

## / Descriptions

TO-252 Voltage Regulator in a TO-252 Plastic Package.

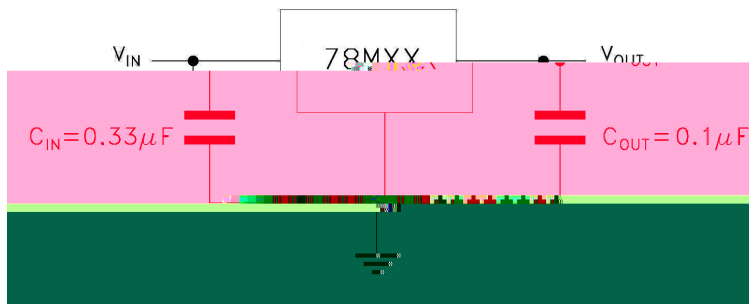
## / Features

0.5A,  
3-Terminal regulators ,output current up to 0.5A, internal thermal overload protection and short-circuit limiting.

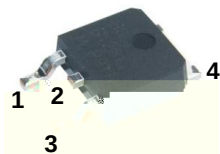
## / Applications

Voltage Regulator.

## / Equivalent Circuit or Application Circuit



## / Pinning



PIN1 IN PIN 2 4 GND PIN 3 OUT

## / Marking

See Marking Instructions.

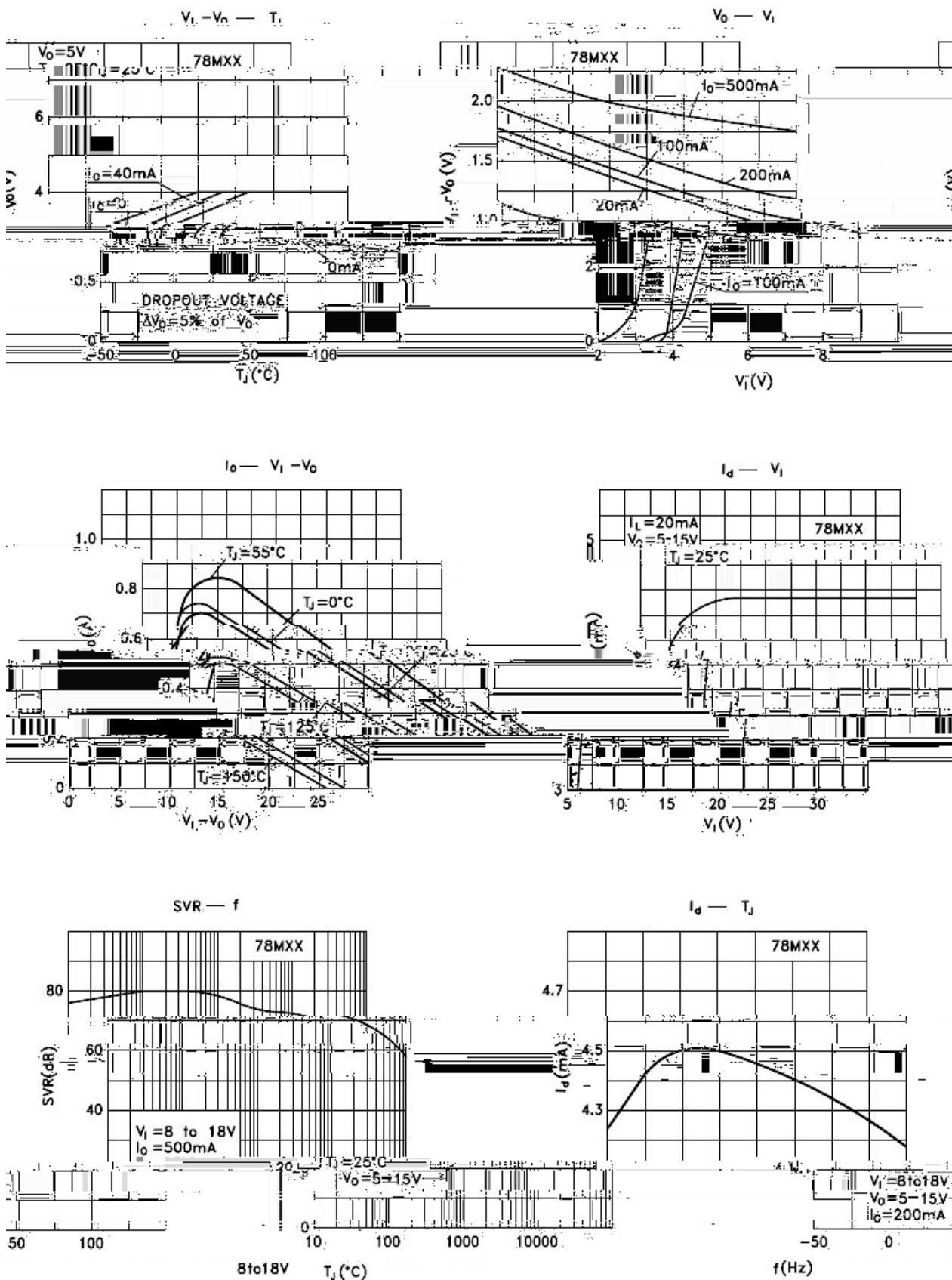
**/ Absolute Maximum Ratings(Ta=25 )**

| Parameter                            | Symbol    | Rating  | Unit |
|--------------------------------------|-----------|---------|------|
| Input voltage                        | $V_i$     | 35      | V    |
| Thermal Resistance Junction-ambient  | $R_{JA}$  | 100     | /W   |
| Thermal Resistance Junction-case     | $R_{JC}$  | 8.0     | /W   |
| Operating Junction Temperature Range | $T_{OPR}$ | 0 125   |      |
| Storage temperature range            | $T_{stg}$ | -65 150 |      |

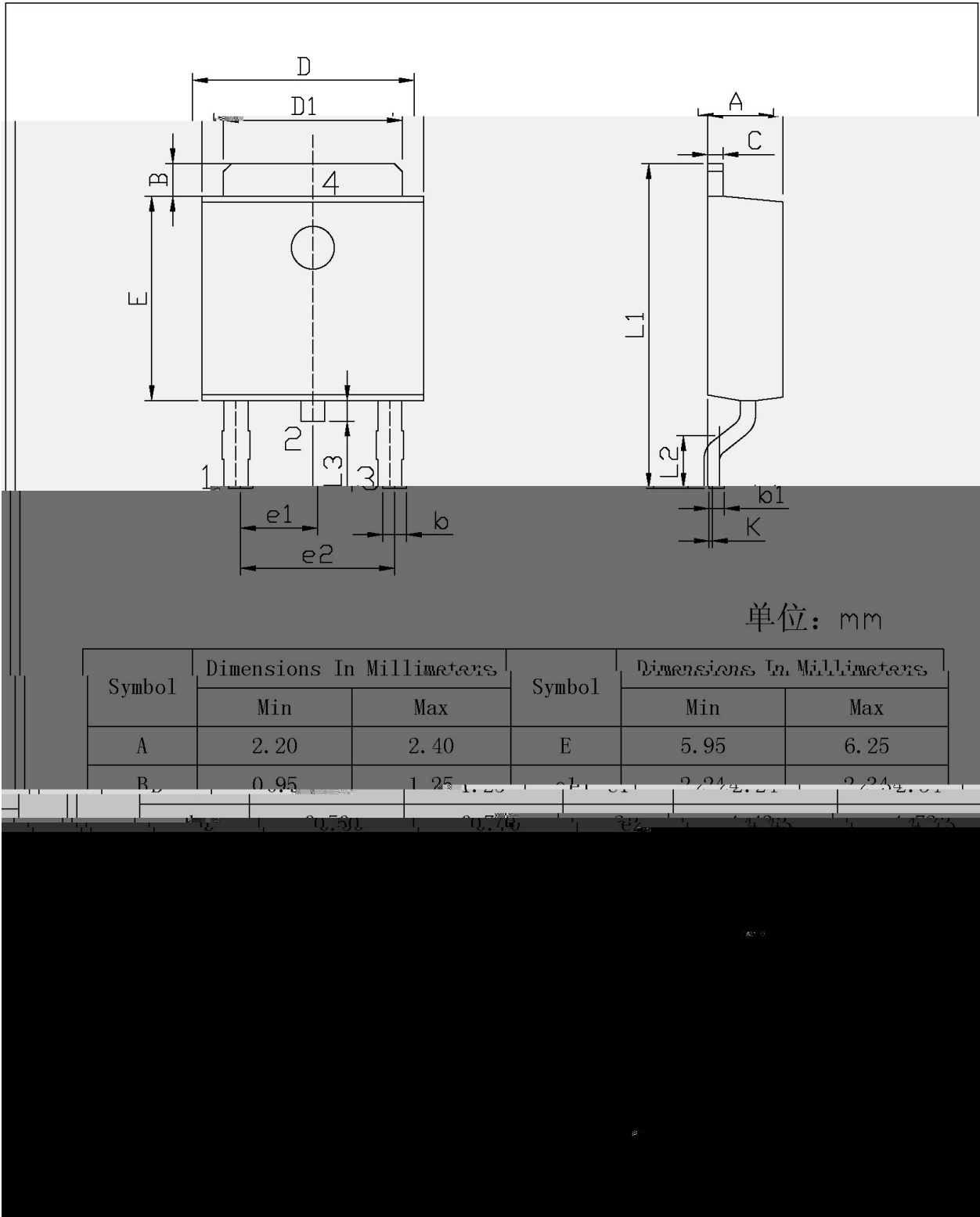
**/ Electrical Characteristics(Ta=25  $V_i=19V, I_o=350mA$  unless otherwise specified)**

| Parameter                  | Symbol    | Test Conditions                    | Min  | Typ | Max  | Unit |
|----------------------------|-----------|------------------------------------|------|-----|------|------|
| Output voltage             | $V_o$     | $T_j=25$                           | 11.5 | 12  | 12.5 | V    |
|                            |           | $V_i=14.5V-27V$<br>$I_o=5mA-350mA$ | 11.4 | 12  | 12.6 | V    |
| Load Regulation            | $V_o$     | $T_j=25$<br>$I_o=5mA-500mA$        |      |     | 240  | mV   |
|                            |           | $T_j=25$<br>$I_o=5mA-200mA$        |      |     | 120  | mV   |
| Line regulation            | $V_o$     | $T_j=25$ $V_i=14.5V-30V$           |      |     | 100  | mV   |
|                            |           | $T_j=25$ $V_i=16V-30V$             |      |     | 50   | mV   |
| Output Noise Voltage       | $V_N$     | $T_j=25$<br>$B=10Hz-100KHz$        |      | 75  |      | V    |
| Supply Voltage Rejection   | SVR       | $f=120Hz$ $V_i=15V-25V$            | 55   |     |      | dB   |
| Short Circuit Current      | $I_{sc}$  | $V_i=35V$ $T_j=25$                 |      | 240 |      | mA   |
| Quiescent Current          | $I_d$     | $T_j=25$                           |      |     | 6.0  | mA   |
| Quiescent Current Change   | $I_d$     | $V_i=14.5V-30V$<br>$I_o=200mA$     |      |     | 0.8  | mA   |
|                            |           | $I_o=5mA-350mA$<br>$T_j=0-125$     |      |     | 0.5  | mA   |
| Output Voltage Drift       | $V_o/ T$  | $I_o=5mA$                          |      | 1.0 |      | mV/  |
| Dropout Voltage            | $V_d$     | $T_j=25$                           |      | 2.0 |      | V    |
| Short Circuit Peak Current | $I_{scp}$ | $T_j=25$                           |      | 700 |      | mA   |

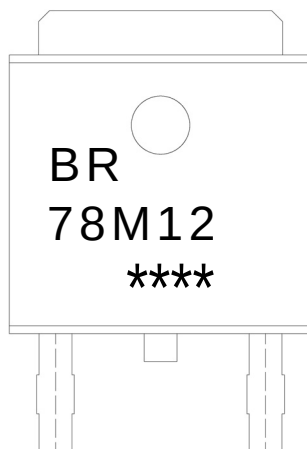
/ Electrical Characteristic Curve



/ Package Dimensions



**/ Marking Instructions**



BR

78M12

\*\*\*\*

Note:

BR: Company Code.

78M12: Product Type.

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

