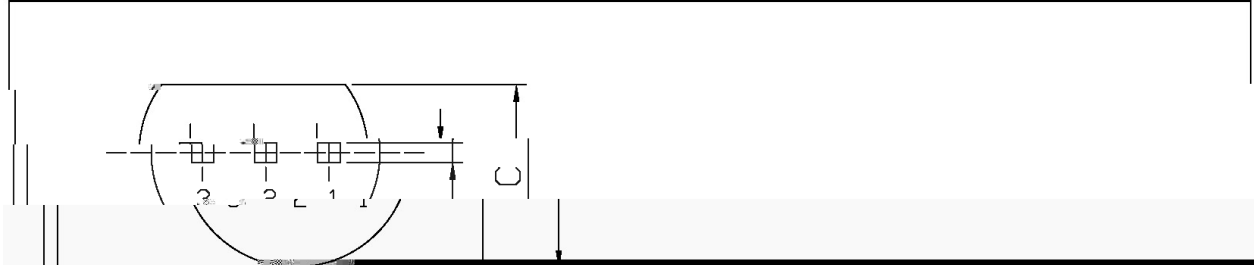
/ Electrical Characteristic Curve



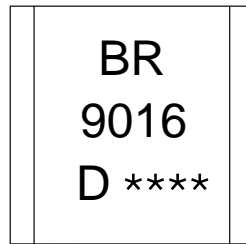
/ Package Dimensions

TO-92

Unit: mm



/ Marking Instructions



BR

9016

D: h_{FE}

Note:

BR: Company Code.

9016: Product Type.

D: h_{FE} Classifications Symbol.

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

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



- | | | | | | | |
|---|-------|-----|-----------|--------|---|--------------------------------------|
| 1 | 25 | 150 | 60 | 90sec; | Note: | 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. | |

1 01 p0 1 2 - 0 . 0 0 7 . 9 4 5 2 (*