

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

L7808CV(MS)

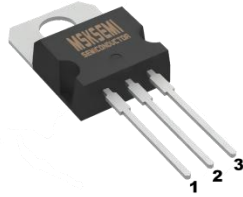

Product specification

Three-terminal positive voltage regulator

FEATURES

- Maximum Output current IOM : 1.5 A
- Output voltage Vo: 8V
- Continuous total dissipation
 $P_D: 1.5\text{ W (}T_a = 25\text{ }^\circ\text{C)}$
 $15\text{ W (}T_c = 25\text{ }^\circ\text{C)}$

Reference News

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

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

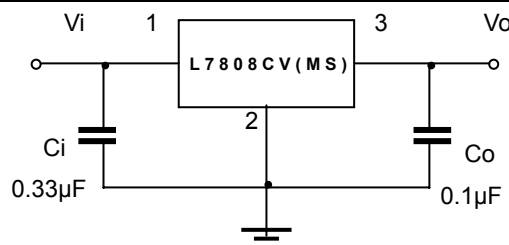
Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	83.3	$^\circ\text{C/W}$
Thermal Resistance from Junction to Case	$R_{\theta JC}$	8.3	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_{OPR}	0~+150	$^\circ\text{C}$
Storage Temperature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

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE

($V_i=14\text{V}, I_o=500\text{mA}, C_i=0.33\mu\text{F}, C_o=0.1\mu\text{F}$, unless otherwise specified)

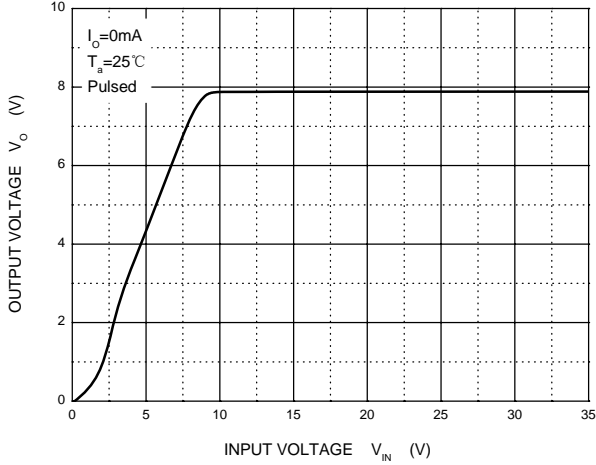
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output Voltage	V_o	25°C	7.7	8	8.3	V
		$10.5\text{V} \leq V_i \leq 23\text{V}, I_o=5\text{mA}-1\text{A}, P \leq 15\text{W}$ $0-125^\circ\text{C}$	7.6	8	8.4	V
Load Regulation	ΔV_o	$I_o=5\text{mA}-1.5\text{A}$ 25°C		12	160	mV
		$I_o=250\text{mA}-750\text{mA}$ 25°C		4	80	mV
Line Regulation	ΔV_o	$10.5\text{V} \leq V_i \leq 25\text{V}$ 25°C		6	160	mV
		$11\text{V} \leq V_i \leq 17\text{V}$ 25°C		2	80	mV
Quiescent Current	I_q	25°C		4.3	8	mA
Quiescent Current Change	ΔI_q	$10.5\text{V} \leq V_i \leq 25\text{V}$ $0-125^\circ\text{C}$			1	mA
		$5\text{mA} \leq I_o \leq 1\text{A}$ $0-125^\circ\text{C}$			0.5	mA
Output Voltage Drift	$\Delta V_o / \Delta T$	$I_o=5\text{mA}$ $0-125^\circ\text{C}$		-0.8		$\text{mV}/^\circ\text{C}$
Output Noise Voltage	V_N	$10\text{Hz} \leq f \leq 100\text{KHz}$ 25°C		52		μV
Ripple Rejection	RR	$11.5\text{V} \leq V_i \leq 21.5\text{V}, f=120\text{Hz}$ $0-125^\circ\text{C}$	55	72		dB
Dropout Voltage	V_d	$I_o=1\text{A}$ 25°C		2		V
Output Resistance	R_o	$f=1\text{KHz}$ 25°C		10		$\text{m}\Omega$
Short Circuit Current	I_{sc}	25°C		450		mA
Peak Current	I_{pk}	25°C		2.0		A

TYPICAL APPLICATION

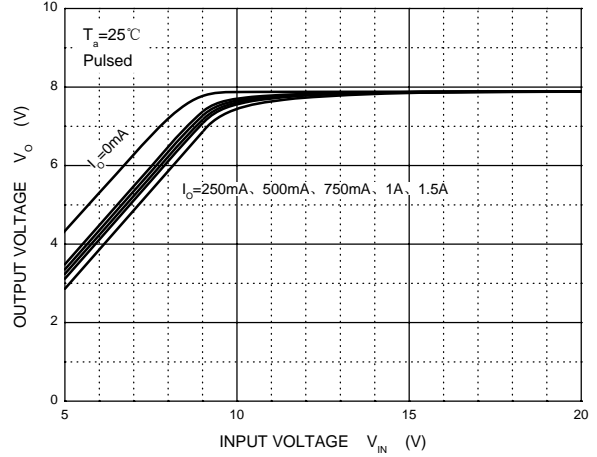


Typical Characteristics

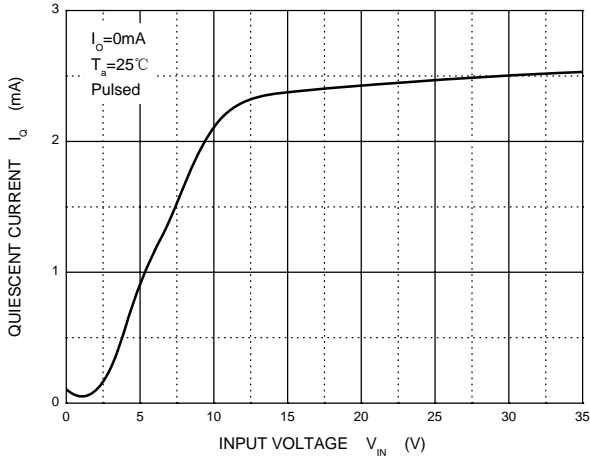
Output Characteristics



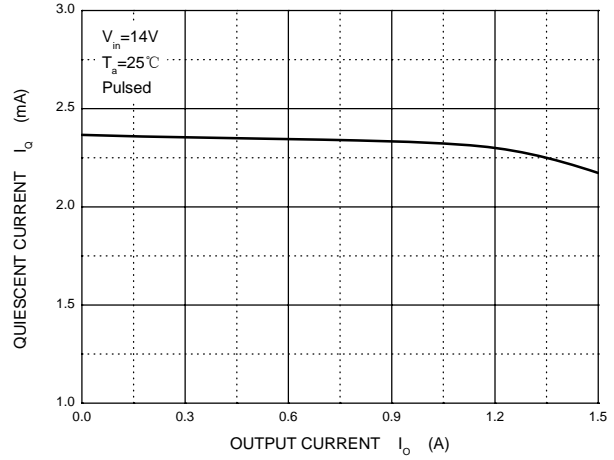
Dropout Characteristics



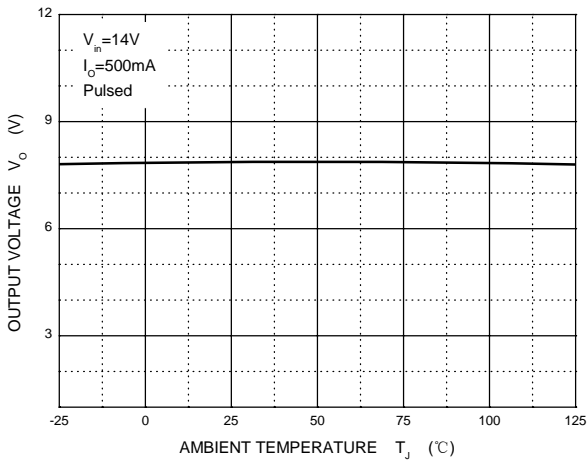
Quiescent Current vs Input Voltage



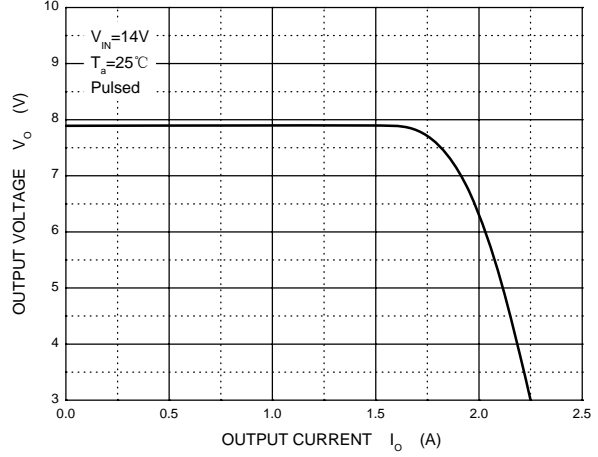
Quiescent Current vs Output Current



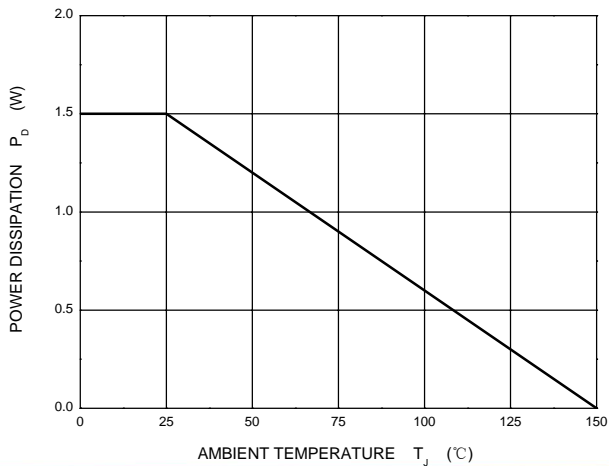
Output Voltage vs Ambient Temperature



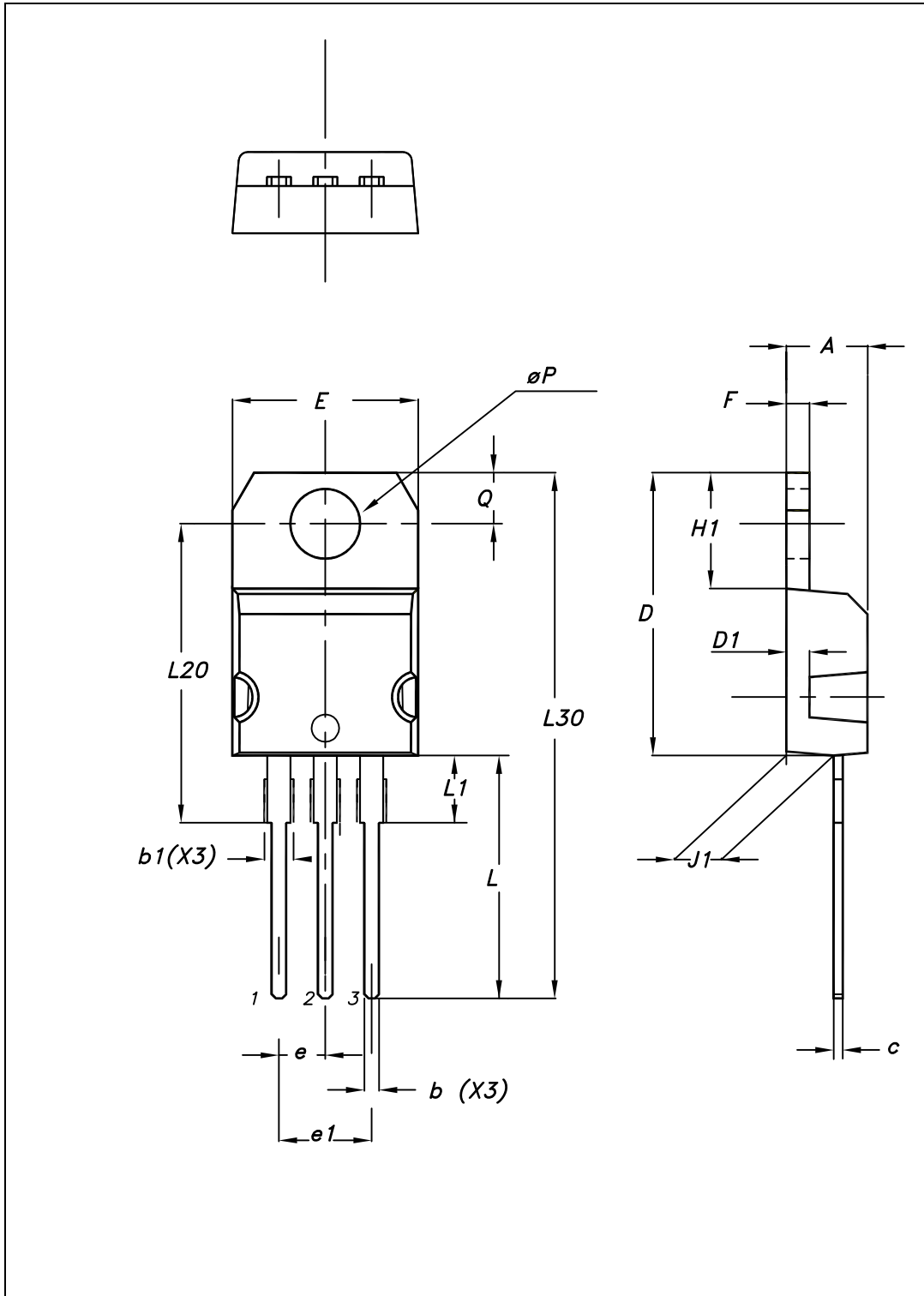
Current Cut-off Grid Voltage



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
L7808CV(MS)	TO-220	50/One tube 1000/a box of

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