

描述 / Descriptions

TO-3P 塑封封装 NPN 半导体三极管。Silicon NPN transistor in a TO-3P Plastic Package.

特征 / Features

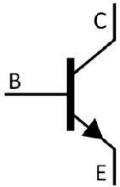
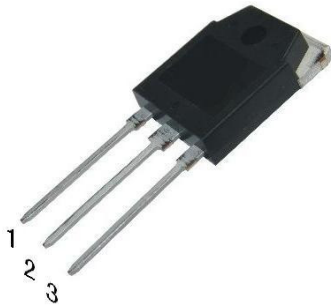
高电压,高速开关,高可靠性。

High voltage, high speed switching, High reliability.

用途 / Applications

用于继电器驱动电路, 高速转换电路, 及其它大电流开关电路。

Relay drivers, high-speed inverters, general high-current switching applications.

内部等效电路 / Equivalent Circuit**引脚排列 / Pinning**

PIN1 : Base PIN 2 : Collector PIN 3 : Emitter

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

见印章说明。See Marking Instructions.

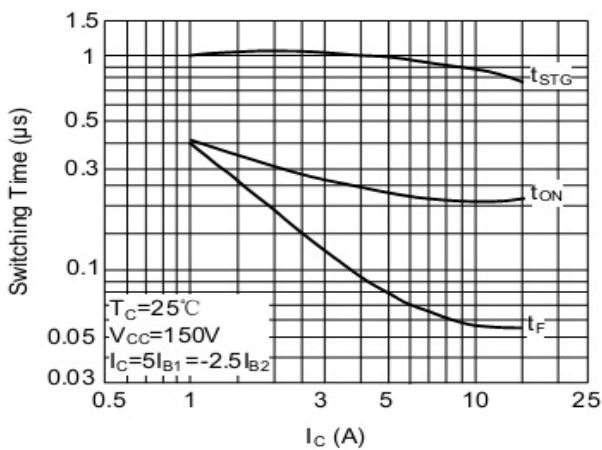
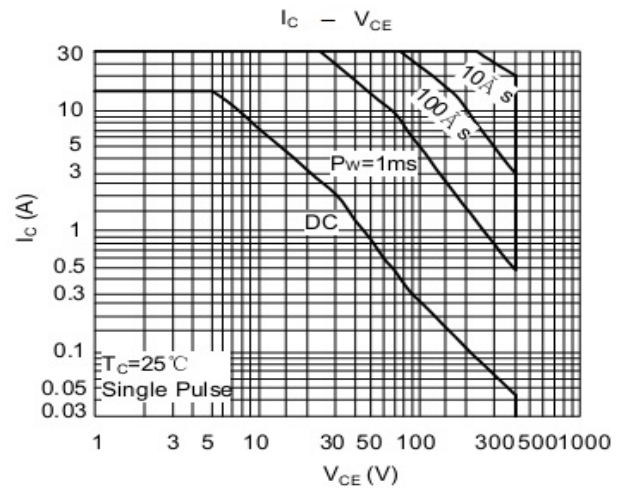
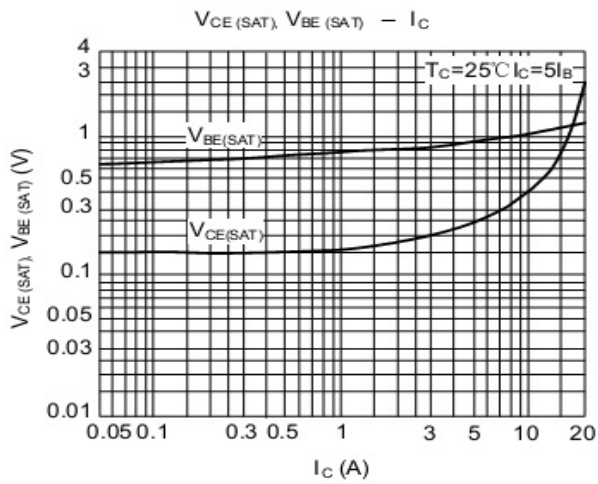
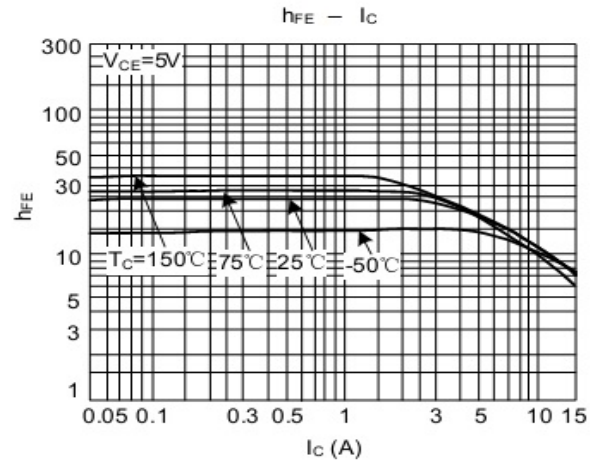
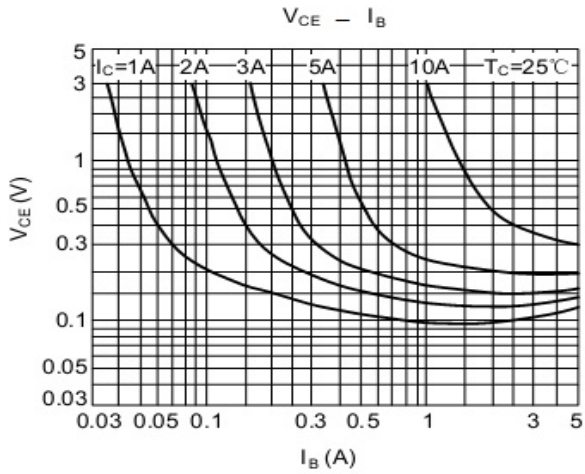
极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V_{CBO}	500	V
Collector to Emitter Voltage	V_{CEO}	400	V
Collector to Emitter Voltage	$V_{CEO(SUS)}$	400	V
Emitter to Base Voltage	V_{EBO}	7.0	V
Collector Current - Continuous	I_C	15.0	A
Base Current	I_B	5.0	A
Collector Power Dissipation	P_D	80.0	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-40~150	°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}	$I_{CBO}=1mA$ $I_E=0$	500			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_{CEO}=10mA$ $I_B=0$	400			V
Collector to Emitter Breakdown Voltage	$V_{CEO(SUS)}$	$I_C=0.2A$ $I_B=0$	400			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_{EBO}=1mA$ $I_C=0$	7.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CBO}=500V$ $I_E=0$			1.0	mA
Emitter Cut-Off Current	I_{EBO}	$V_{EBO}=7.0V$ $I_C=0$			1.0	mA
DC Current Gain	h_{FE}	$V_{CE}=5.0V$ $I_C=6A$	10			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=6.0A$ $I_B=1.2A$			1.0	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=6.0A$ $I_B=1.2A$			1.5	V
Turn-On Time	t_{on}	$I_C=7.5A$ $I_{B1}=1.5A$ $I_{B2}=-3.0A$ $R_L=20\Omega$ $P_W=20\mu s$ $Duty\leq 2\%$			0.5	μs
Storage Time	t_{stg}				1.5	μs
Fall Time	t_f				0.15	μs

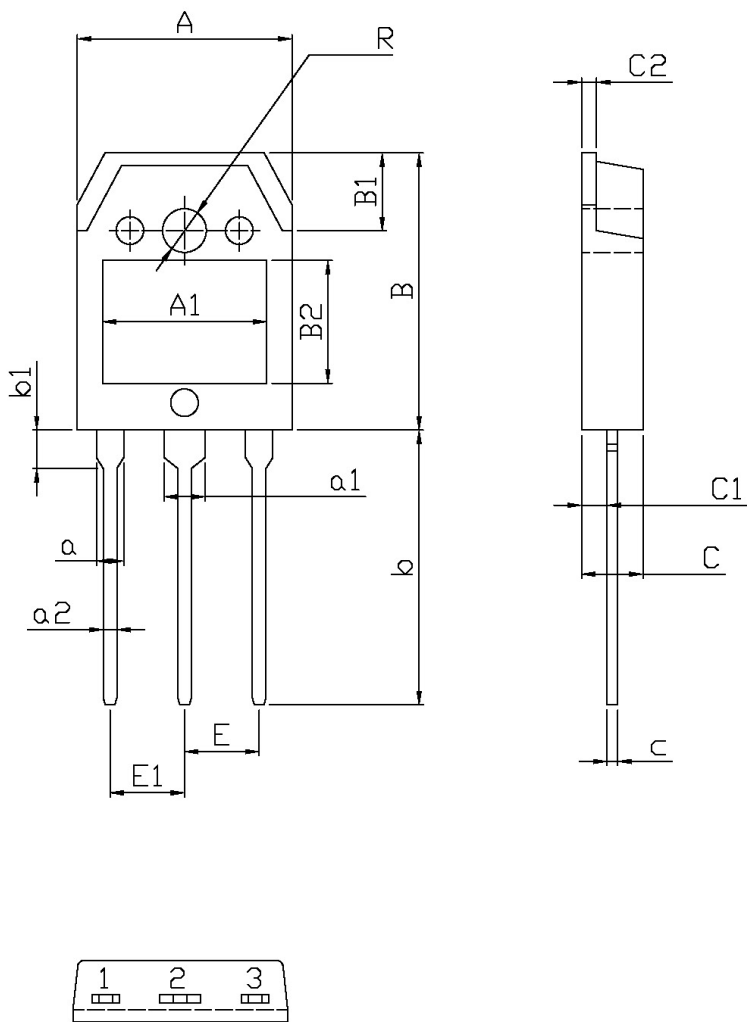
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

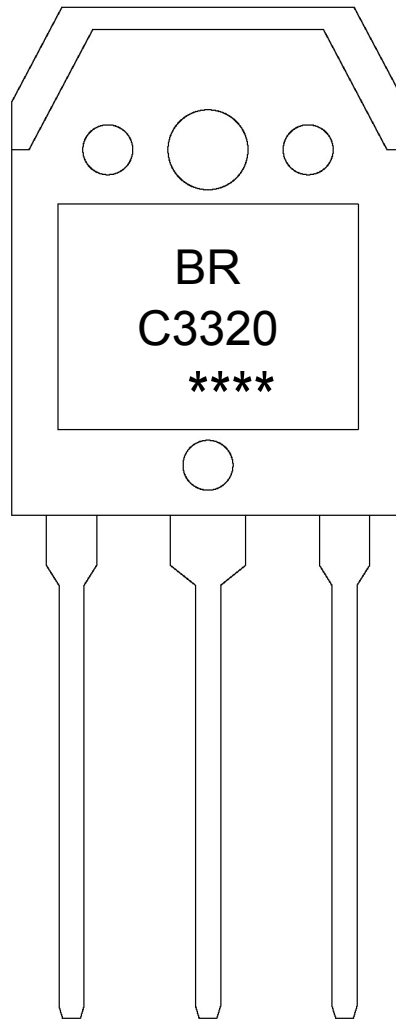
T□-3P

单位: mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	15.4	16.0	a2	0.8	1.2
R	3.1	3.5	E	5.45	
B	19.8	20.8	E1	5.45	
B1	5.5	5.9	C	4.3	4.7
B2	9.0		C1	1.2	1.6
A1	12.0		C2	1.4	1.6
b	19.6	20.6	c	0.5	0.7
b1	3.0	3.4			
a	1.8	2.2			
a1	2.8	3.2			

印章说明 / Marking Instructions



说明：

BR: 为公司代码

C3320 : 为型号代码

**** : 为生产批号代码，随生产批号变化。

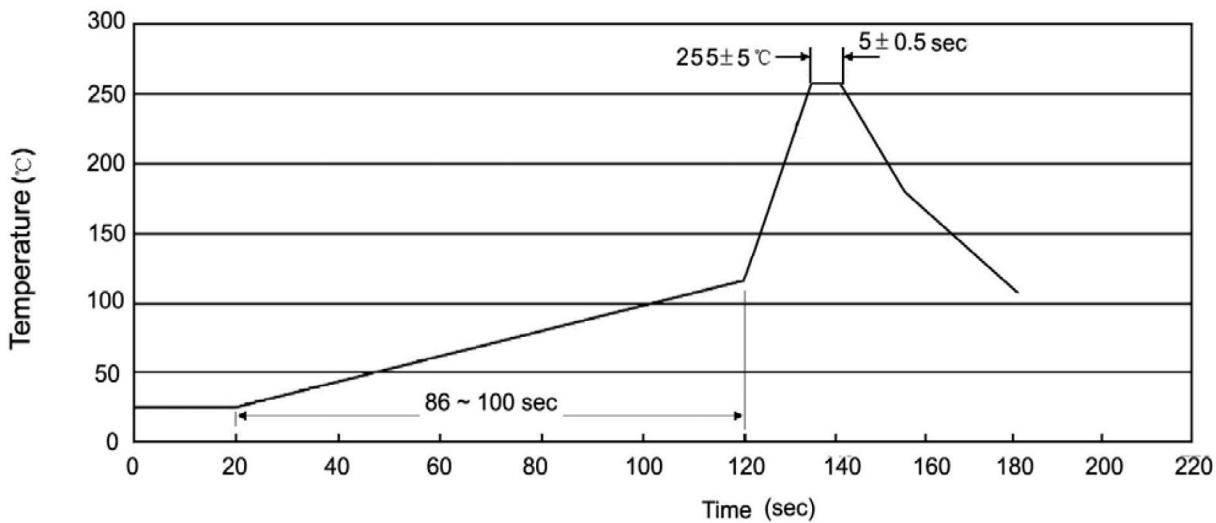
Note:

BR: Company Code.

C3320: Product Type.

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

波峰焊温度曲线图(无铅) / Temperature Profile for Dip Soldering(Pb-Free)



说明：

- 1、预热温度 25~150℃，时间 60~90sec;
- 2、峰值温度 255±5℃，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2~10℃/sec.

Note:

- 1.Preheating:25~150℃, Time:60~90sec.
- 2.Peak Temp.:255±5℃, Duration:5±0.5sec.
3. Cooling Speed: 2~10℃/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：270±5℃ 时间：10±1 sec. Temp.:270±5℃ Time:10±1 sec

包装规格 / Packaging SPEC.

套管包装 / TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Tube 只/套管	Tubes/Inner Box 套管/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Tube 套管	Inner Box 盒	Outer Box 箱
TO-3P	30	15	450	5	2250	497.5×46×8	555×164×50	575×290×180

使用说明 / Notices