

## Three-terminal positive voltage regulator

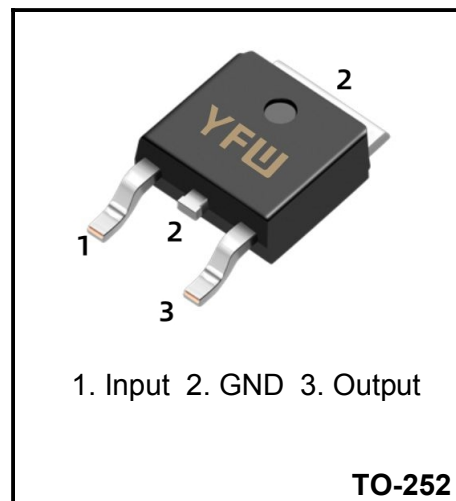
### FEATURES

- Maximum output current IOM: 1.0A
- Output voltage VO: 5V
- Continuous total dissipation PD: 1.25 W

### ABSOLUTE MAXIMUM RATINGS

Operating temperature range applies unless otherwise specified

| Parameter                            | Symbol | Value    | Unit |
|--------------------------------------|--------|----------|------|
| Input Voltage                        | V      | 35       | V    |
| Operating Junction Temperature Range | TOPR   | 0~+125   | °C   |
| Storage Temperature Range            | T      | -65~+150 | °C   |

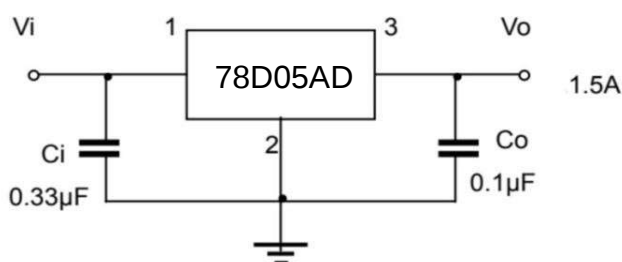


### ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE

(Vi=10V, Io=350mA, Ci=0.33μF, Co=0.1μF, unless otherwise specified)

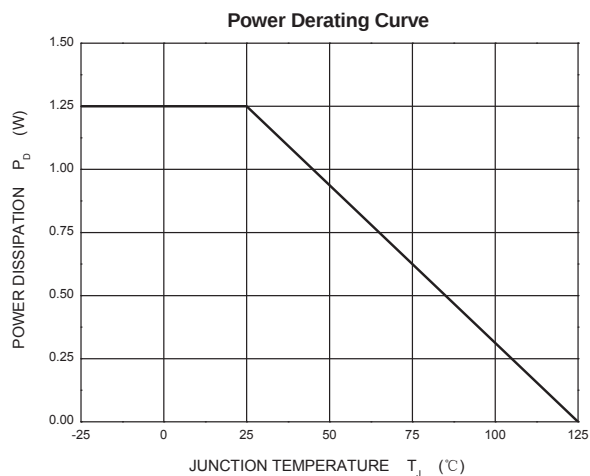
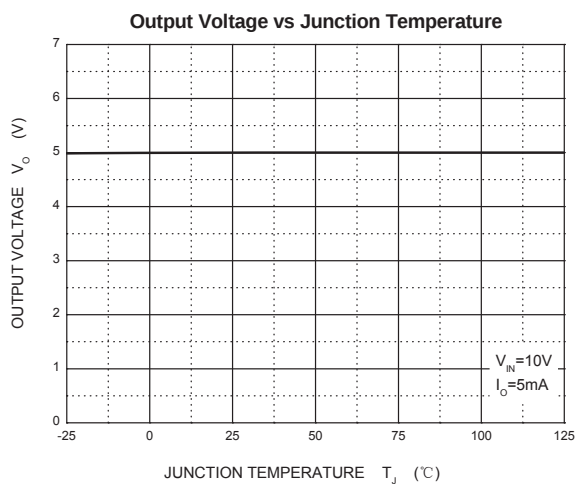
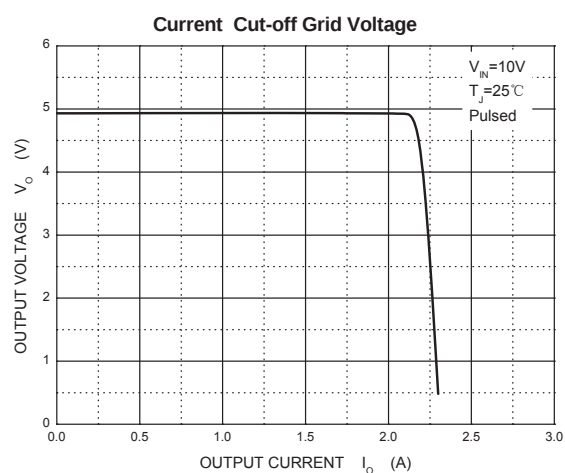
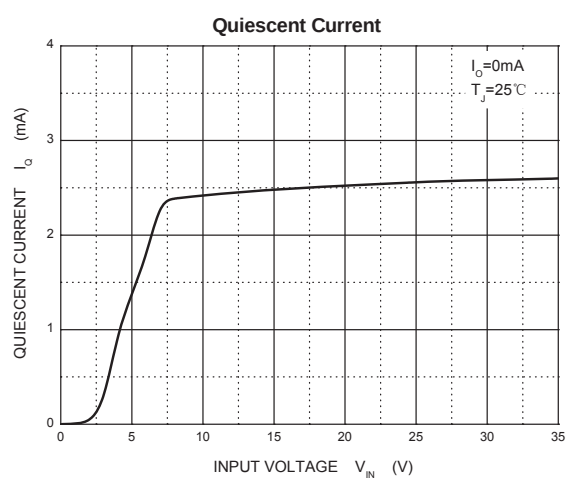
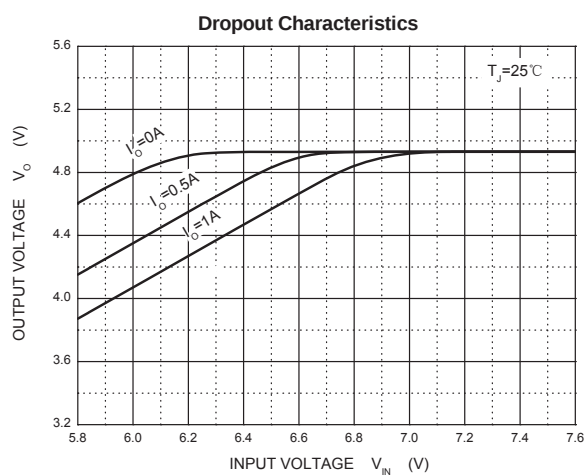
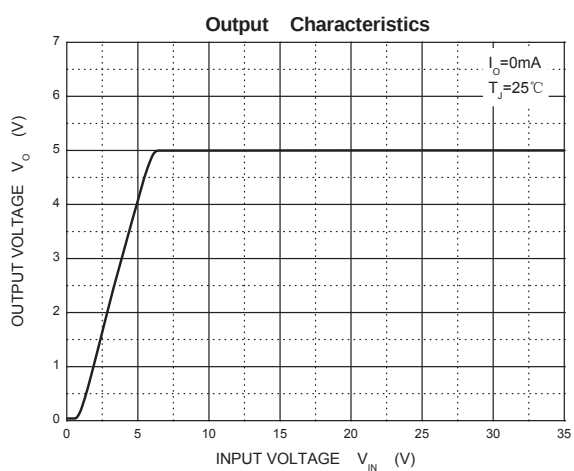
| Parameter                | Symbol | Test conditions        |           | Min  | Typ  | Max  | Unit  |
|--------------------------|--------|------------------------|-----------|------|------|------|-------|
| Output Voltage           | Vo     |                        | 25°C      | 4.8  | 5.0  | 5.2  | V     |
|                          |        | 8V≤Vi≤20V, Io=5mA-1.0A | -25-125°C | 4.75 | 5.00 | 5.25 | V     |
| Load Regulation          | ΔVo    | Io=5mA-1.0A            | 25°C      |      | 9    | 100  | mV    |
|                          |        | Io=250mA-750mA         | 25°C      |      | 4    | 50   | mV    |
| Line Regulation          | ΔVo    | 7.5V≤Vi≤20V Io=250mA   | 25°C      |      | 4    | 100  | mV    |
|                          |        | 8V≤Vi≤12V Io=250mA     | 25°C      |      | 2    | 50   | mV    |
| Quiescent Current        | Iq     |                        | 25°C      |      | 4.2  | 8    | mA    |
| Quiescent Current Change | ΔIq    | 7.5V≤Vi≤25V Io=500mA   | -25-125°C |      | 0.3  | 0.8  | mA    |
|                          |        | 5mA≤Io≤1.0A            | -25-125°C |      | 0.03 | 0.5  | mA    |
| Output Noise Voltage     | VN     | 10Hz≤f≤100KHz          | 25°C      |      | 42   |      | μV/Vo |
| Output voltage drift     | ΔVo/ΔT | Io=5mA                 | -25-125°C |      | -0.3 |      | mV/°C |
| Ripple Rejection         | RR     | 8V≤Vi≤18V, f=120Hz     | -25-125°C | 62   | 73   |      | dB    |
| Dropout Voltage          | Vd     | Io=1.0A                | 25°C      |      | 2    |      | V     |
| Output resistance        | RO     | f=1KHz                 | 25°C      |      | 10   |      | mA    |
| Short Circuit Current    | Isc    |                        | 25°C      |      | 200  |      | mA    |
| Peak Current             | Ipk    |                        | 25°C      |      | 2.2  |      | A     |

### TYPICAL CHARACTERISTICS

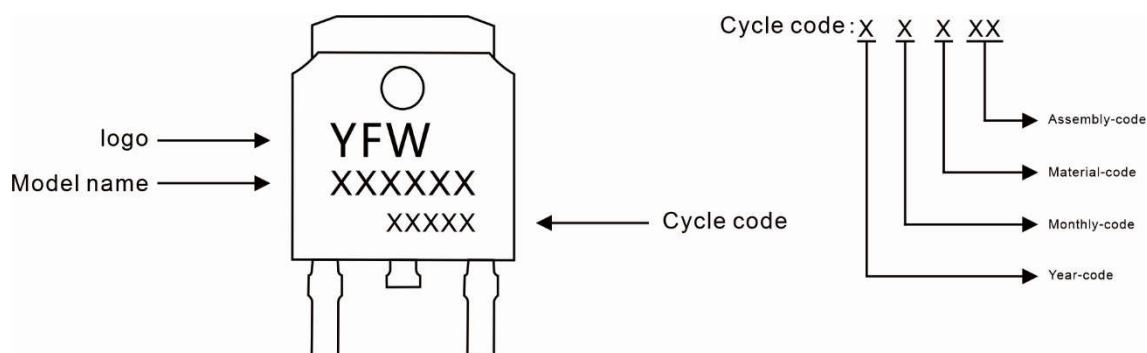


Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

**RATINGS AND CHARACTERISTIC CURVES**



## Marking Diagram



## Ordering information

| Model name | Package | Unit Weight    | Base Quantity | Packing Quantity            |
|------------|---------|----------------|---------------|-----------------------------|
| 78D05AD    | TO-252  | 0.011oz(0.32g) | 2500pcs/reel  | 5000pcs/box 25000pcs/Carton |

## Package Dimensions

### TO-252

| Dim | Millimeter |       | Inches |       |
|-----|------------|-------|--------|-------|
|     | Min.       | Max.  | Min.   | Max.  |
| A   | 2.20       | 2.50  | 0.087  | 0.098 |
| A1  | 0.00       | 0.12  | 0.000  | 0.005 |
| A2  | 2.20       | 2.40  | 0.087  | 0.094 |
| B   | 1.20       | 1.60  | 0.047  | 0.063 |
| b   | 0.50       | 0.70  | 0.020  | 0.028 |
| b1  | 0.70       | 0.90  | 0.028  | 0.035 |
| c   | 0.40       | 0.60  | 0.016  | 0.024 |
| c1  | 0.40       | 0.60  | 0.016  | 0.024 |
| D   | 6.35       | 6.65  | 0.250  | 0.262 |
| D1  | 5.20       | 5.40  | 0.205  | 0.213 |
| E   | 5.40       | 5.70  | 0.213  | 0.224 |
| e   | 2.20       | 2.40  | 0.087  | 0.094 |
| e1  | 4.40       | 4.80  | 0.173  | 0.189 |
| L   | 10.00      | 11.00 | 0.393  | 0.433 |
| L1  | 2.70       | 3.10  | 0.106  | 0.122 |
| L2  | 1.40       | 1.80  | 0.055  | 0.071 |
| L3  | 0.90       | 1.50  | 0.035  | 0.059 |

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