

描述 / Descriptions

TO-252 塑封封装电压调整器。Voltage Regulator in a TO-252 Plastic Package.

特征 / Features

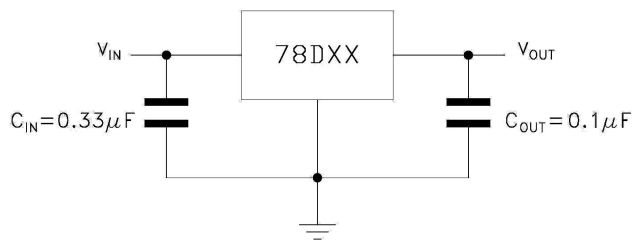
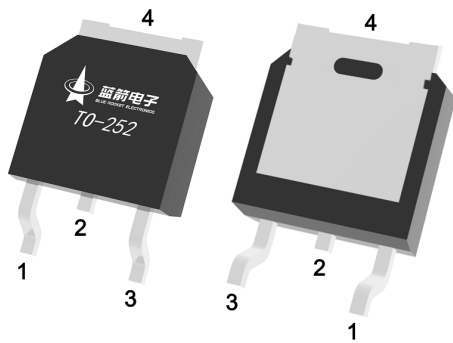
三端稳压调整器，输出电流高达 1.5A,内设过热保护和短路限制，符合 AEC-Q100 标准高可靠性要求，无卤产品。

3-Terminal regulators ,output current up to 1.5A, internal thermal overload protection and short-circuit limiting, Qualified to AEC-Q100 Standards for High Reliability, HF Product.

用途 / Applications

电压调整器，满足汽车应用的严格要求。

Voltage Regulator, Meet the stringent requirements of automotive applications.

内部等效电路/应用电路 / Equivalent Circuit or Application Circuit**引脚排列 / Pinning**

PIN1 : IN

PIN 2、4 : GND

PIN 3 : OUT

印章代码 / Marking

见印章说明。

See Marking Instructions.

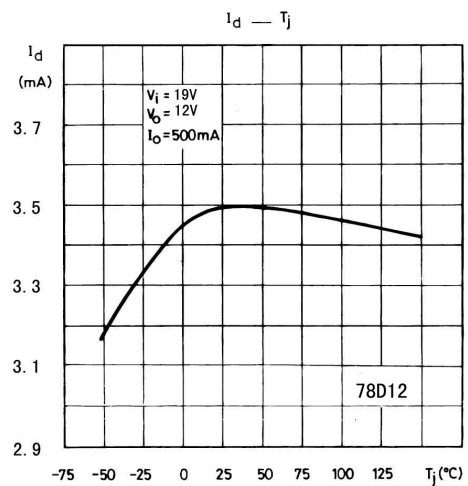
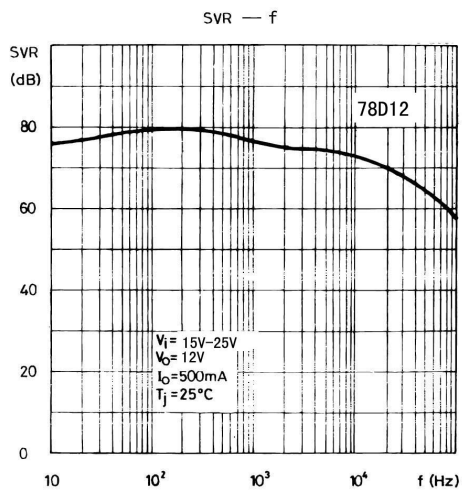
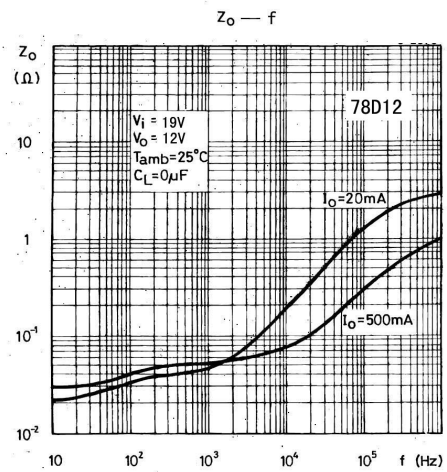
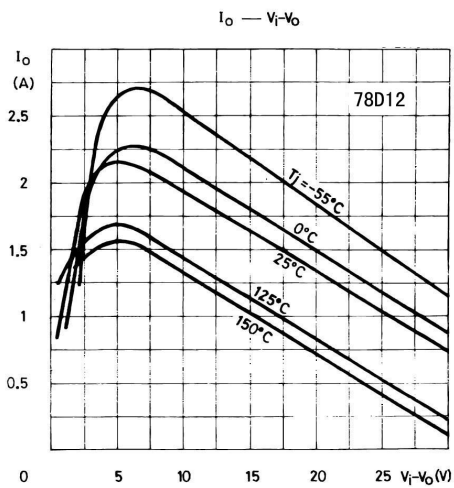
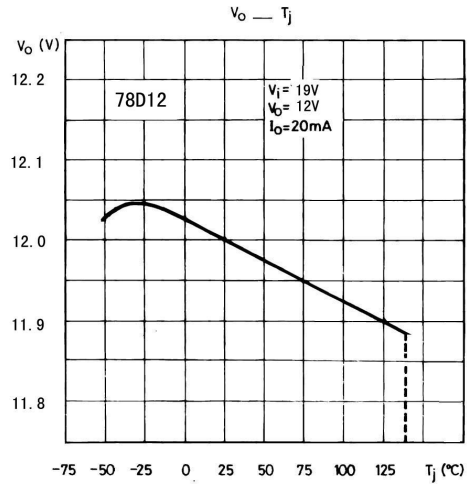
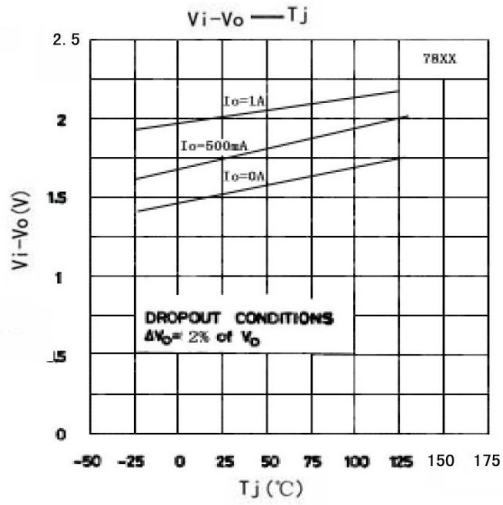
极限参数 / Absolute Maximum Ratings(Ta=25°C)

| 参数 Parameter | 符号 Symbol | 数值 Rating | 单位 Unit |
|-------------------------------------|------------------|--------------|------------|
| Input voltage | V _I | 35 | V |
| Thermal Resistance Junction-Ambient | R _{θJA} | 105 | °C/W |
| Thermal Resistance Junction-Case | R _{θJC} | 10 | °C/W |
| Operating Temperature Range | T _{OPR} | -40~125 | °C |
| Storage temperature range | T _{stg} | -65~150 | °C |

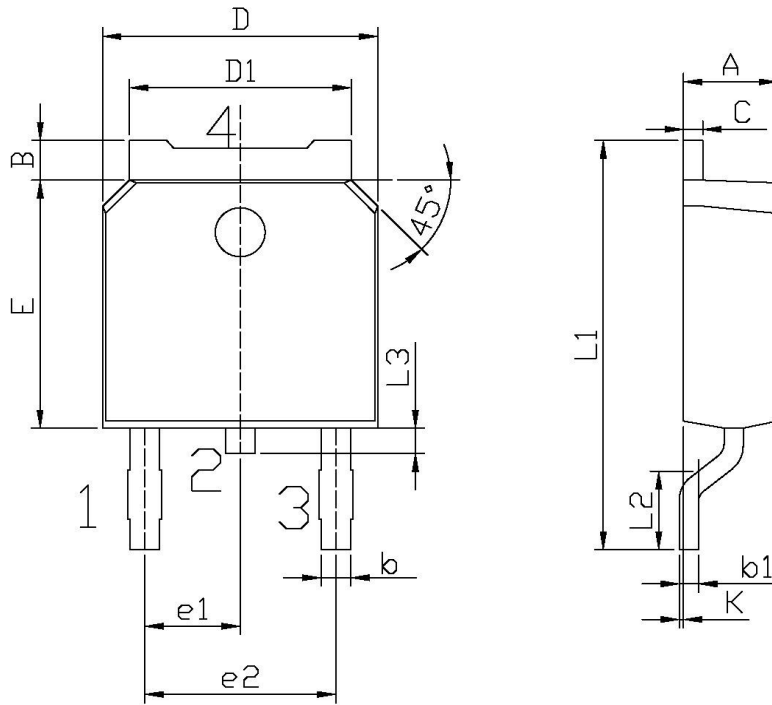
电性能参数 / Electrical Characteristics(Ta=25°C ,Vi=19V,Io=500mA ,unless otherwise specified)

| 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 |
|----------------------------|---------------------|--|------------|------------|------------|-------------------|
| Output voltage | V _o | T _j =25°C | 11.5 | 12.0 | 12.5 | V |
| | | V _i =14.5V-27V I _o =5mA-1A P _o ≤15W | 11.4 | 12.0 | 12.6 | V |
| Load Regulation | ΔV _o | T _j =25°C I _o =5.0mA-1.5A | | | 240 | mV |
| | | T _j =25°C I _o =250mA-750mA | | | 120 | mV |
| Line regulation | ΔV _o | T _j =25°C V _i =14.5V-30V | | | 240 | mV |
| | | T _j =25°C V _i =16V-22V | | | 120 | mV |
| Quiescent Current | I _q | T _j =25°C | | | 8.0 | mA |
| Quiescent Current Change | ΔI _q | V _i =14.5V-30V | | | 1.0 | mA |
| | | I _o =5mA-1A | | | 0.5 | mA |
| Output Voltage Drift | ΔV _o /ΔT | I _o =5mA | | -1 | | mV/°C |
| Output Noise Voltage | e _N | B=10Hz-100KHz T _j =25°C | | 75 | | μV/V _o |
| Supply Voltage Rejection | SVR | V _i =15V-25V f=120Hz | 55 | | | dB |
| Dropout Voltage | V _d | I _o =1A T _j =25°C | | 2.0 | | V |
| Output Resistance | R _o | f=1KHz | | 18 | | mΩ |
| Short Circuit Current | I _{sc} | V _i =35V T _j =25°C | | 0.35 | | A |
| Short Circuit Peak Current | I _{scp} | T _j =25°C | | 2.2 | | A |

电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

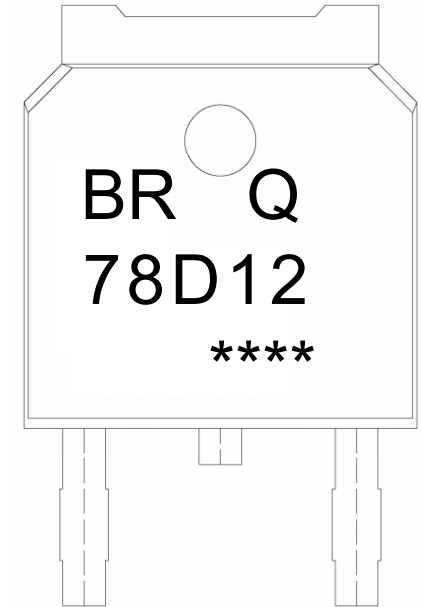


单位: mm

| 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 |

TO-252

印章说明 / Marking Instructions



说明：

BR： 为公司代码

Q： 为汽车无卤产品标识

78D12： 为产品型号

****： 为生产批号代码，随生产批号变化

Note:

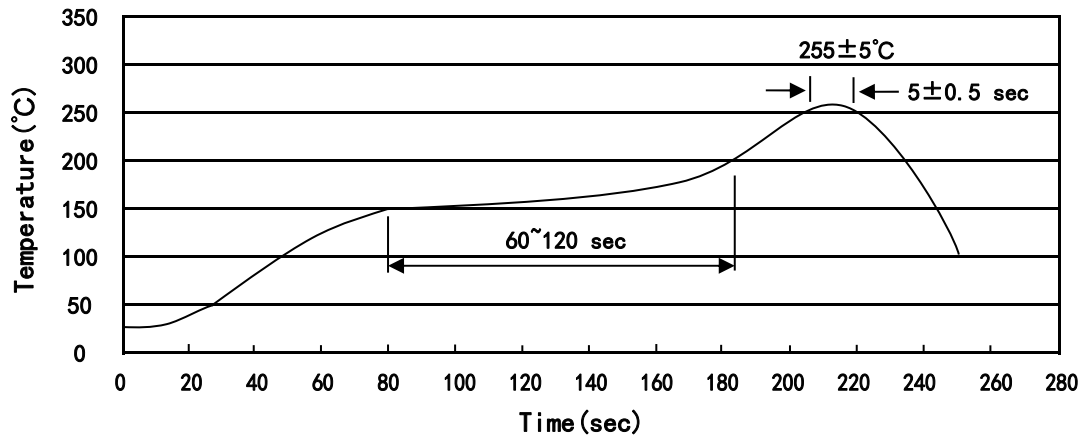
BR: Company Code

Q: Automobile halogen-free product Code

78D12: Product Type

****: 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