

NPN 半导体三极管

描述 / Descriptions

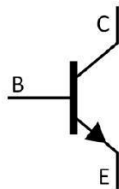
TO-92 塑封封装 NPN 半导体三极管。 Silicon NPN transistor in a TO-92 Plastic Package.

特征 / Features 用途 / Applications

低 I_{CBO} , 低 $V_{CE(sat)}$ 。用于一般放大。

Low Leakage current, Low collector saturation voltage enabling low voltage operation.
General purpose amplifier.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning

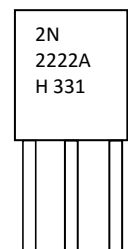
TO-92



PIN1 : Collector PIN 2 : Base PIN 3 : Emitter

放大及印章代码 / h_{FE} Classifications & Marking

* $h_{FE}(1)$ 分档及打印

分 档	1					印记见下 具体内容以打印为准
$h_{FE}(1)$	100~300					
打印 (简例)						
其 它 说 明	封装外形: TO-92 管脚排列: E、B、C					

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}	75	V
Collector to Emitter Voltage	V _{CEO}	40	V
Emitter to Base Voltage	V _{EBO}	6.0	V
Collector Current - Continuous	I _C	600	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 =10μA I _E =0	75			V
Collector to Emitter Breakdown Voltage	V _{CEO}	I _C =10mA I _B =0	40			V
Emitter to Base Breakdown Voltage	V _{EBO}	I _E =10μA I _C =0	6.0			V
Collector Cut-Off Current	I _{CBO}	V _{CB} =60V I _E =0			0.01	μA
Emitter Cut-Off Current	I _{EBO(1)}	V _{EB} =3.0V I _C =0			0.01	μA
	I _{EBO(2)}	V _{EB} =5.0V I _C =0			0.1	μA
DC Current Gain	h _{FE(1)}	V _{CE} =10V I _C =150mA	100		300	
	h _{FE(2)}	V _{CE} =10V I _C =0.1mA	40			
	h _{FE(3)}	V _{CE} =10V I _C =500mA	42			
Collector-Emitter Saturation Voltage	V _{CE(sat)(1)}	I _C =150mA I _B =15mA			0.3	V
	V _{CE(sat)(2)}	I _C =500mA I _B =50mA			0.6	V
Base-Emitter Saturation Voltage	V _{BE(sat)(1)}	I _C =150mA I _B =15mA		0.6	1.2	V
	V _{BE(sat)(2)}	I _C =500mA I _B =50mA			1.2	V
Transition Frequency	f _T	V _{CE} =20V I _C =20mA f=100MHz	300			MHz
Collector Output Capacitance	C _{ob}	V _{CB} =10V I _E =0 f=1.0MHz			8.0	pF
Turn-On Time	T _{on}	V _{CC} =30V V _{BE(OFF)} =0.5V I _C =150mA I _{B1} =15mA			35	ns
Turn-Off Time	T _{off}	V _{CC} =30V I _C =150mA I _{B1} =I _{B2} =15mA			285	ns
Noise Figure	NF	I _C =100μA V _{CE} =10V R _S =1.0KΩ f=1.0KHz			4.0	dB

电参数曲线图 / Electrical Characteristic Curve

