

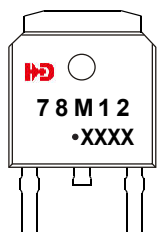
## TO-252-2L Plastic-Encapsulate Voltage Regulators

Three-terminal positive voltage regulator

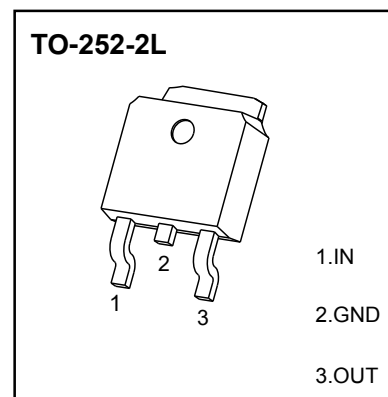
### Feature

- Maximum Output current  $I_{OM}$  : 1.0A
- Output Voltage  $V_o$ : 1.2V

### MARKING



78M12 = Device code  
 Solid dot = Green molding compound device  
 if none, the normal device  
 XXXX = Code



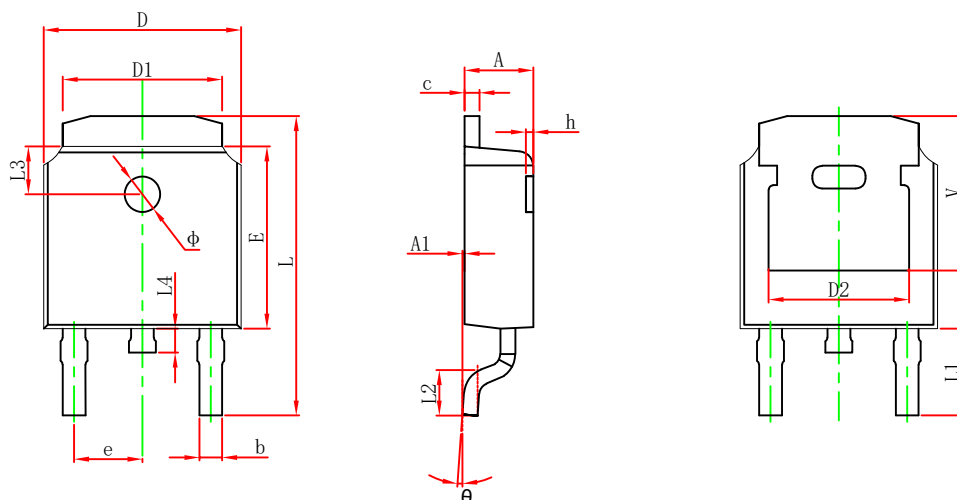
### ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	$V_i$	35	V
Thermal Resistance from Junction to Air	$R_{\theta JA}$	65	$^{\circ}C/W$
Operating Junction Temperature Range	$T_{OPR}$	-20~+125	$^{\circ}C$
Storage Temperature Range	$T_{STG}$	-65~+150	$^{\circ}C$

(Refer to test circuits,  $0 < T_j < 125^{\circ}C$ ,  $I_o = 500mA$ ,  $V_i = 19V$ ,  $C_i = 0.33\mu F$ ,  $C_o = 0.1\mu F$ , unless otherwise specified)

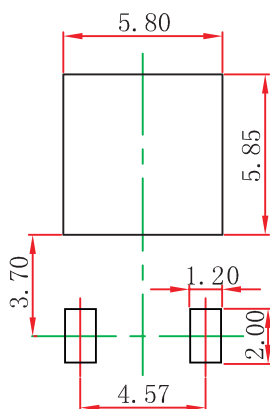
Characteristic	Symbol	Test Conditions	Min	Typ	Max	Units
Output voltage	$V_o$	$T_j = 25^{\circ}C$	11.5	12.0	12.5	V
		$5.0mA < I_o < 1.0A$ , $P_D < 15W$ $V_i = 14.5V$ to $27V$	11.4	12	12.6	V
Line regulation	$\Delta V_o$	$T_j = 25^{\circ}C$ , $V_i = 14.5V$ to $30V$	-	10	240	mV
		$T_j = 25^{\circ}C$ , $V_i = 16V$ to $22V$	-	3	120	mV
Load regulation	$\Delta V_o$	$T_j = 25^{\circ}C$ , $I_o = 5.0mA$ to $1.5A$	-	12	240	mV
		$T_j = 25^{\circ}C$ , $I_o = 250mA$ to $750mA$	-	5.0	120	mV
Quiescent current	$I_Q$	$T_j = 25^{\circ}C$	-	5.1	8	mA
Quiescent current change	$\Delta I_Q$	$I_o = 5mA$ to $1.0A$	-	-	0.5	mA
		$V_i = 15V$ to $30V$	-	-	0.8	mA
Output voltage drift	$\Delta V_o / \Delta T$	$I_o = 5mA$	-	1.7	-	mV/ $^{\circ}C$
Output noise voltage	$V_N$	$f = 10Hz$ to $100kHz$ , $T_a = 25^{\circ}C$	-	76	-	$\mu V$
Ripple rejection	RR	$f = 120Hz$ , $V_i = 15V$ to $25V$	53	64	-	dB
Dropout voltage	$V_o$	$I_o = 1.0A$ , $T_j = 25^{\circ}C$	-	2	-	V
Output resistance	$R_o$	$f = 1kHz$	-	18	-	m $\Omega$
Short circuit current	$I_{sc}$	$V_i = 35V$ , $T_a = 25^{\circ}C$	-	230	-	mA
peak current	$I_{pk}$	$T_j = 25^{\circ}C$	-	2.2	-	A

## TO-252-2L Package Outline Dimensions



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	0.635	0.770	0.025	0.030
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	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.712	10.312	0.382	0.406
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
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	5.250 REF.		0.207 REF.	

## TO-252-2L Suggested Pad Layout



### Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

### NOTICE

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