

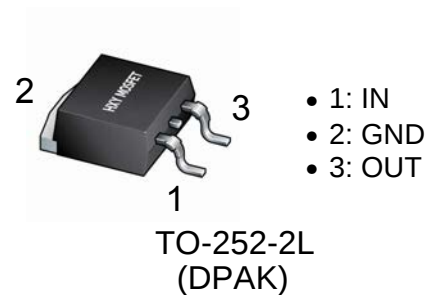


## Features

- Available Output Voltage: 5.0V
- Maximum Input Voltage: 35V
- Maximum Output Current:  
Exceed 500mA at  $T_J = 25^{\circ}\text{C}$
- Output Tolerances:  
 $\pm 3\%$  at  $T_J = 25^{\circ}\text{C}$   
 $\pm 5\%$  over the Operating  $T_J$
- No External Components

## Applications

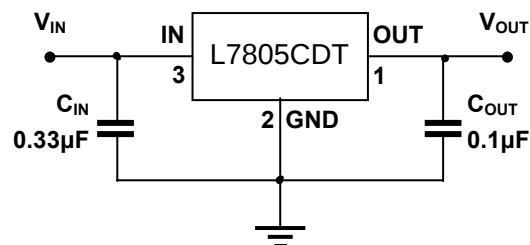
- Motor Drives
- On-Card Regulation
- Portable Devices
- Telecommunications
- TVs and Set-top Boxes



## Package Marking and Ordering Information

| Product ID | Pack                | Marking | Qty(PCS) |
|------------|---------------------|---------|----------|
| L7805CDT   | TO-252-2L<br>(DPAK) | 78M05   | 2500     |

## Typical Application Circuit





### Absolute Maximum Ratings

| CHARACTERISTIC               | SYMBOL       | VALUE      | UNIT |
|------------------------------|--------------|------------|------|
| Maximum input voltage        | $V_{IN}$     | 35         | V    |
| Maximum junction temperature | $T_{J\ Max}$ | 150        | °C   |
| Storage temperature          | $T_{stg}$    | - 65 ~ 150 | °C   |
| Soldering temperature & time | $T_{solder}$ | 260°C, 10s | -    |

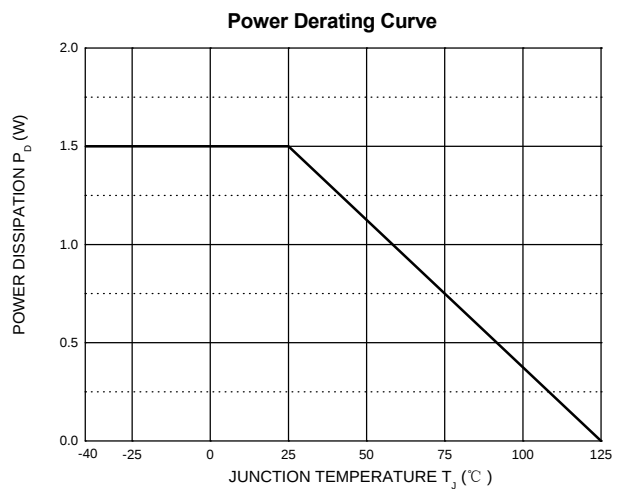
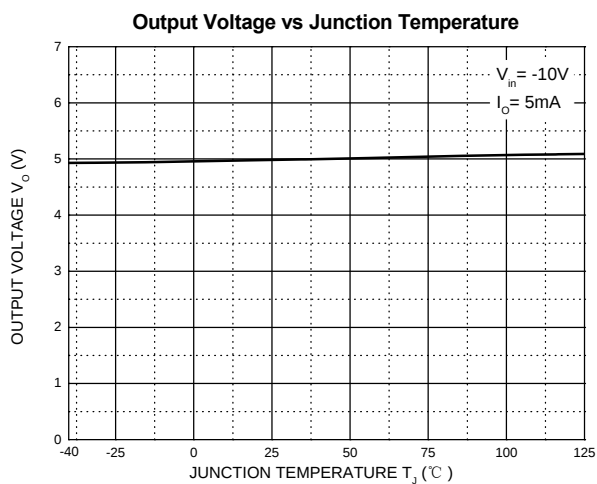
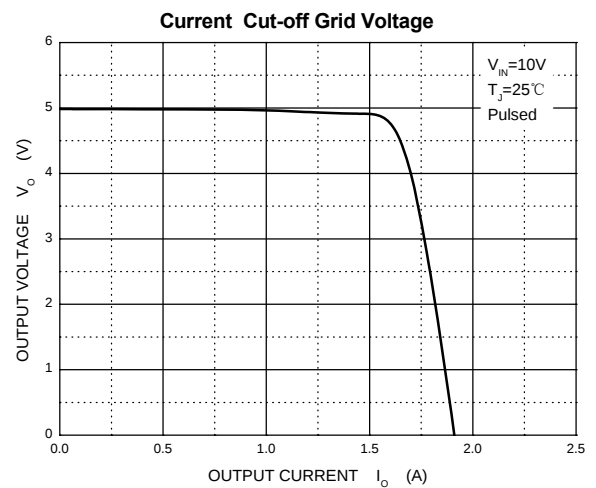
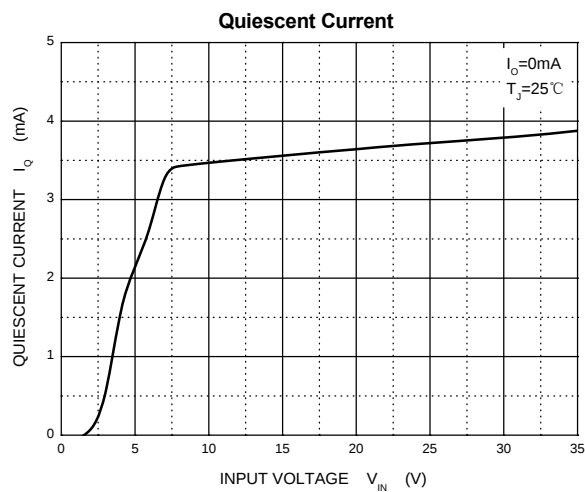
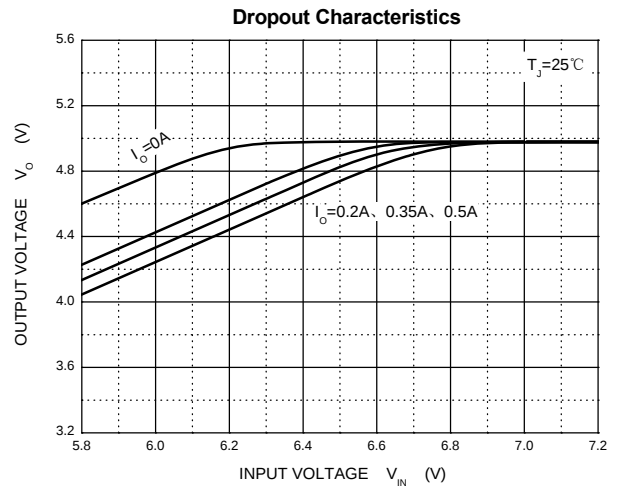
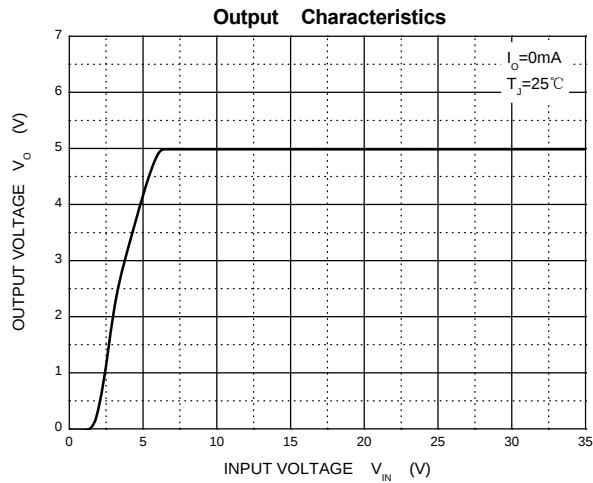
### Electrical Characteristics

78M05 ( $V_{IN} = 10V$ ,  $I_{OUT} = 350mA$ ,  $C_{IN} = 0.33\mu F$ ,  $C_{OUT} = 0.1\mu F$ ,  $T_J = 25^\circ C$ , unless otherwise specified)

| CHARACTERISTIC           | SYMBOL       | TEST CONDITIONS                                      | MIN. | TYP. | MAX. | UNIT    |
|--------------------------|--------------|------------------------------------------------------|------|------|------|---------|
| Output voltage           | $V_{OUT}$    | -                                                    | 4.85 | 5.00 | 5.15 | V       |
|                          |              | $V_{IN} = 7$ to 20V, $I_{OUT} = 5$ to 350mA          | 4.75 | 5.00 | 5.25 |         |
| Line regulation          | LNR          | $V_{IN} = 7$ to 25V, $I_{OUT} = 200mA$               | -    | 3.0  | 100  | mV      |
|                          |              | $V_{IN} = 8$ to 25V, $I_{OUT} = 200mA$               | -    | 1.0  | 50   |         |
| Load regulation          | LDR          | $I_{OUT} = 5$ to 500mA                               | -    | 15   | 100  | mV      |
|                          |              | $I_{OUT} = 5$ to 200mA                               | -    | 5.0  | 50   |         |
| Quiescent current        | $I_Q$        | -                                                    | -    | 4.2  | 6.0  | mA      |
| Quiescent current change | $\Delta I_Q$ | $V_{IN} = 8$ to 25V, $I_{OUT} = 200mA$               | -    | -    | 0.8  | mA      |
|                          |              | $I_{OUT} = 5$ to 350mA                               | -    | -    | 0.5  |         |
| Output noise voltage     | $V_N$        | $f = 10$ to 100kHz                                   | -    | 40   | 200  | $\mu V$ |
| Ripple rejection         | RR           | $V_{IN} = 8$ to 18V, $I_{OUT} = 300mA$ , $f = 120Hz$ | 62   | 80   | -    | dB      |
| Dropout voltage          | $V_D$        | $I_{OUT} = 350mA$                                    | -    | 2.0  | 2.5  | V       |
| Short circuit current    | $I_{SC}$     | $V_{IN} = 10V$ , OUT short to GND                    | -    | 300  | -    | mA      |
| Peak current             | $I_{Peak}$   | -                                                    | -    | 0.5  | -    | A       |

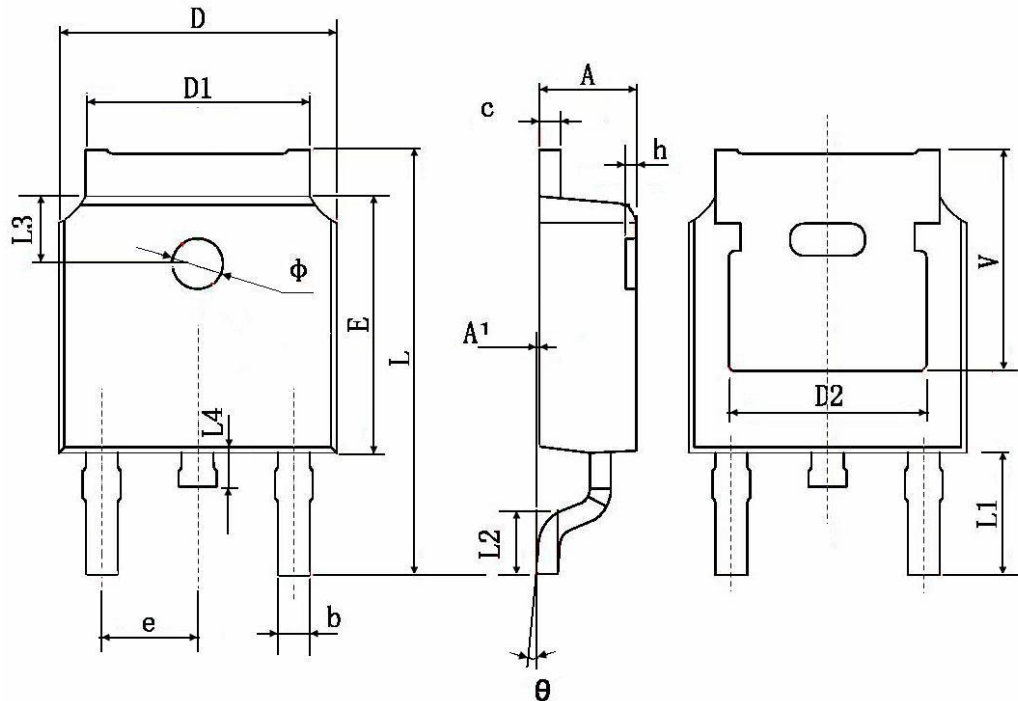


## Typical Characteristics





## TO-252-2L(DPAK) Package Information



| Symbol | Dimensions In Millimeters |        | Dimensions In Inches |       |
|--------|---------------------------|--------|----------------------|-------|
|        | Min.                      | Max.   | Min.                 | Max.  |
| A      | 2.200                     | 2.400  | 0.087                | 0.094 |
| A1     | 0.000                     | 0.127  | 0.000                | 0.005 |
| b      | 0.660                     | 0.860  | 0.026                | 0.034 |
| c      | 0.460                     | 0.580  | 0.018                | 0.023 |
| D      | 6.500                     | 6.700  | 0.256                | 0.264 |
| D1     | 5.100                     | 5.460  | 0.201                | 0.215 |
| D2     | 0.483 TYP.                |        | 0.190 TYP.           |       |
| E      | 6.000                     | 6.200  | 0.236                | 0.244 |
| e      | 2.186                     | 2.386  | 0.086                | 0.094 |
| L      | 9.800                     | 10.400 | 0.386                | 0.409 |
| L1     | 2.900 TYP.                |        | 0.114 TYP.           |       |
| L2     | 1.400                     | 1.700  | 0.055                | 0.067 |
| L3     | 1.600 TYP.                |        | 0.063 TYP.           |       |
| L4     | 0.600                     | 1.000  | 0.024                | 0.039 |
| Φ      | 1.100                     | 1.300  | 0.043                | 0.051 |
| θ      | 0°                        | 8°     | 0°                   | 8°    |
| h      | 0.000                     | 0.300  | 0.000                | 0.012 |
| V      | 5.350 TYP.                |        | 0.211 TYP.           |       |



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