

### 描述 / Descriptions

TO-220 塑封封装 PNP 半导体三极管。Silicon PNP transistor in a TO-220 Plastic Package.

### 特征 / Features

饱和压降低，开关速度快，与 2SC2334 互补。

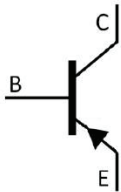
Low  $V_{CE(sat)}$ , fast switching speed, complementary pair with 2SC2334.

### 用途 / Applications

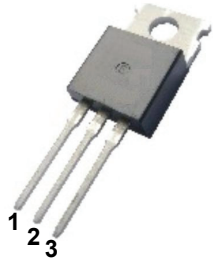
用于高电压高速开关，开关电源、DC/DC 转换器及高频功率放大的驱动。

Use for high voltage high speed switching, for a drive in devices such as switching regulators, DC/DC converters, high frequency power amplifiers.

### 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

$h_{FE}$ Classifications Symbol	M	L	K
$h_{FE}$ Range	40~80	60~120	100~200

**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 <sub>CBO</sub>	-100	V
Collector to Emitter Voltage	V <sub>CEO</sub>	-100	V
Emitter to Base Voltage	V <sub>EBO</sub>	-7.0	V
Collector Current - Continuous	I <sub>C</sub>	-7.0	A
Peak Collector Current*	*I <sub>CM</sub>	-15	A
Base Current – Continuous	I <sub>B</sub>	-3.5	A
Collector Power Dissipation	P <sub>C</sub>	1.5	W
	P <sub>C</sub> (T <sub>C</sub> =25°C)	40	W
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-55~150	°C

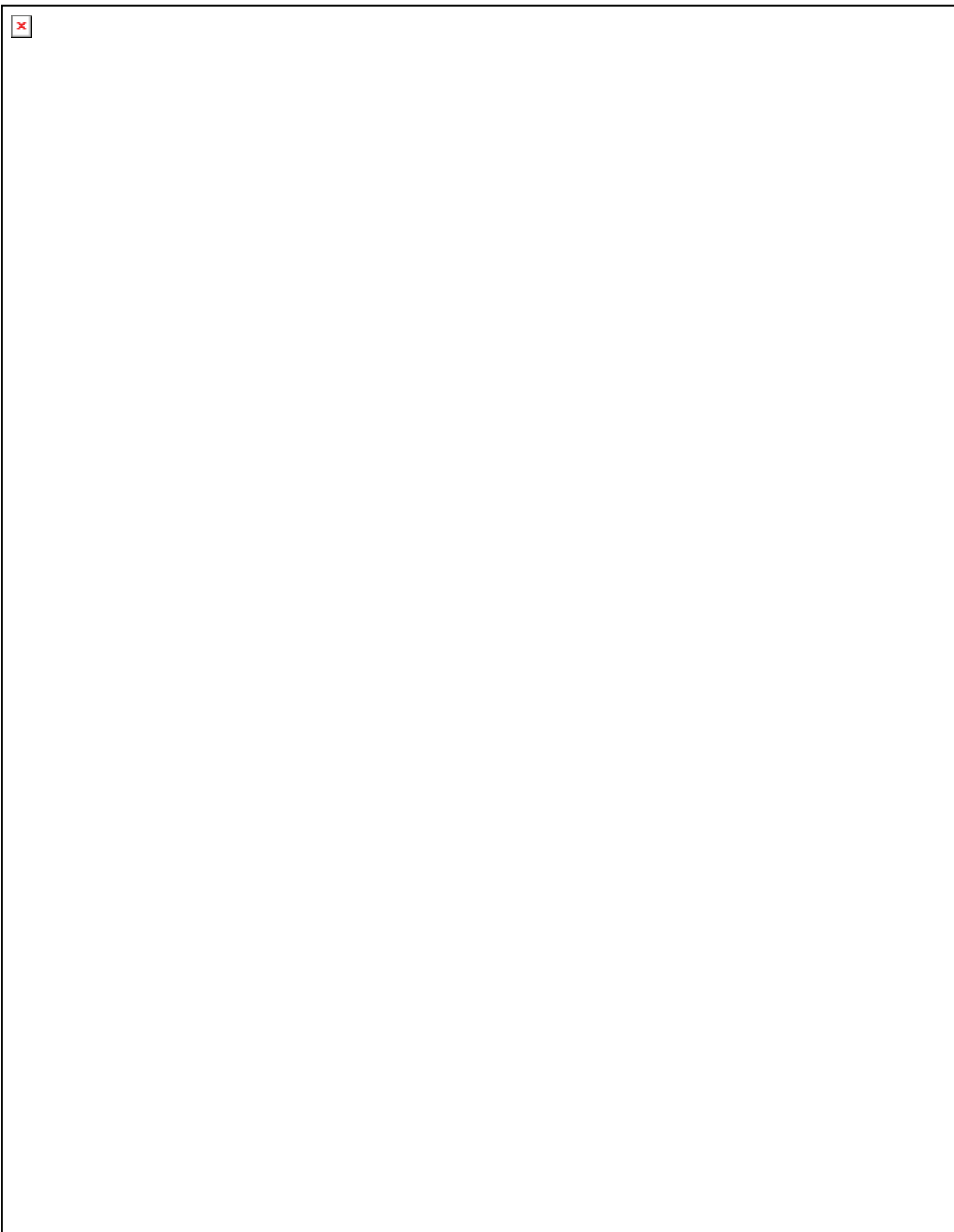
\*:pw(脉宽)≤300μs,duty cycle(占空比)≤10%.

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

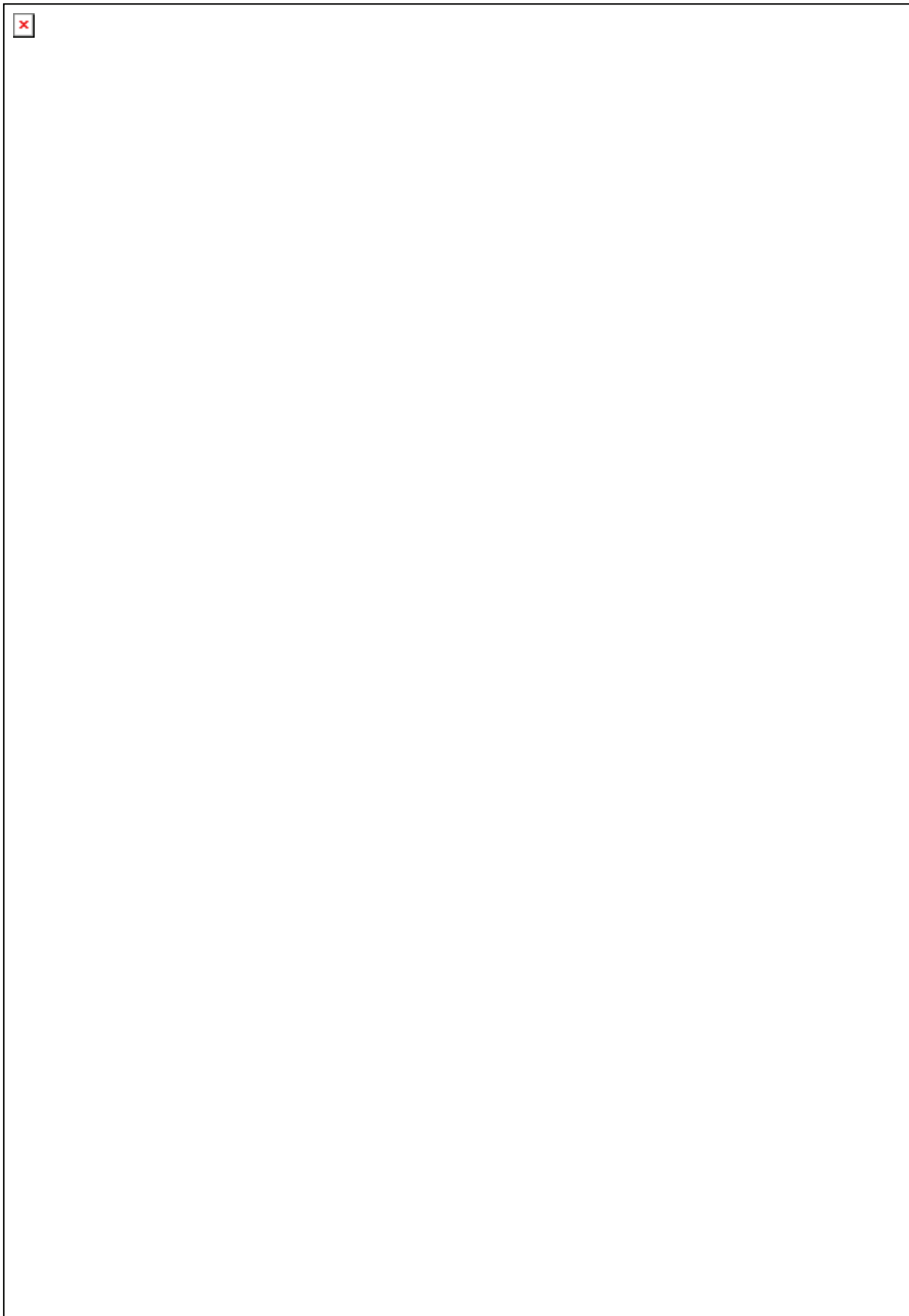
参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Collector to Emitter Breakdown Voltage	V <sub>CEO</sub>	I <sub>C</sub> =-10mA I <sub>B</sub> =0	-100			V
Collector Cut-Off Current	I <sub>CBO</sub>	V <sub>CB</sub> =-100V I <sub>E</sub> =0			-10	μA
Emitter Cut-Off Current	I <sub>EBO</sub>	V <sub>EB</sub> =-5.0V I <sub>C</sub> =0			-10	μA
DC Current Gain	*h <sub>FE(1)</sub>	V <sub>CE</sub> =-5.0V I <sub>C</sub> =-3.0A	40		200	
	*h <sub>FE(2)</sub>	V <sub>CE</sub> =-5.0V I <sub>C</sub> =-0.5A	40		200	
	*h <sub>FE(3)</sub>	V <sub>CE</sub> =-5.0V I <sub>C</sub> =-5.0A	20			
Collector to Emitter Saturation Voltage*	*V <sub>CE(sat)</sub>	I <sub>C</sub> =-5.0A I <sub>B</sub> =-0.5A			-0.6	V
Base to Emitter Saturation Voltage*	*V <sub>BE(sat)</sub>	I <sub>C</sub> =-5.0A I <sub>B</sub> =-0.5A			-1.5	V
Turn-On Time	t <sub>on</sub>	I <sub>C</sub> =-5.0A V <sub>CC</sub> =-50V RL=10Ω I <sub>B1</sub> =-I <sub>B2</sub> =-0.5A			0.5	μs
Storage Time	t <sub>stg</sub>				1.5	μs
Turn-Off Time	t <sub>f</sub>				0.5	μs

\*:pw(脉宽)≤350μs,duty cycle(占空比)≤2%.

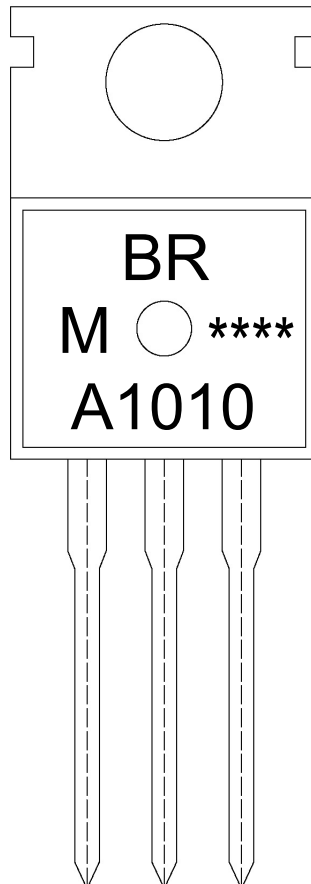
电参数曲线图 / Electrical Characteristic Curve



**外形尺寸图 / Package Dimensions**



印章说明 / Marking Instructions



说明：

BR： 为公司代码

A1010： 为型号代码

M： 为  $h_{FE}$  分档代码

\*\*\*\*： 为生产批号代码，随生产批号变化。

Note:

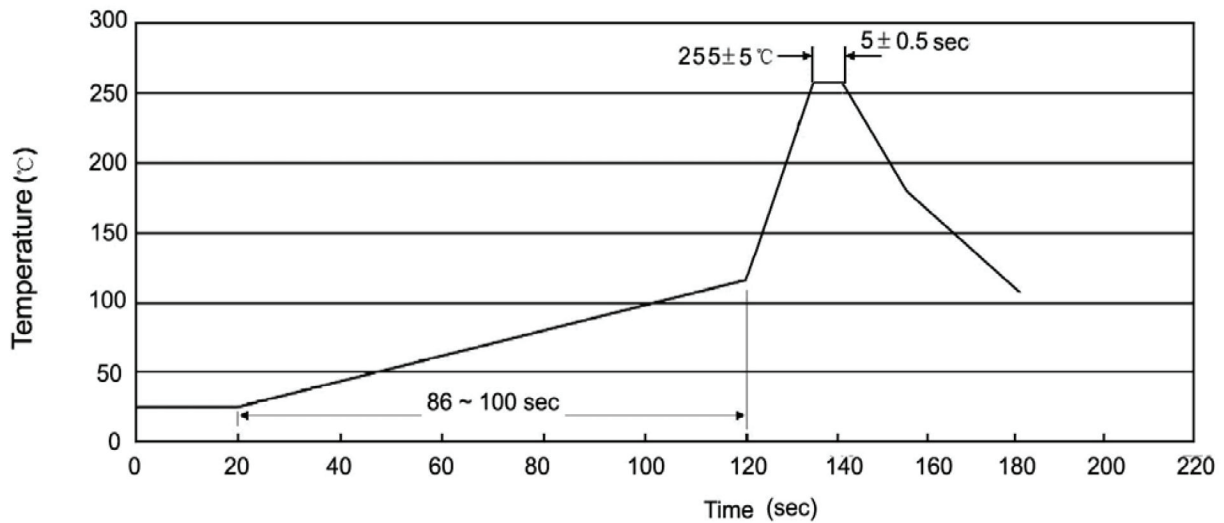
BR: Company Code

A1010: Product Type.

M:  $h_{FE}$  Classifications Symbol

\*\*\*\*: 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.**

散件包装 / BULK

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm <sup>3</sup> )		
	Units/Bag 只/袋	Bags/Inner Box 袋/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Bag 袋	Inner Box 盒	Outer Box 箱
TO-220/F	200	10	2,000	5	10,000	135×190	237×172×102	560×245×195

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-220/F	50	20	1,000	5	5,000	532×31.4×5.5	555×164×50	575×290×180

**使用说明 / Notices**