

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

L7810CV(MS)

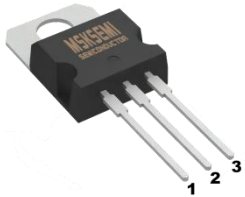

Product specification

Three-terminal positive voltage regulator

FEATURES

- Maximum Output current I_{OM} : 1.5 A
- Output voltage V_o:10V
- Continuous total dissipation
P_D: 1.5 W (T_a = 25 °C)
15 W(T_c = 25 °C)

Reference News

PACKAGE OUTLINE	Marking
 <p>1.IN 2.GND 3.OUT</p>	

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

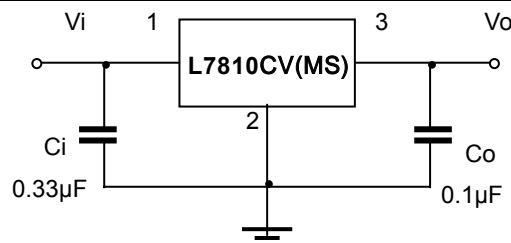
Parameter	Symbol	Value	Unit
Input Voltage	V _i	35	V
Thermal Resistance from Junction to Ambient	R _{θJA}	83.3	°C/W
Thermal Resistance from Junction to Case	R _{θJC}	8.3	°C/W
Operating Junction Temperature Range	T _{OPR}	0~+150	°C
Storage Temperature Range	T _{STG}	-55~+150	°C

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE

(V_i=14V, I_o=500mA, C_i=0.33μF, C_o=0.1μF, unless otherwise specified)

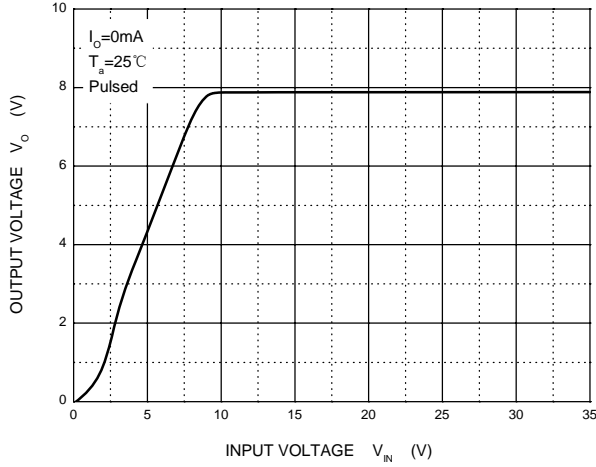
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit	
Output Voltage	V _o	25°C	9.7	10	10.3	V	
		10.5V≤V _i ≤23V, I _o =5mA-1A, P≤15W	0-125°C	9.5	10	10.5	V
Load Regulation	ΔV _o	I _o =5mA-1.5A	25°C		12	160	mV
		I _o =250mA-750mA	25°C		4	80	mV
Line Regulation	ΔV _o	10.5V≤V _i ≤25V	25°C		6	160	mV
		11V≤V _i ≤17V	25°C		2	80	mV
Quiescent Current	I _q	25°C		4.3	8	mA	
Quiescent Current Change	ΔI _q	10.5V≤V _i ≤25V	0-125°C			1	mA
		5mA≤I _o ≤1A	0-125°C			0.5	mA
Output Voltage Drift	ΔV _o /ΔT	I _o =5mA	0-125°C		-0.8	mV/°C	
Output Noise Voltage	V _N	10Hz≤f≤100KHz	25°C		52	μV	
Ripple Rejection	RR	11.5V≤V _i ≤21.5V, f=120Hz	0-125°C	55	72	dB	
Dropout Voltage	V _d	I _o =1A	25°C		2	V	
Output Resistance	R _o	f=1KHz	25°C		10	mΩ	
Short Circuit Current	I _{sc}	25°C		450		mA	
Peak Current	I _{pk}	25°C		2.0		A	

TYPICAL APPLICATION

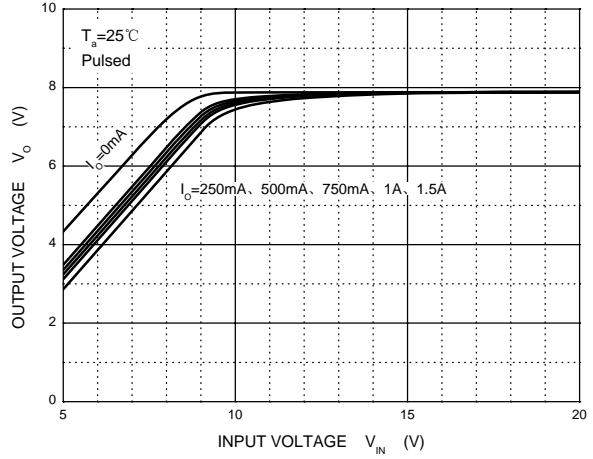


Typical Characteristics

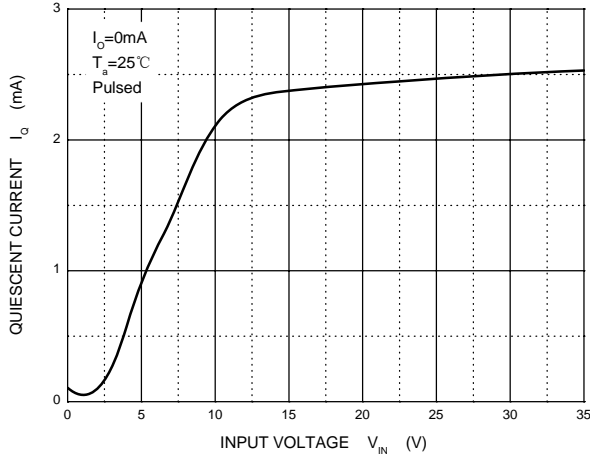
Output Characteristics



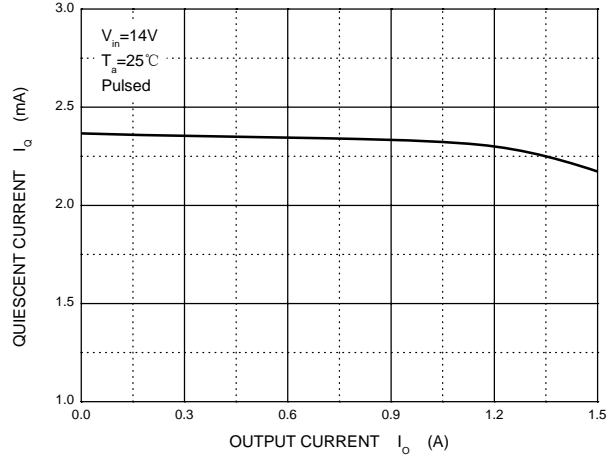
Dropout Characteristics



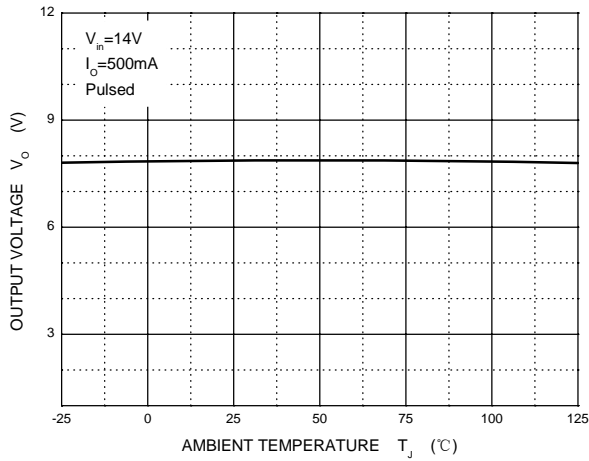
Quiescent Current vs Input Voltage



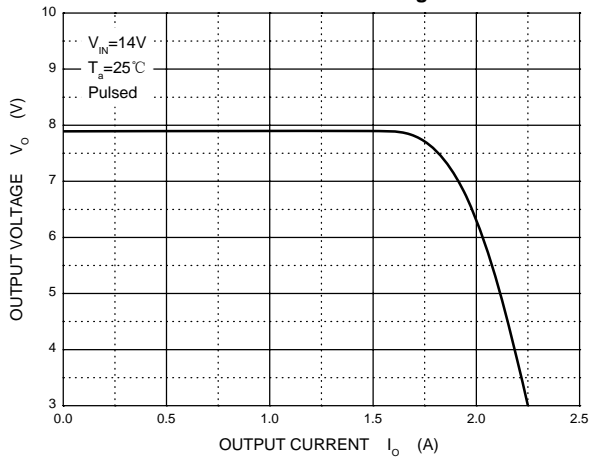
Quiescent Current vs Output Current



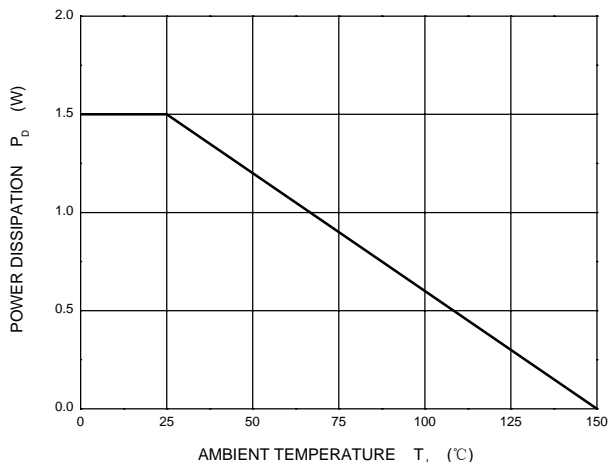
Output Voltage vs Ambient Temperature



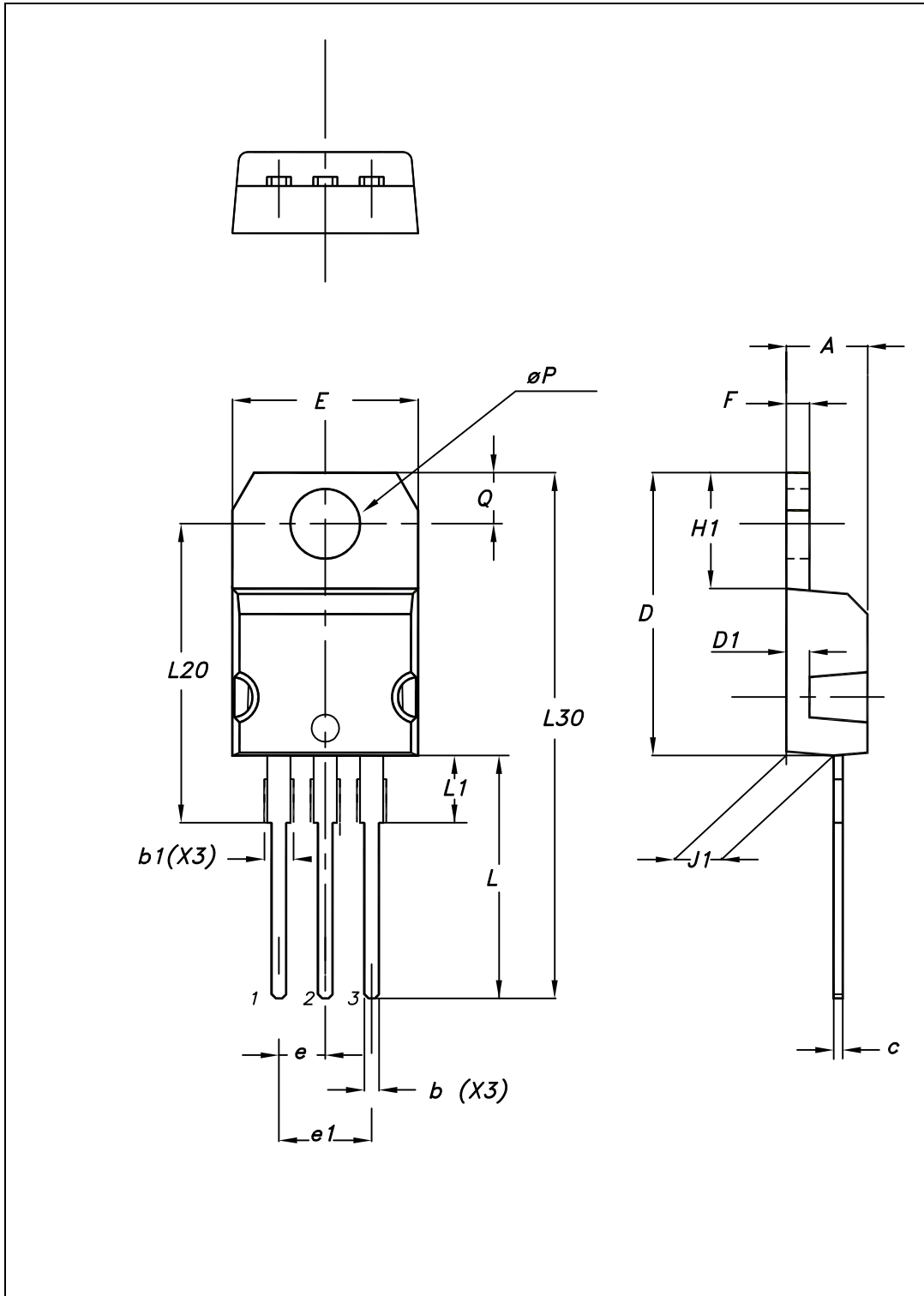
Current Cut-off Grid Voltage



Power Derating Curve



Package mechanical data



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	
ØP	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

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