

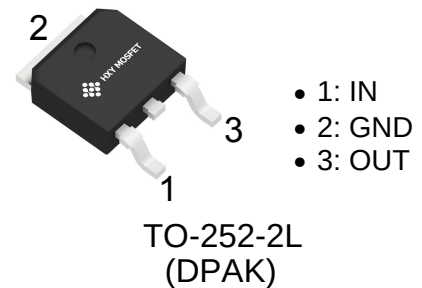


Features

- Available Output Voltage:12V
- Maximum Input Voltage: 35V
- Maximum Output Current:
Exceed 1A 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

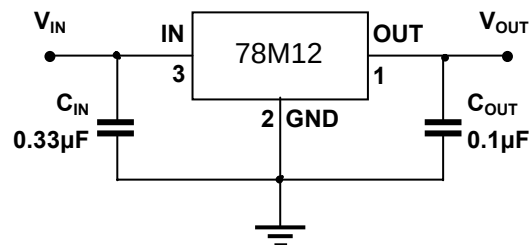
- Motor Drives
- On-Card Regulation
- Portable Devices
- Telecommunications
- TVs and Set-top Boxes



Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
78M12	TO-252-2L (DPAK)	78M12	2500

Typical Application Circuit



Conventional 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

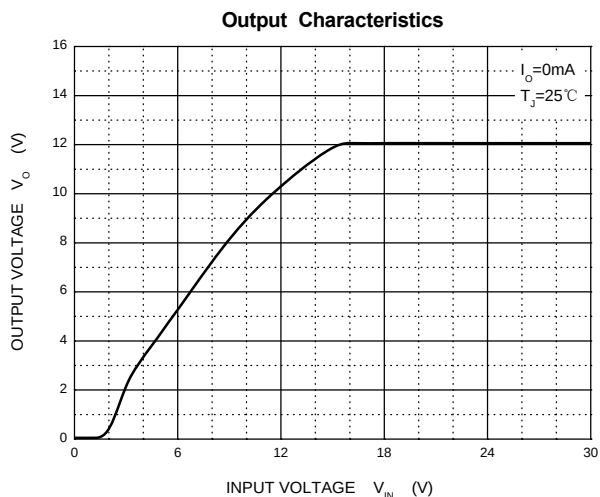
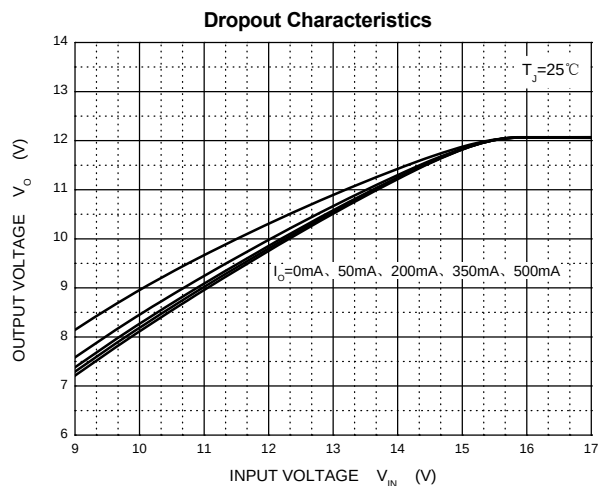
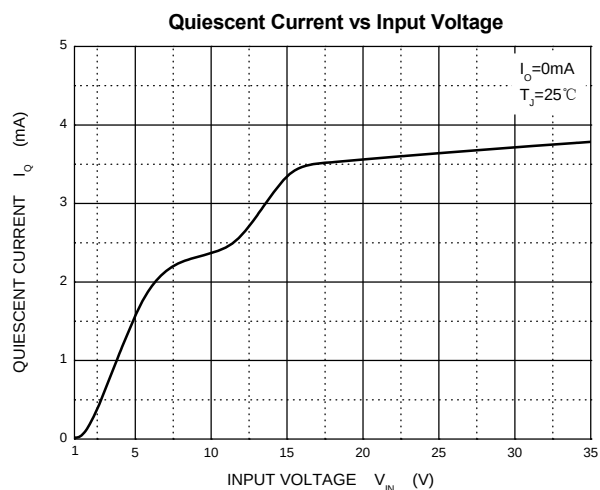
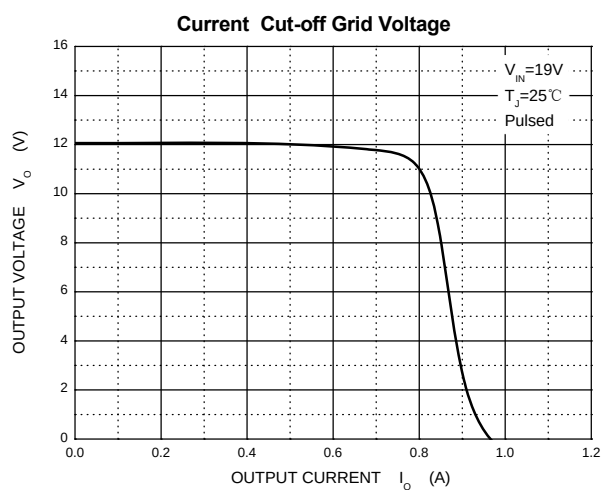
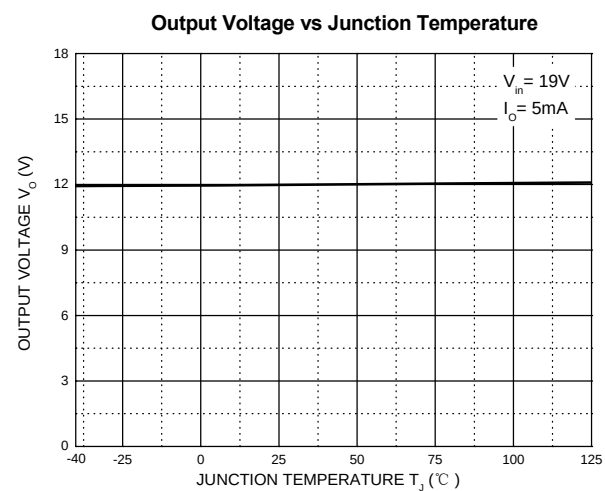
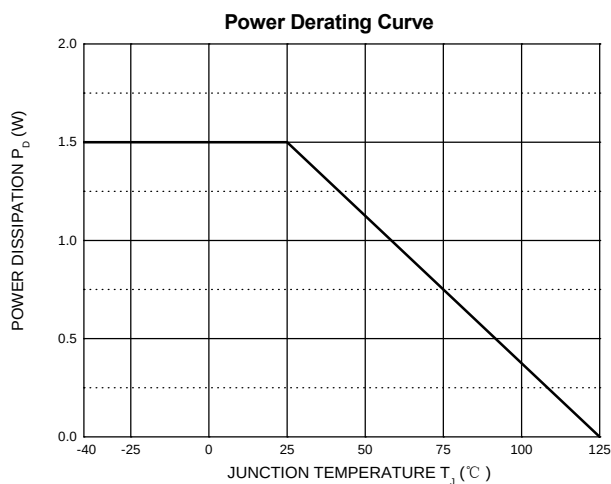
78M12 ($V_{IN} = 19V$, $I_{OUT} = 500mA$, $C_{IN} = 0.33\mu F$, $C_{OUT} = 0.1\mu F$, $T_J = 25^\circ C$, unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Units
Output voltage	V_o	$T_J=25^\circ C$	11.5	12	12.5	V
		$5.0mA < I_o < 1.0A, P_o < 15W$ $V_i = 14.5V$ to $27V$	11.4	12	12.6	V
Line regulation	ΔV_o	$T_J=25^\circ C, V_i = 14.5V$ to $30V$			240	mV
		$T_J=25^\circ C, V_i = 16V$ to $22V$			120	mV
Load regulation	ΔV_o	$T_J=25^\circ C, I_o = 5.0mA$ to $1.0A$			240	mV
		$T_J=25^\circ C, I_o = 250mA$ to $750mA$			120	mV
Quiescent current	I_Q	$T_J=25^\circ C$		4.4	8	mA
Quiescent current change	ΔI_Q	$I_o = 5mA$ to $1.0A$			0.5	mA
		$V_i = 15V$ to $30V, I_o = 500mA$			0.8	mA
Output voltage drift	$\Delta V_o / \Delta T$	$I_o = 5mA$		1.5		mV/°C
Output noise voltage	V_N	$f = 10Hz$ to $100kHz, T_a = 25^\circ C$		42		$\mu V / V_o$
Ripple rejection	RR	$f = 120Hz, V_i = 15V$ to $25V$		60		dB
Dropout voltage	V_o	$I_o = 1.0A, T_J = 25^\circ C$		2		V
Output resistance	R_o	$f = 1kHz$		18		m Ω
Short circuit current	I_{sc}	$V_i = 35V, T_a = 25^\circ C$		200		mA



Typical Characteristics

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





78M12
Three terminal voltage regulator

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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