

描述 / Descriptions

TO-92 塑封封装 NPN 半导体三极管。
Silicon NPN transistor in a TO-92 Plastic Package.

特征 / Features

低电流, 低电压。
Low current, Low voltage.

用途 / Applications

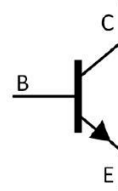
用于一般放大。
General purpose amplifier.

引脚排列 / Pinning



PIN1 : Collector
PIN 2 : Base
PIN 3 : Emitter

内部等效电路 / Equivalent Circuit



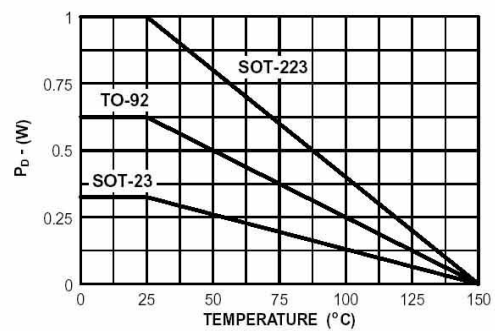
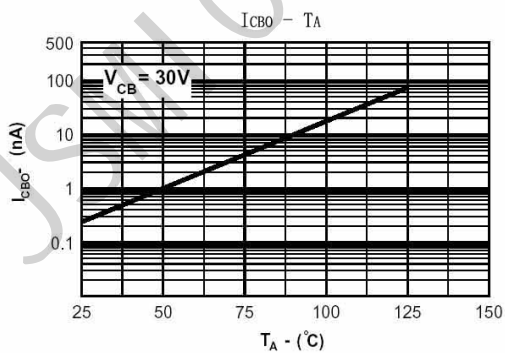
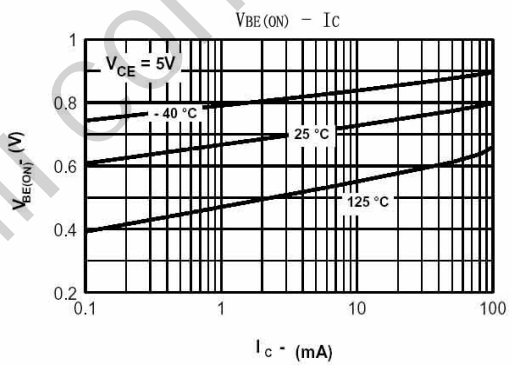
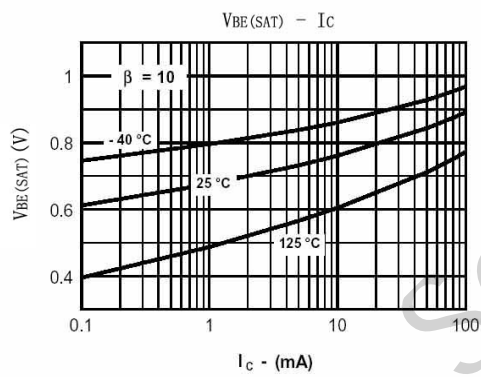
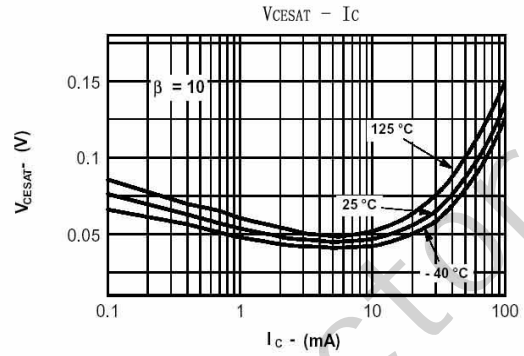
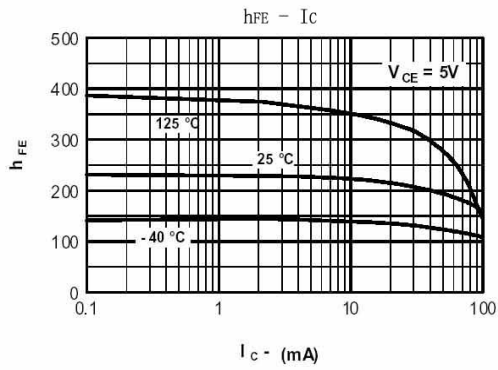
极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 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	°C
Storage Temperature Range	T_{stg}	-55~150	°C

电性能参数 / Electrical Characteristics(Ta=25°C)

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 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	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=5.0V$ $I_C=0$			0.05	μA
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	$I_C=10mA$ $f=100MHz$ $V_{CE}=20V$	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	μs
Turn Off Time	T_{off}	$V_{CC}=3.0V$ $I_C=10mA$ $I_{B1}=-I_{B2}=1.0mA$			0.25	μs

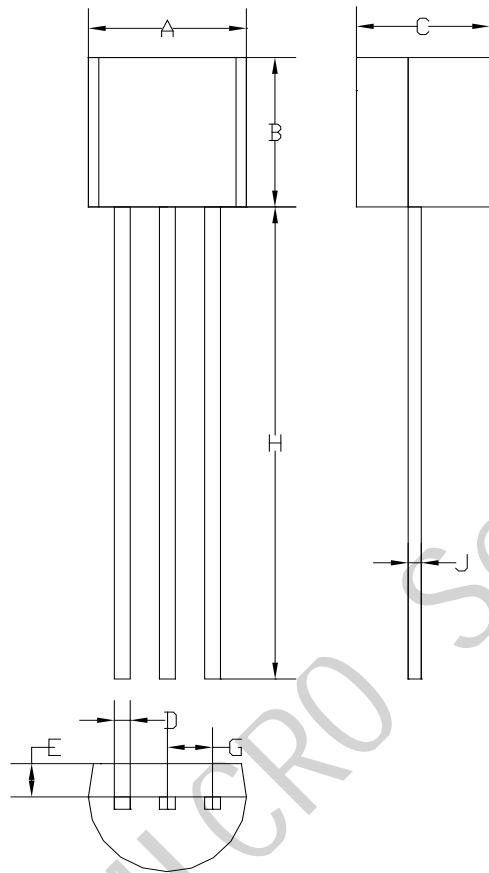
电参数曲线图 / Electrical Characteristic Curve



Package Information

TO-92

Plastic surface mounted package



TO-92		
Dim	Min	Max
A	4.28	4.7
B	4.68	4.7
C	3.25 Typical	
D	0.38	0.55
E	1.1	1.4
G	1.27 Typical	
H	12.03	14.5
J	0.36	0.51
All Dimensions in mm		