

Rev.E Mar.-2016

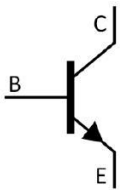
TO-92

NPN

Silicon NPN transistor in a TO-92 Plastic Package.

Low current, Low voltage, HF Product.

General purpose amplifier.

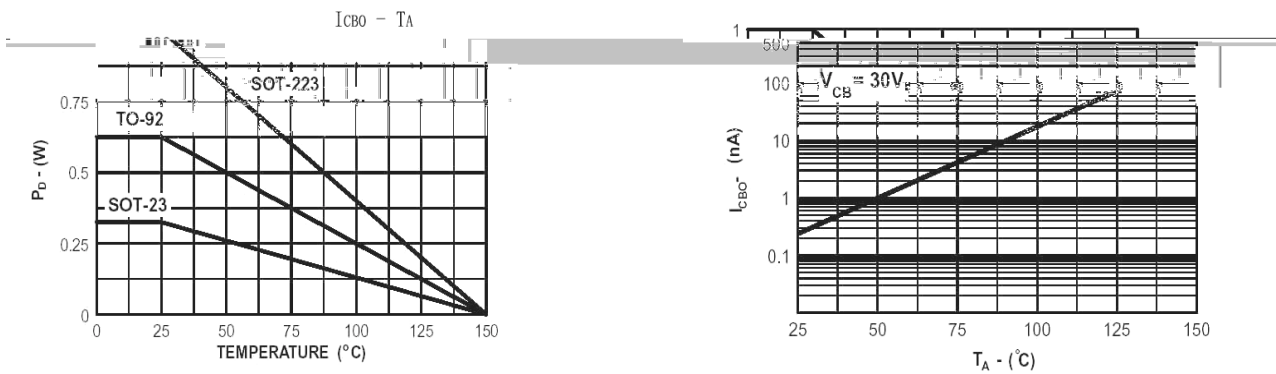
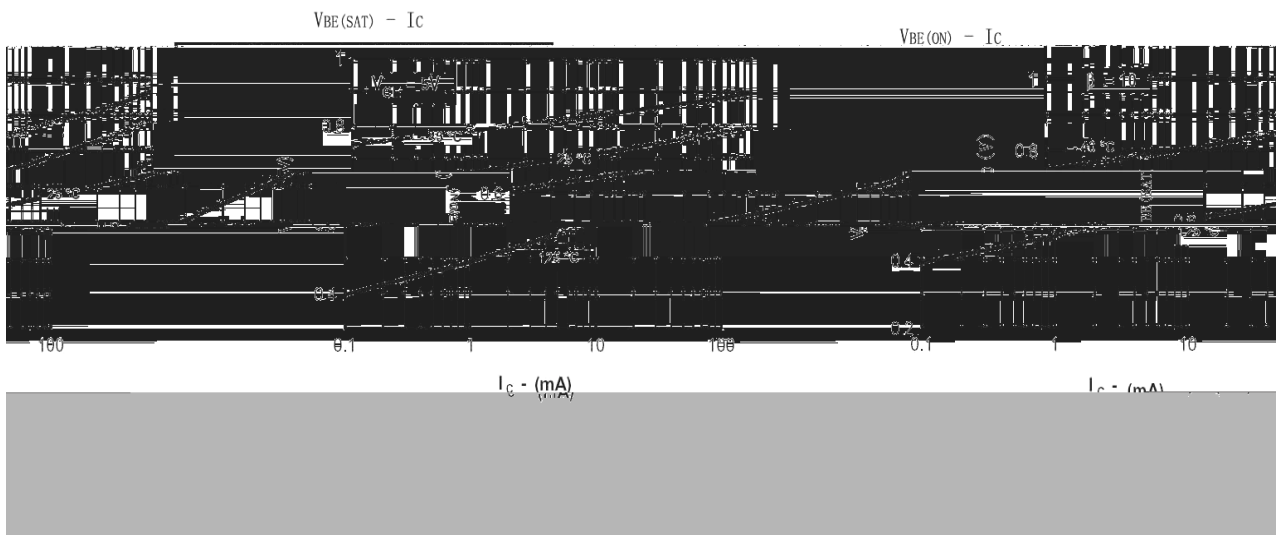
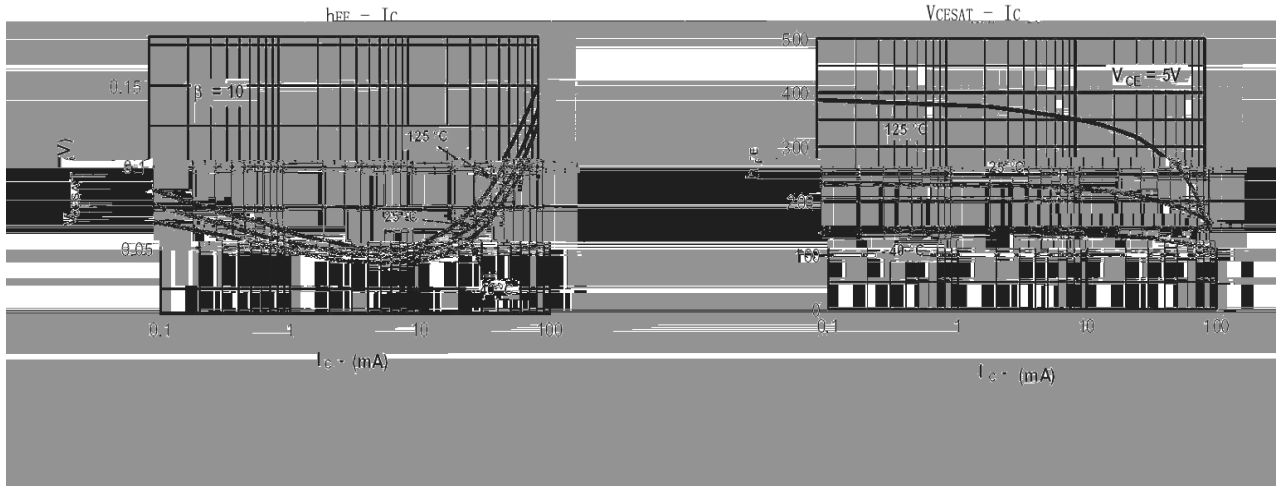


PIN1 Collector      PIN 2 Base      PIN 3 Emitter

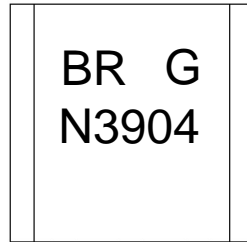
See Marking Instructions.

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	$V_{CBO}$	60	V
Collector to Emitter Voltage	$V_{CEO}$	40	V
Emitter to Base Voltage	$V_{EBO}$	6.0	V
Collector Current - Continuous	$I_C$	200	mA
Collector Power Dissipation	$P_C$	625	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	$V_{CBO}$	$I_C=10\mu A$ $I_E=0$	60			V
Collector to Emitter Breakdown Voltage	$V_{CEO}$	$I_C=1.0mA$ $I_B=0$	40			V
Emitter to Base Breakdown Voltage	$V_{EBO}$	$I_E=10\mu A$ $I_C=0$	6.0			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=50V$ $I_E=0$			0.05	$\mu A$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=5.0V$ $I_C=0$			0.05	$\mu A$
DC Current Gain	$h_{FE(1)}$	$V_{CE}=1.0V$ $I_C=10mA$	100		300	
	$h_{FE(2)}$	$V_{CE}=1.0V$ $I_C=100mA$	30			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=50mA$ $I_B=5.0mA$			0.3	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=50mA$ $I_B=5.0mA$			0.95	V
Current Gain Bandwidth Product	$f_T$	$I_C=10mA$ $V_{CE}=20V$ $f=100MHz$	300			MHz
Output Capacitance	$C_{ob}$	$V_{CB}=5.0V$ $I_E=0$ $f=1.0MHz$			4.0	pF
Turn On Time	$T_{on}$	$V_{CC}=3.0V$ $V_{BE}=0.5V$ $I_C=10mA$ $I_{B1}=1.0mA$			0.07	$\mu s$
Turn Off Time	$T_{off}$	$V_{CC}=3.0V$ $I_C=10mA$ $I_{B1}=-I_{B2}=1.0mA$			0.25	$\mu s$







BR

G:

N 3904

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Note:

BR: Company Code.

G: Halogen Free Product

N3904: Product Type.

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



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|--|---|
| 1            25 150            60 90sec;<br>2            255±5                    5±0.5sec;<br>3                            2 10 /sec. | <b>Note:</b><br>1.Preheating:25~150 , Time:60~90sec.<br>2.Peak Temp.:255±5 , Duration:5±0.5sec.<br>3. Cooling Speed: 2~10 /sec. |
|--|---|

270±5                    10±1 sec.                    Temp.:270±5                    Time:10±1 sec

/ BULK

Package Type	Units	Dimension (unit mm3)