



## FEATURES

- Available Output Voltage:12V
- 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

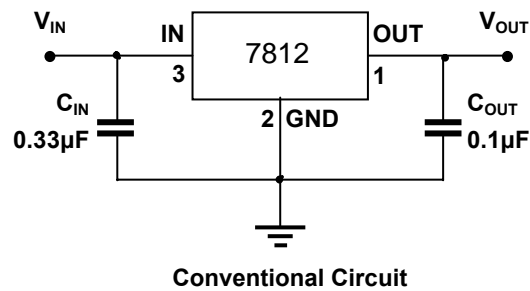
- Motor Drives
- On-Card Regulation
- Portable Devices
- Telecommunications
- TVs and Set-top Boxes



## Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
L7805CDT	TO-252-2L	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

78M12 ( $V_{IN} = 19V$ ,  $I_{OUT} = 350mA$ ,  $C_{IN} = 0.33\mu F$ ,  $C_{OUT} = 0.1\mu F$ ,  $T_J = 25^\circ C$ , unless otherwise specified)

CHARACTERISTIC	SYMBOL	TEST CONDITIONS <sup>①</sup>	MIN.	TYP. <sup>②</sup>	MAX.	UNIT
Output voltage <sup>(3)</sup>	$V_{OUT}$	-	11.64	12.00	12.36	V
		$V_{IN} = 14.5$ to $27V$ , $I_{OUT} = 5$ to $350mA$	11.40	12.00	12.60	
Line regulation	LNR	$V_{IN} = 14.5$ to $30V$ , $I_{OUT} = 200mA$	-	10	100	mV
		$V_{IN} = 16$ to $30V$ , $I_{OUT} = 200mA$	-	3.0	50	
Load regulation	LDR	$I_{OUT} = 5$ to $500mA$	-	25	240	mV
		$I_{OUT} = 5$ to $200mA$	-	10	120	
Quiescent current	$I_Q$	-	-	4.6	6.0	mA
Quiescent current change	$\Delta I_Q$	$V_{IN} = 14.5$ to $30V$ , $I_{OUT} = 200mA$	-	-	0.8	mA
		$I_{OUT} = 5$ to $350mA$	-	-	0.5	
Output noise voltage	$V_N$	$f = 10$ to $100kHz$	-	75	-	$\mu V$
Ripple rejection	RR	$V_{IN} = 15$ to $25V$ , $I_{OUT} = 300mA$ , $f = 120Hz$	55	80	-	dB
Dropout voltage <sup>(4)</sup>	$V_D$	$I_{OUT} = 350mA$	-	2.0	-	V
Short circuit current	$I_{SC}$	$V_{IN} = 19V$ , OUT short to GND	-	240	-	mA
Peak current	$I_{Peak}$	-	-	0.7	-	A

#### Note:

(1) Pulse test technology is used to make  $T_J$  as close to  $T_A$  as possible. Thermal effects must be considered separately.

(2) Typical numbers are at  $25^\circ C$  ( $T_J$ ) and represent the most likely norm.

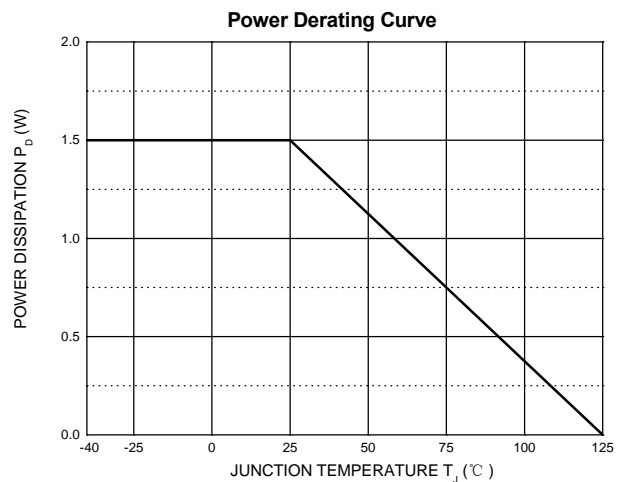
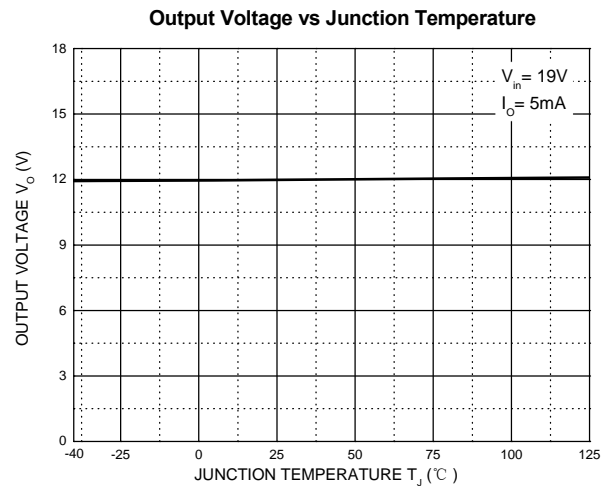
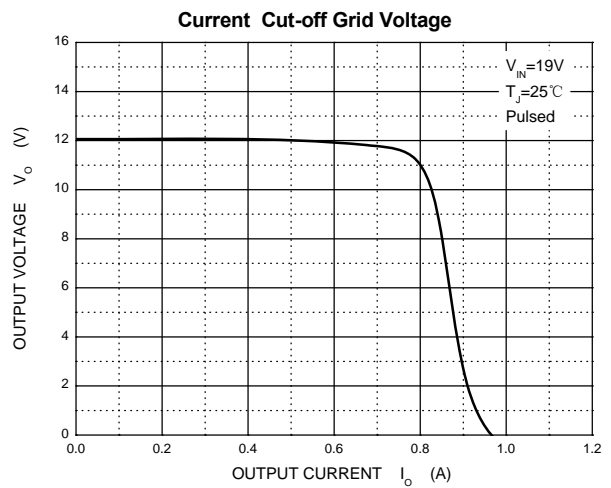
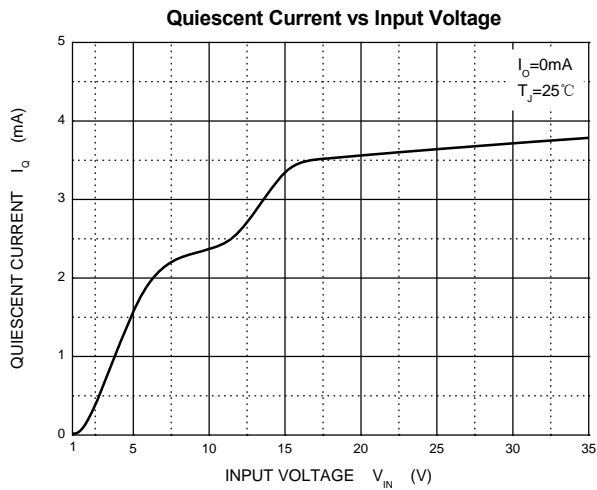
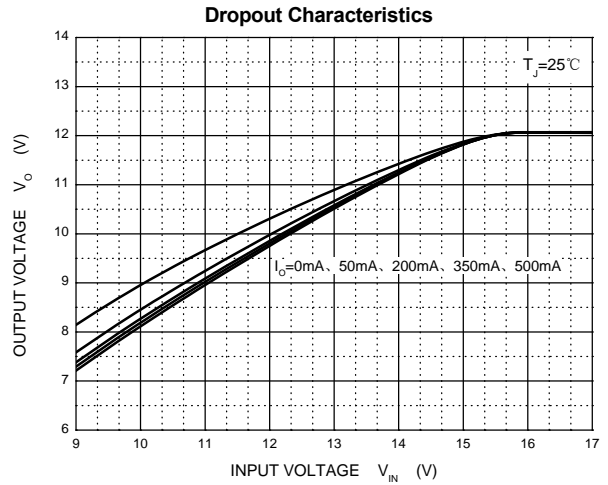
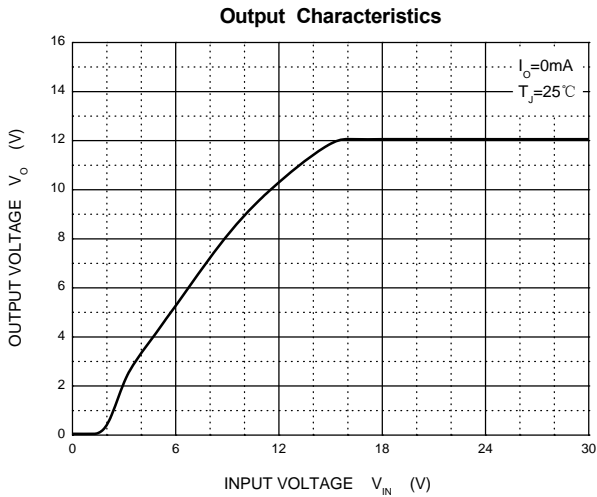
(3) This specification only applies to the DC power consumption allowed by the absolute maximum rating.

(4) The difference of output voltage and input voltage when input voltage is decreased gradually till output voltage equals to 95% of  $V_{OUT}$ .



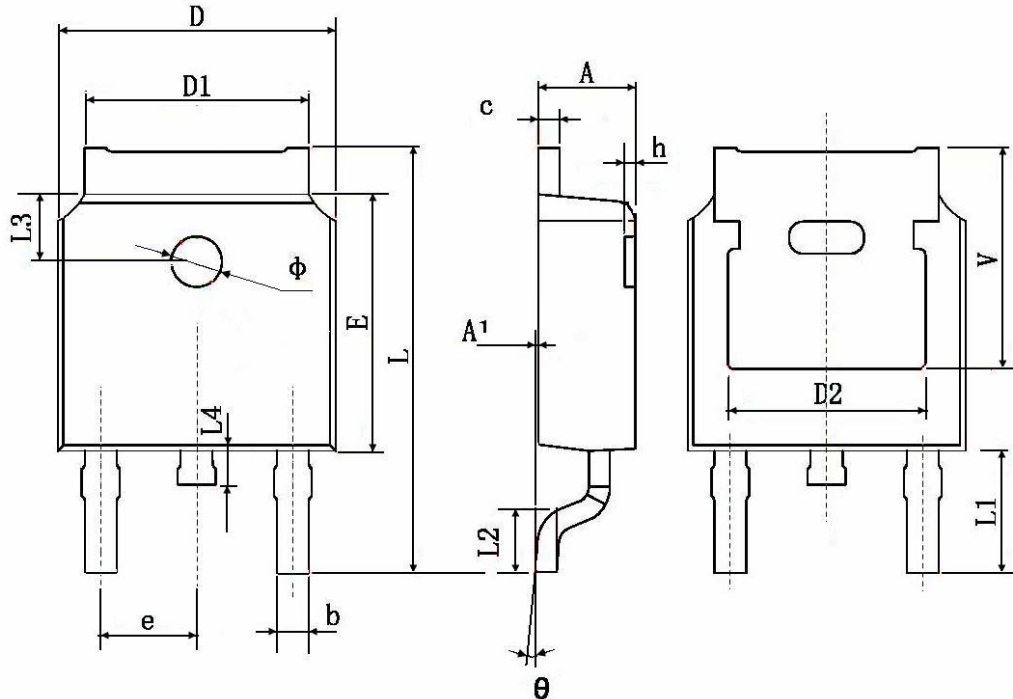
### Typical Characteristics

( $C_{IN} = 0.33\mu F$ ,  $C_{OUT} = 0.1\mu F$ ,  $T_J = 25^\circ C$ , unless otherwise specified)





### TO252-2L 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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