

描述 / Descriptions

TO-252 塑封封装 PNP 半导体三极管。Silicon PNP transistor in a TO-252 Plastic Package.

特征 / Features

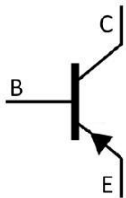
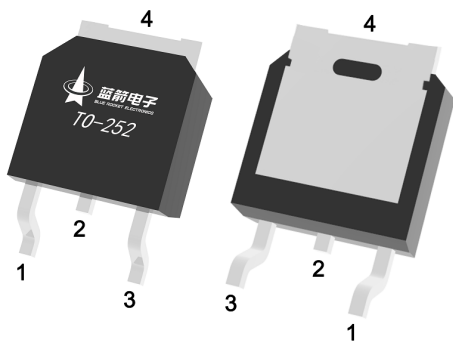
开关速度快，符合 AEC-Q101 标准高可靠性要求，无卤产品。

high speed switching, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

用途 / Applications

用于音频功率放大，小电流高速开关，满足汽车应用的严格要求。

Low power audio amplifier, Low current, high speed switching applications, Meet the stringent requirements of automotive applications.

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

PIN1 : Base

PIN 2,4 : Collector

PIN 3 : Emitter

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

见印章说明。

See Marking Instructions.

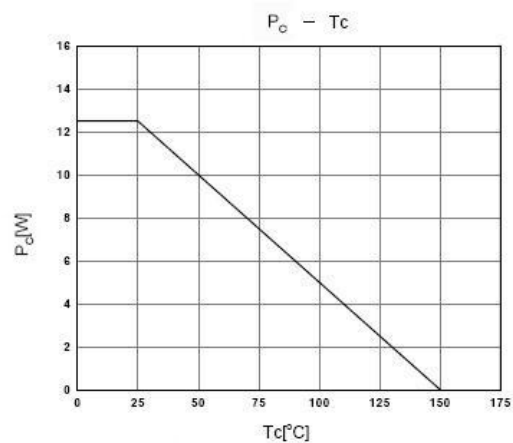
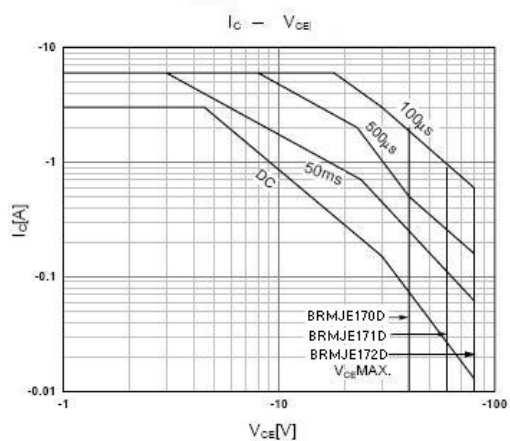
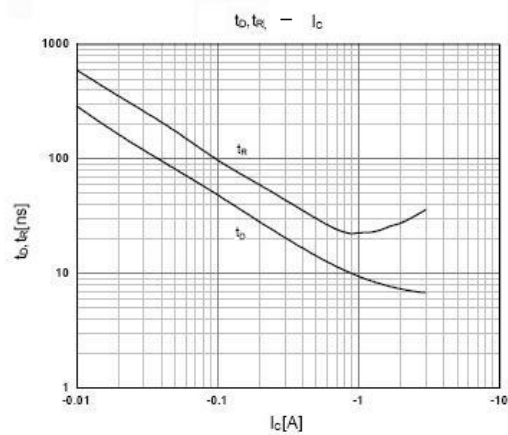
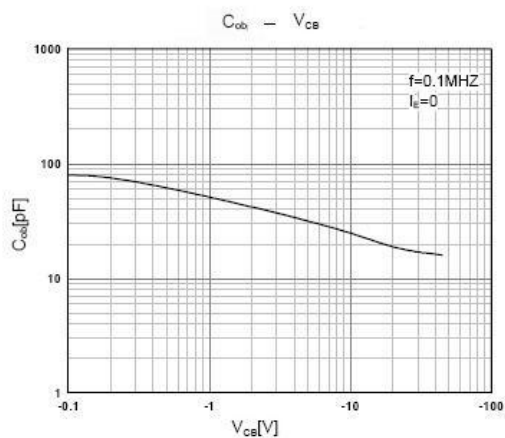
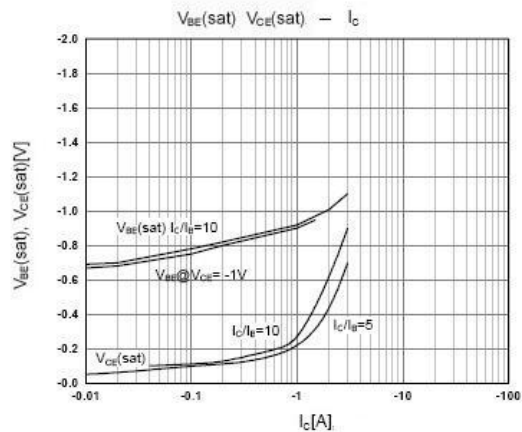
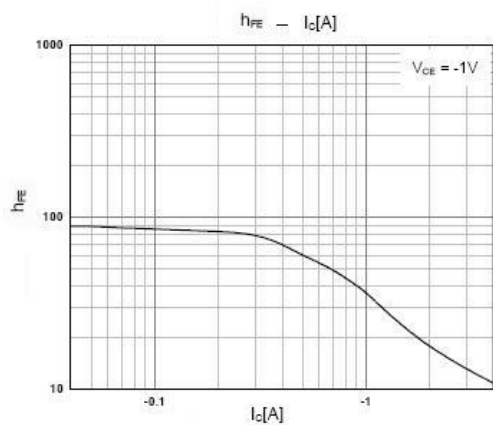
极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V_{CBO}	-100	V
Collector to Emitter Voltage	V_{CEO}	-80	V
Emitter to Base Voltage	V_{EBO}	-7.0	V
Collector Current - Continuous	I_C	-3.0	A
Collector Current - Continuous	I_{CP}	-6.0	A
Base Current - Continuous	I_B	-1.0	A
Collector Power Dissipation	P_C	1.5	W
Collector Power Dissipation	$P_C(T_C=25^{\circ}\text{C})$	12.5	W
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55~150	$^{\circ}\text{C}$

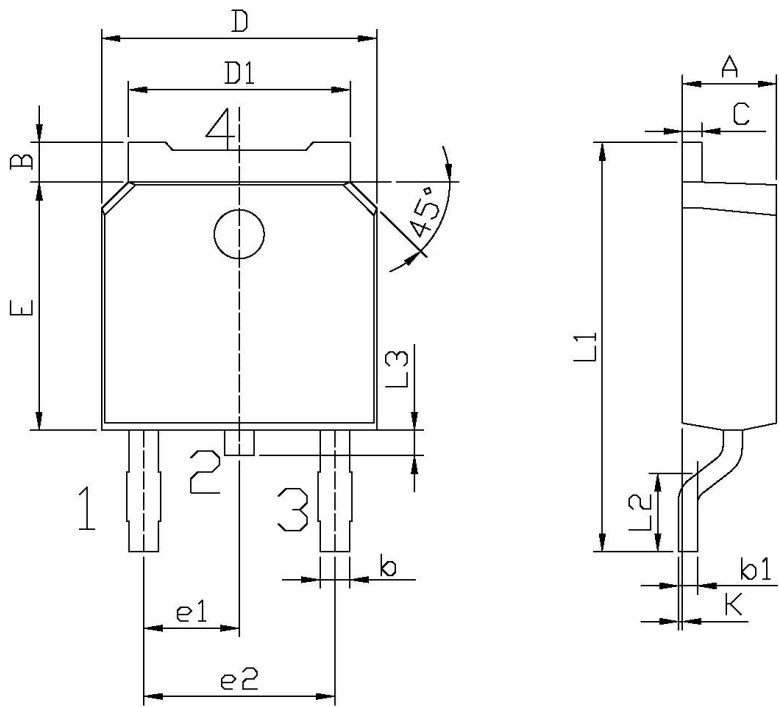
电性能参数 / Electrical Characteristics(Ta=25°C)

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 Emitter Breakdown Voltage	V_{CEO}	$I_C=-10\text{mA}$ $I_B=0$	-80			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=-100\text{V}$ $I_E=0$			-0.1	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=-7.0\text{V}$ $I_C=0$			-0.1	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=-1.0\text{V}$ $I_C=-100\text{mA}$	50		300	
	$h_{FE(2)}$	$V_{CE}=-1.0\text{V}$ $I_C=-500\text{mA}$	30			
	$h_{FE(3)}$	$V_{CE}=-1.0\text{V}$ $I_C=-1.5\text{A}$	12			
Collector to Emitter Saturation Voltage	$V_{CE(sat)(1)}$	$I_C=-500\text{mA}$ $I_B=-50\text{mA}$			-0.3	V
	$V_{CE(sat)(2)}$	$I_C=-1.5\text{A}$ $I_B=-150\text{mA}$			-0.9	V
	$V_{CE(sat)(3)}$	$I_C=-3.0\text{A}$ $I_B=-600\text{mA}$			-1.7	V
Base to Emitter Saturation Voltage	$V_{BE(sat)(1)}$	$I_C=-1.5\text{A}$ $I_B=-150\text{mA}$			-1.5	V
	$V_{BE(sat)(2)}$	$I_C=-3.0\text{A}$ $I_B=-600\text{mA}$			-2.0	V
Base to Emitter On Voltage	$V_{BE(on)}$	$V_{CE}=-1.0\text{V}$ $I_C=-500\text{mA}$			-1.2	V
Transition Frequency	f_T	$V_{CE}=-10\text{V}$ $I_C=-100\text{mA}$	50			MHz
Reverse Transfer Capacitance	C_{ob}	$V_{CB}=-10\text{V}$ $f=0.1\text{MHz}$			50	pF

电参数曲线图 / Electrical Characteristic Curve



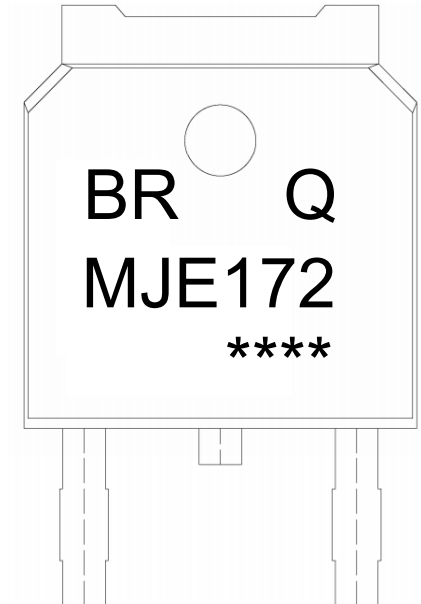
外形尺寸图 / Package Dimensions



单位：mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	2.20	2.40	E	5.95	6.25
B	0.95	1.25	e1	2.24	2.34
b	0.70	0.90	e2	4.43	4.73
b1	0.45	0.55	L1	9.85	10.35
C	0.45	0.55	L2	1.70	2.00
D	6.45	6.75	L3	0.60	0.90
D1	5.10	5.50	K	0.00	0.10

T0-252

印章说明 / Marking Instructions

说明：

BR：公司代码

Q：汽车无卤产品标识

MJE172：产品型号

****：生产批号代码，随生产批号变化

Note:

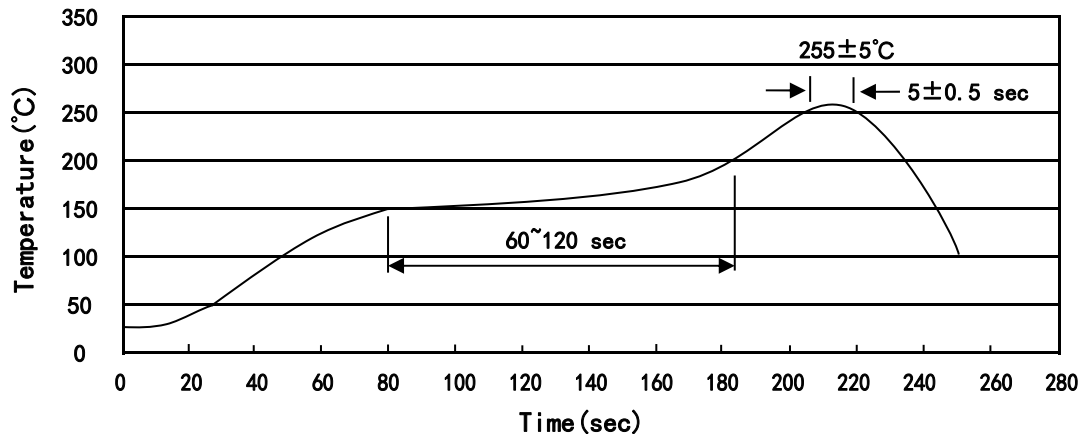
BR: Company Code

Q: Automobile halogen-free product Code

MJE172: Product Type Code

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

回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)



说明：

- 1、预热温度 150~200°C，时间 60~120sec;
- 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:150~200°C, Time:60~120sec.
- 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：260±5°C

时间：10±1 sec.

Temp.:260±5°C

Time:10±1 sec

包装规格 / Packaging SPEC.

卷盘包装 / REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
TO-252	2,500	2	5,000	6	30,000	13" ×16	360×360×50	380×335×366

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-251/252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180

使用说明 / Notices