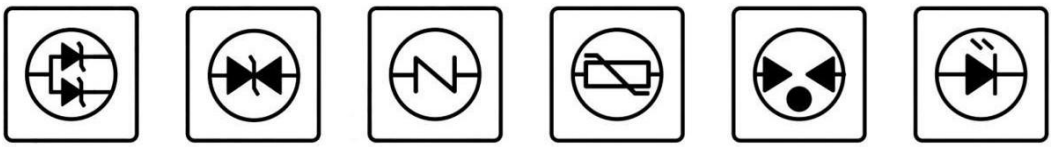
EN: This Datasheet/Document is presented by the manufacturer.

Please visit our website for pricing and availability at www.hestore.hu.

MSKSEMI 美森科
SEMICONDUCTOR



L7810CV(MS)

Product specification

Three-terminal positive voltage regulator

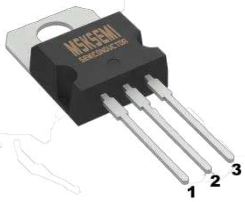
FEATURES

- Maximum Output current I_{OM} : 1.5 A
- Output voltage Vo:10V
- Continuous total dissipation

  P_D: 1.5 W (T_a = 25 ℃)

  15 W(T_c = 25 ℃)

Reference News

PACKAGE OUTLINE	Marking
 1.IN 2.GND 3.OUT	MSKSEMI L7810CV CHN MS**

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

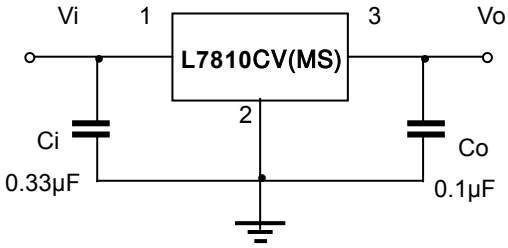
Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	83.3	℃/W
Thermal Resistance from Junction to Case	$R_{\theta JC}$	8.3	℃/W
Operating Junction Temperature Range	T_{OPR}	0~+150	℃
Storage Temperature Range	T_{STG}	-55~+150	℃

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JINCTION TEMPERATURE

(Vi=14V,Io=500mA, Ci=0.33μF, Co=0.1μF, unless otherwise specified)

Parameter	Symbol	Test conditions		Min	Typ	Max	Unit
Output Voltage	Vo		25℃	9.7	10	10.3	V
		10.5V≤V_i≤23V, Io=5mA-1A, P≤15W	0-125℃	9.5	10	10.5	V
Load Regulation	ΔVo	Io=5mA-1.5A	25℃		12	160	mV
		Io=250mA-750mA	25℃		4	80	mV
Line Regulation	ΔVo	10.5V≤V_i≤25V	25℃		6	160	mV
		11V≤V_i≤17V	25℃		2	80	mV
Quiescent Current	Iq		25℃		4.3	8	mA
Quiescent Current Change	ΔIq	10.5V≤V_i≤25V	0-125℃			1	mA
		5mA≤I_O≤1A	0-125℃			0.5	mA
Output Voltage Drift	$\Delta V_O/\Delta T$	I_O=5mA	0-125℃		-0.8		mV/℃
Output Noise Voltage	V_N	10Hz≤f≤100KHz	25℃		52		μV
Ripple Rejection	RR	11.5V≤V_i≤21.5V,f=120Hz	0-125℃	55	72		dB
Dropout Voltage	Vd	Io=1A	25℃		2		V
Output Resistance	R_O	f=1KHz	25℃		10		mΩ
Short Circuit Current	Isc		25℃		450		mA
Peak Current	Ipk		25℃		2.0		A

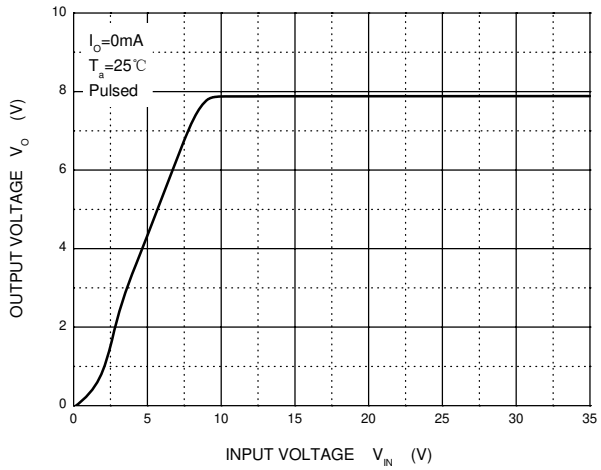
TYPICAL APPLICATION



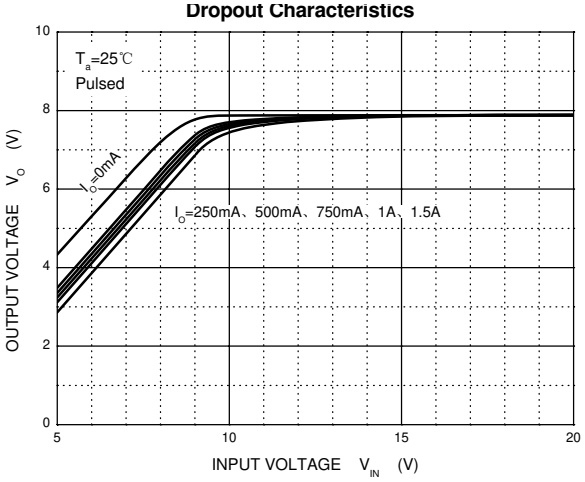
Copyright© Msksemi Incorporated

Typical Characterisitics

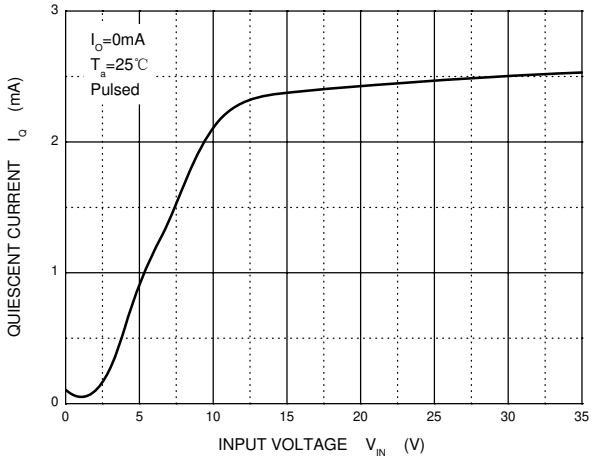
Output Characteristics



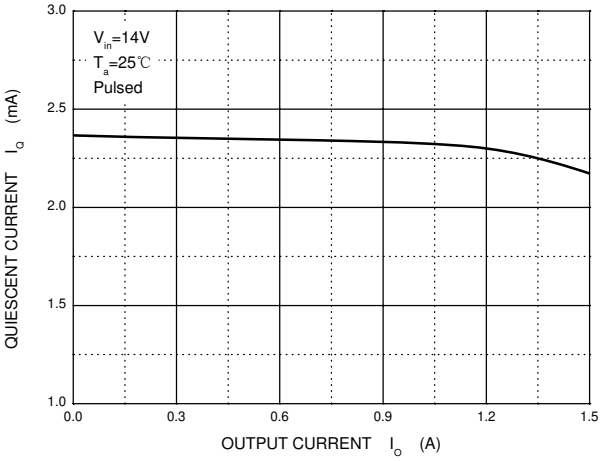
Dropout Characteristics



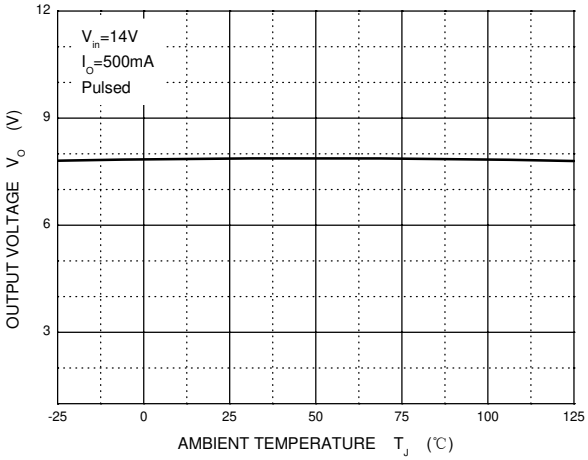
Quiescent Current vs Input Voltage



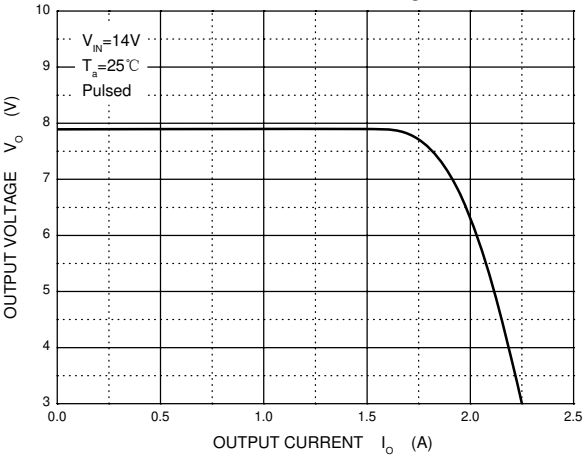
Quiescent Current vs Output Current



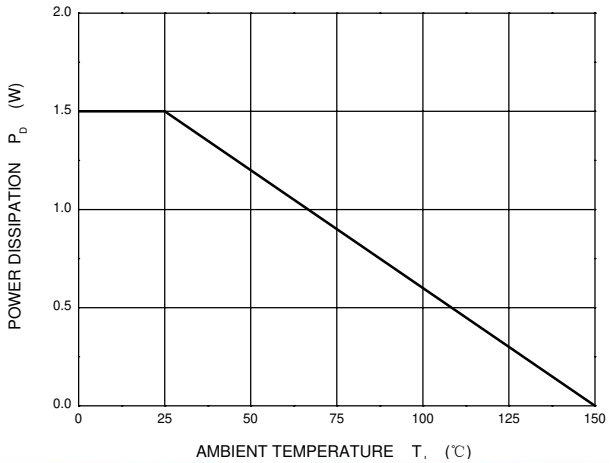
Output Voltage vs Ambient Temperature



Current Cut-off Grid Voltage

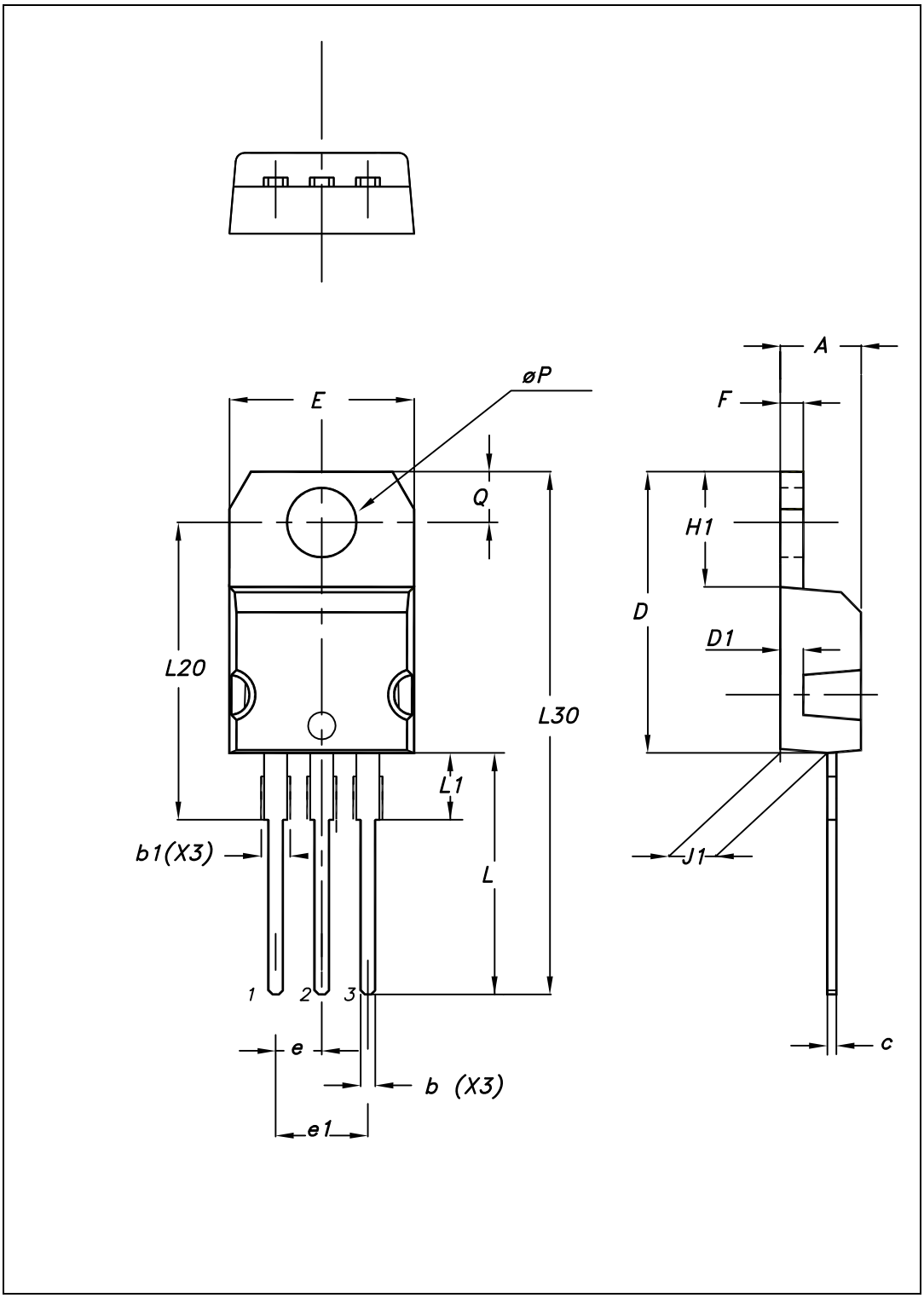


Power Derating Curve



Copyright© Msksemi Incorporated

Package mechanical data



Copyright© Msksemi Incorporated

Package mechanical data

Dim.	mm		
	Min.	Typ.	Max.
A	4.40		4.60
b	0.61		0.88
b1	1.14		1.70
c	0.48		0.70
D	15.25		15.75
D1		1.27	
E	10		10.40
e	2.40		2.70
e1	4.95		5.15
F	1.23		1.32
H1	6.20		6.60
J1	2.40		2.72
L	13		14
L1	3.50		3.93
L20		16.40	
L30		28.90	
∅P	3.75		3.85
Q	2.65		2.95

REEL SPECIFICATION

P/N	PKG	QTY
L7810CV(MS)	TO-220	50/One tube 1000/a box of

Copyright© Msksemi Incorporated

Attention

■ Any and all MSKSEMI Semiconductor products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your MSKSEMI Semiconductor representative nearest you before using any MSKSEMI Semiconductor products described or contained herein in such applications.

■ MSKSEMI Semiconductor assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specificationsof any andall MSKSEMI Semiconductor products described orcontained herein.

■ Specifications of any and all MSKSEMI Semiconductor products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate and test devices mounted in the customer'sproducts orequipment.

■ MSKSEMI Semiconductor. strives to supply high-quality high-reliability products. However, any and all semiconductor products fail with someprobability. It is possiblethat these probabilistic failures could give rise to accidents or events that could endanger human lives, that could give rise to smoke or fire, or that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits anderror prevention circuitsfor safedesign, redundant design, and structural design.

■ In the event that any or all MSKSEMI Semiconductor products(including technical data, services) described or contained herein are controlled under any of applicable local export control laws and regulations, such products must not be exported without obtaining the export license from theauthorities concerned in accordance with the above law.

■ No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or any information storage or retrieval system, or otherwise, without the prior written permission of MSKSEMI Semiconductor.

■ Information (including circuit diagrams and circuit parameters) herein is for example only ; it is not guaranteed for volume production. MSKSEMI Semiconductor believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringementsof intellectual property rights or other rightsof third parties.

■ Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. Whendesigning equipment, referto the "Delivery Specification" for the MSKSEMI Semiconductor productthat you intend to use.

Copyright© Msksemi Incorporated