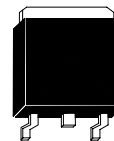


## Three Terminal Positive Voltage Regulators

# LM78D05XJ3

These voltage regulators are monolithic integrated circuits designed as fixed voltage regulators for a wide variety of applications including local, on-card regulation. These regulators employ internal current limiting, thermal shutdown, and safe-area compensation. With adequate heatsinking they can deliver output currents in excess of 1.0A. Although designed primarily as fixed voltage regulator, these devices can be used with external components to obtain adjustable voltages and currents.



TO-252

## Maximum Ratings

| Rating                               | Symbol   | Value     | Unit |
|--------------------------------------|----------|-----------|------|
| Input Voltage                        | $V_{IN}$ | 35        | V    |
| Output Current                       | $I_o$    | 1         | A    |
| Power Dissipation                    | $P_D$    | 15        | W    |
| Operating Junction Temperature Range | $T_J$    | 0 to +125 | °C   |

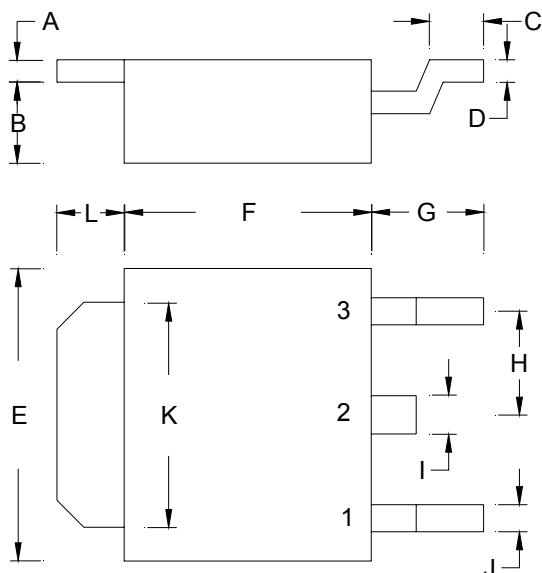
## Ordering Information

| Device     | Output Voltage Tolerance | Package |
|------------|--------------------------|---------|
| LM78D05AJ3 | 3%                       | TO-252  |
| LM78D05BJ3 | 5%                       | TO-252  |

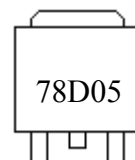
**Electrical Characteristics**  $V_{IN}=10V, I_{OUT}=500mA, T_J=25^{\circ}C, C_{IN}=0.33\mu F, C_{OUT}=0.1\mu F$ ,  
unless otherwise specified

| Characteristics                        | Symbol       | Test Condition  | Min          | Typ        | Max          | Unit |
|--|--------------|---|--------------|------------|--------------|------|
| Output Voltage<br>LM78D05A<br>LM78D05B | $V_O$        |   | 4.85<br>4.75 | 5.0<br>5.0 | 5.15<br>5.25 | V    |
| Output Voltage<br>LM78D05A<br>LM78D05B | $V_O$        | $5.0mA \leq I_{OUT} \leq 1.0A, P_D \leq 15W$                      | 4.85<br>4.75 | 5.0<br>5.0 | 5.15<br>5.25 | V    |
| Line Regulation                        | $\Delta V_O$ | $7V \leq V_{IN} \leq 25V$<br>$8V \leq V_{IN} \leq 25V$            | -<br>-       | -<br>-     | 50<br>25     | mV   |
| Load Regulation                        | $\Delta V_O$ | $5.0mA \leq I_{OUT} \leq 1.5A$<br>$250mA \leq I_{OUT} \leq 750mA$ | -<br>-       | -<br>-     | 100<br>50    | mV   |
| Quiescent Current                      | $I_Q$        | $I_{OUT} \leq 1.0A$   | -            | -          | 8            | mA   |
| Quiescent Current Change               | $\Delta I_Q$ | $5.0mA \leq I_{OUT} \leq 1.5A$<br>$7V \leq V_{IN} \leq 25V$       | -<br>-       | -<br>-     | 0.5<br>1.3   | mA   |
| Dropout Voltage                        | $V_D$        | $I_{OUT} = 1.0A$  | -            | 2          | -            | V    |
| Peak Output Current                    | $I_{PK}$     |   | 1.7          | -          | -            | A    |

## TO-252 Dimension



Marking:



Style: Pin 1.Vin 2.Ground 3.Vout

3-Lead TO-252 Plastic Surface Mount Package  
CYStek Package Code: J3

\*: Typical

| DIM | Inches |        | Millimeters |      | DIM | Inches |         | Millimeters |       |
|-----|--------|--------|-------------|------|-----|--------|---------|-------------|-------|
|     | Min.   | Max.   | Min.        | Max. |     | Min.   | Max.    | Min.        | Max.  |
| A   | 0.0177 | 0.0217 | 0.45        | 0.55 | G   | 0.0866 | 0.1102  | 2.20        | 2.80  |
| B   | 0.0650 | 0.0768 | 1.65        | 1.95 | H   | -      | *0.0906 | -           | *2.30 |
| C   | 0.0354 | 0.0591 | 0.90        | 1.50 | I   | -      | 0.0354  | -           | 0.90  |
| D   | 0.0177 | 0.0236 | 0.45        | 0.60 | J   | -      | 0.0315  | -           | 0.80  |
| E   | 0.2520 | 0.2677 | 6.40        | 6.80 | K   | 0.2047 | 0.2165  | 5.20        | 5.50  |
| F   | 0.2125 | 0.2283 | 5.40        | 5.80 | L   | 0.0551 | 0.0630  | 1.40        | 1.60  |

Notes: 1.Controlling dimension: millimeters.

2.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.

3.If there is any question with packing specification or packing method, please contact your local CYStek sales office.

Material:

- Lead: 42 Alloy; solder plating
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

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