

### 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.

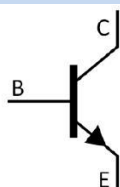
### 特征 / Features

耐压高、速度快和安全工作区宽。  
High breakdown voltage, high speed, wide SOA.

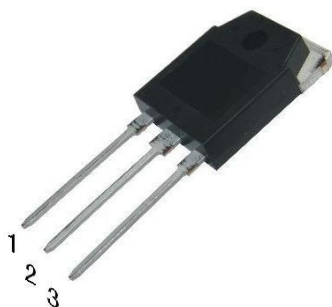
### 用途 / Applications

用于电视、CRT 显示器的水平偏转输出。  
Horizontal deflection output for TV and CRT monitor.

### 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.

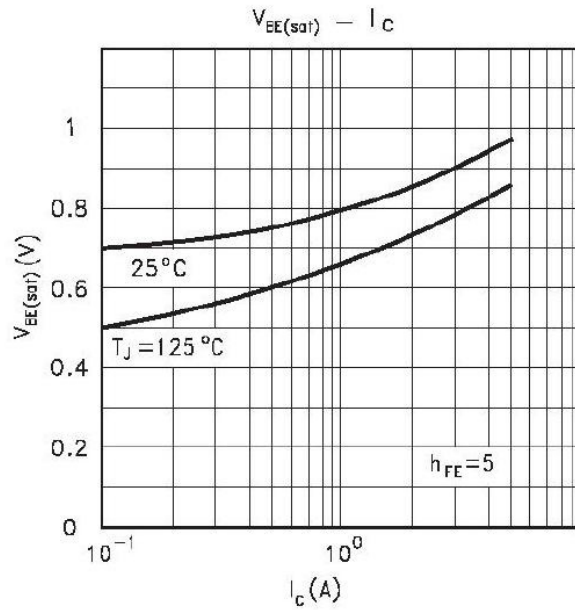
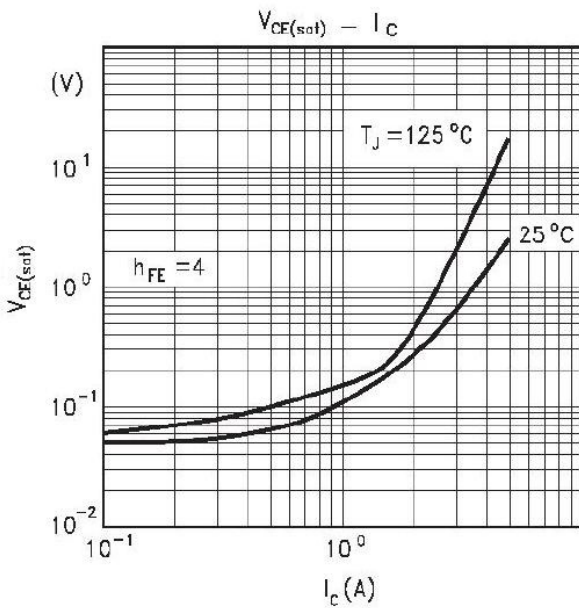
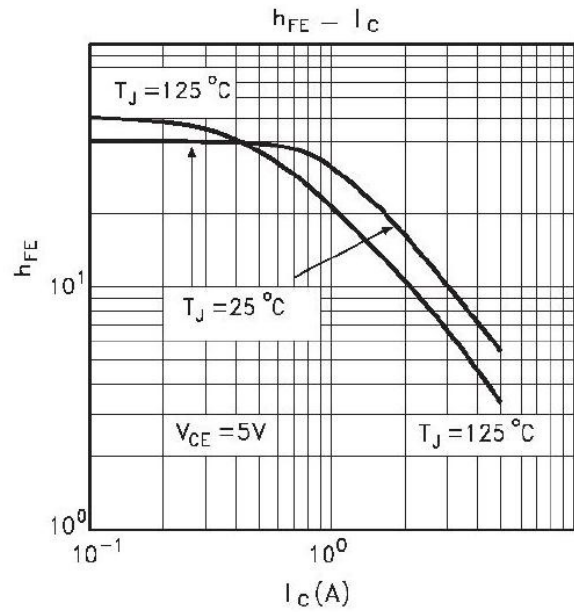
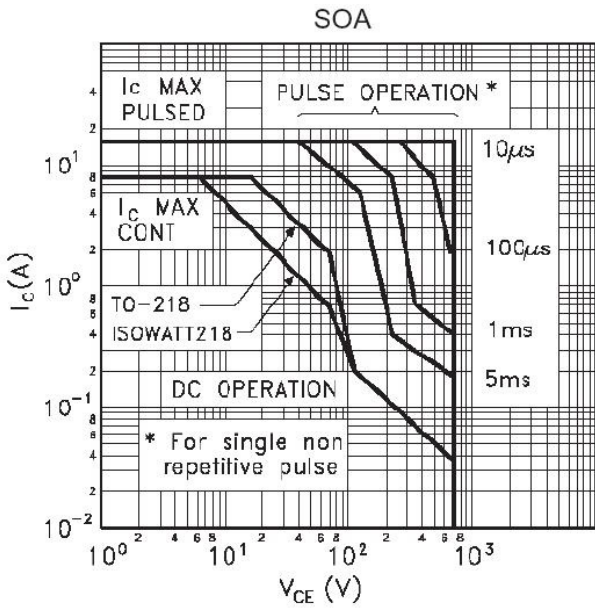
**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	$V_{CBO}$	1500	V
Collector to Emitter Voltage	$V_{CEO}$	700	V
Collector to Emitter Voltage( $V_{EB}=0$ )	$V_{CES}$	1500	V
Emitter to Base Voltage	$V_{EBO}$	9	V
Collector Current - Continuous	$I_C$	8	A
Peak Collector Current	$I_{CM}$	15	A
Total Power Dissipation	$P_{tot}(T_C=25^\circ C)$	125	W
Storage Temperature Range	$T_j$	150	°C
Thermal Resistance Junction	$T_{stg}$	-65~150	°C
Thermal Resistance Junction-Case	$R_{th(j-c)}$	1.0	°C/W

**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	$V_{CBO}$	$I_C=1mA$ $I_E=0$	1500			V
Collector to Emitter Breakdown Voltage	$V_{CEO}$	$I_C=10mA$ $I_B=0$	700			V
Emitter to Base Breakdown Voltage	$V_{EBO}$	$I_E=1mA$ $I_C=0$	9			V
Collector Cut-Off Current( $V_{EB}=0$ )	$I_{CES}$	$V_{CE}=1500V$ $V_{BE}=0$ ( $T_C=125^\circ C$ )			1	mA
		$V_{CE}=1500V$ $V_{BE}=0$			1	mA
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=5V$ $I_C=0$			100	µA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=5V$ $I_C=1A$	10		40	
	$h_{FE(2)}$	$V_{CE}=5V$ $I_C=1mA$	10		40	
	$h_{FE(3)}$	$V_{CE}=5V$ $I_C=5A$	4		20	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=4.5A$ $I_B=2A$			1	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=4.5A$ $I_B=2A$			1.3	V
Transition Frequency	$f_T$	$V_{CE}=5.0V$ $I_C=0.1A$ $f=5MHz$		7		MHz
Storage Time	$t_s$	$V_{CE}=5V$ $I_C=0.5A$ UI9600		4		µs
Fall Time	$t_f$			0.5		µs

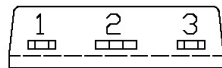
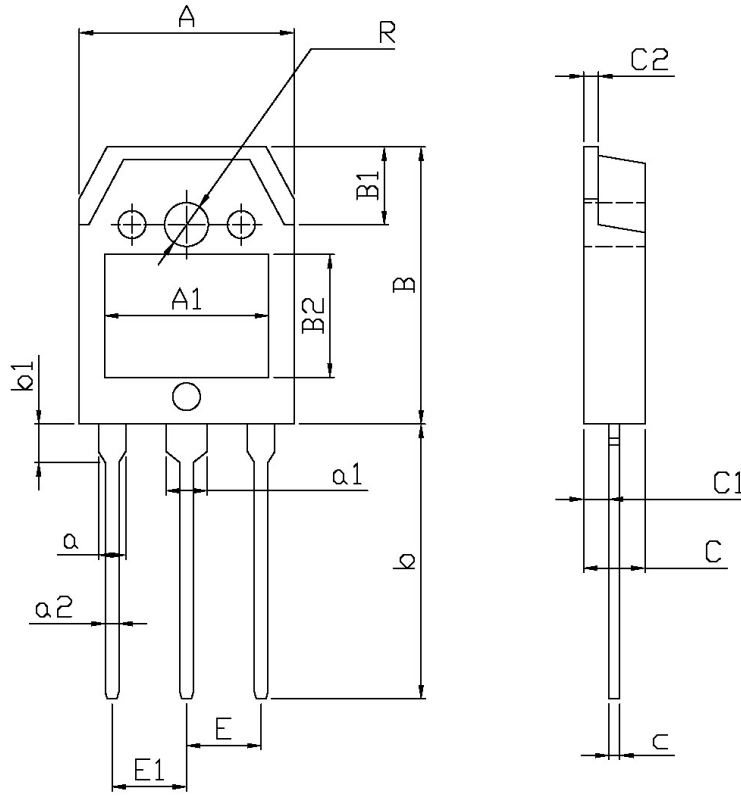
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

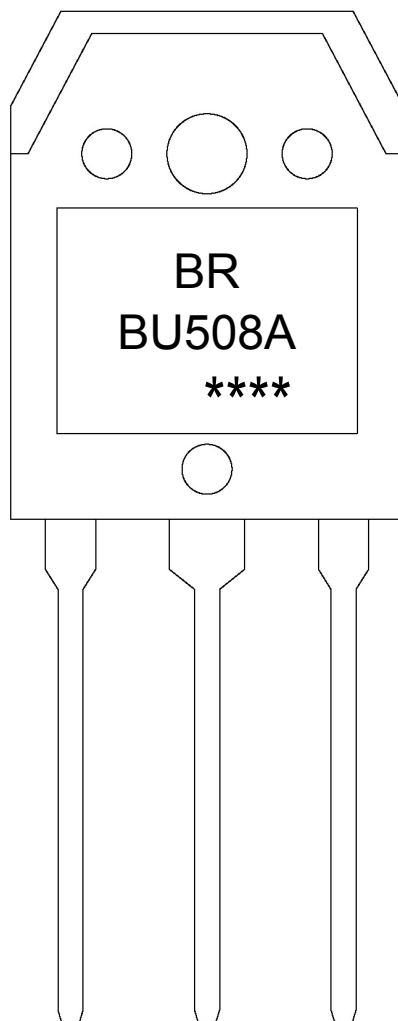
TO-3P

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

BU508A : 为产品型号

\*\*\*\* : 为生产批号代码，随生产批号变化。

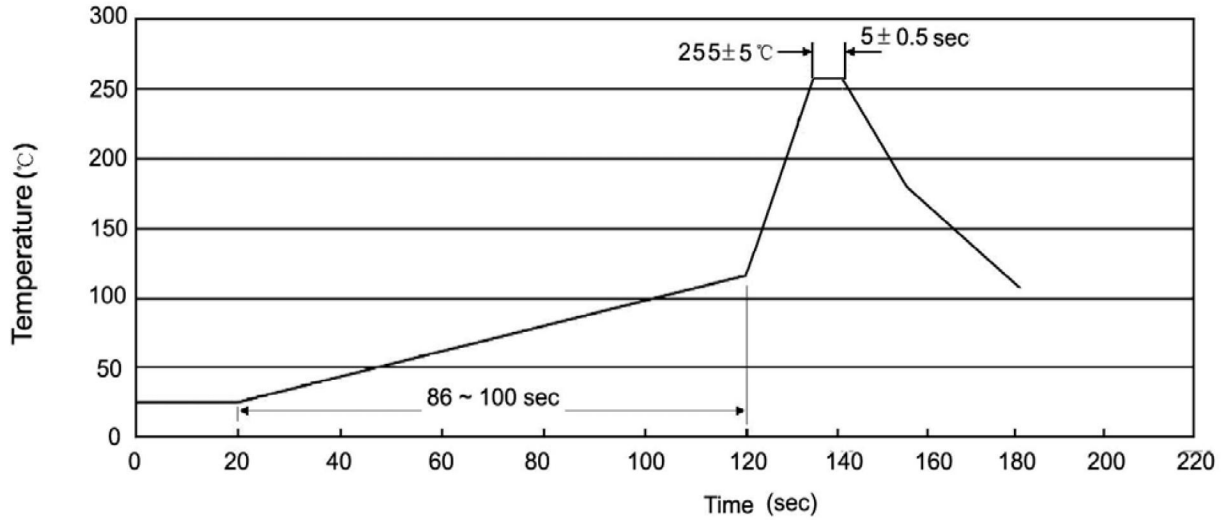
Note:

BR: Company Code.

BU508A: 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°C，时间 60~90sec;
- 2、峰值温度 255±5°C，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2~10°C/sec.

Note:

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

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

温度：270±5°C      时间：10±1 sec.      Temp.:270±5°C      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 <sup>3</sup> )		
	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**