

# MSKSEMI 美森科

SEMICONDUCTOR



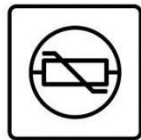
ESD



TVS



TSS



MOV



GDT



PLED

## L7809CV(MS)

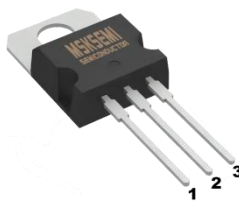

Product specification

**Three-terminal positive voltage regulator**

**FEATURES**

- Maximum Output current IOM : 1.5A
- Output voltage Vo: 9V
- Continuous total dissipation  
 $P_D$ : 1.5 W ( $T_a = 25\text{ }^\circ\text{C}$ )  
 15 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)**

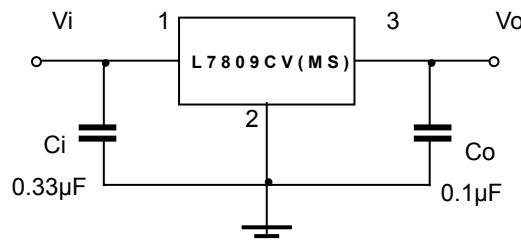
Parameter	Symbol	Value	Unit
Input Voltage	$V_i$	35	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	83.3	$^\circ\text{C/W}$
Thermal Resistance from Junction to Case	$R_{\theta JC}$	8.3	$^\circ\text{C/W}$
Operating Junction Temperature Range	$T_{OPR}$	0~+150	$^\circ\text{C}$
Storage Temperature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

**ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE**

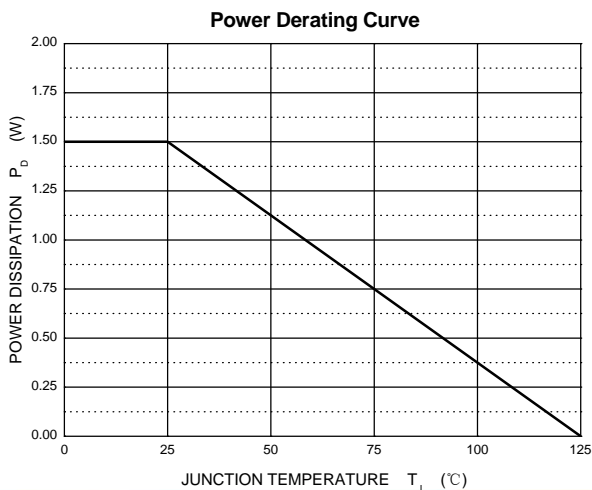
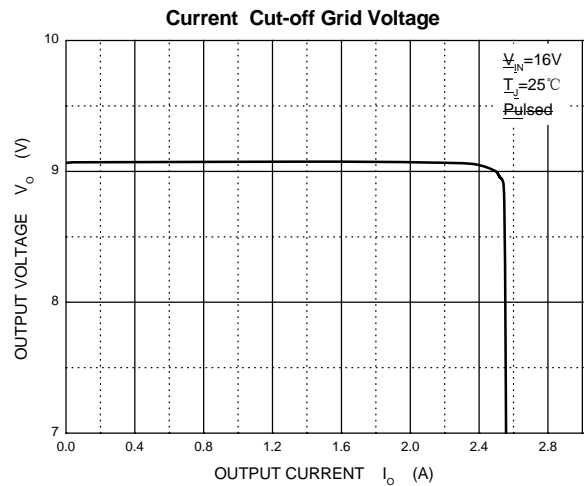
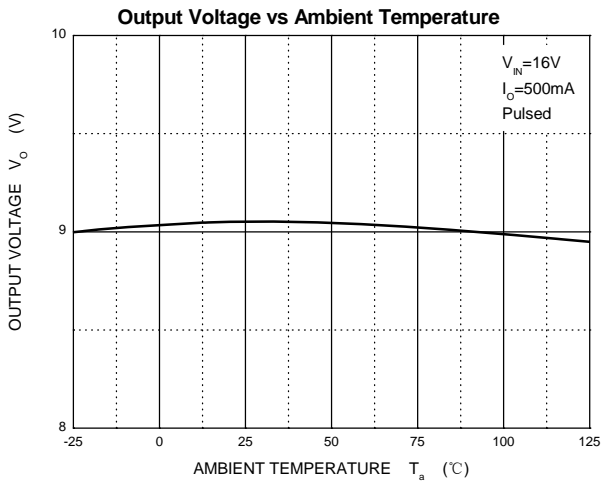
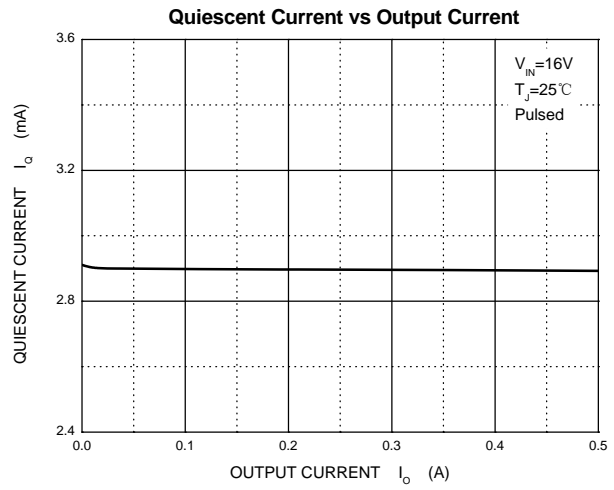
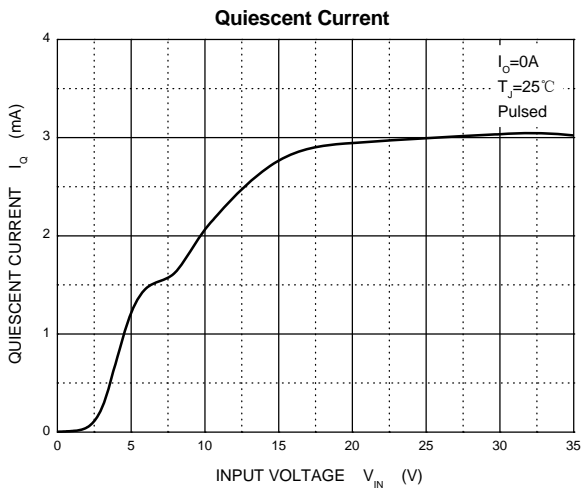
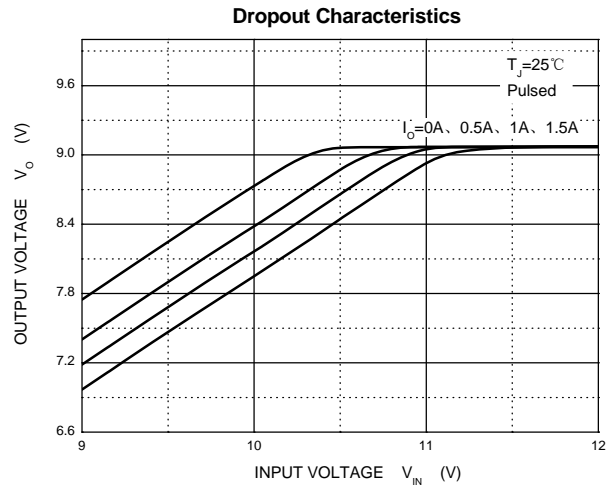
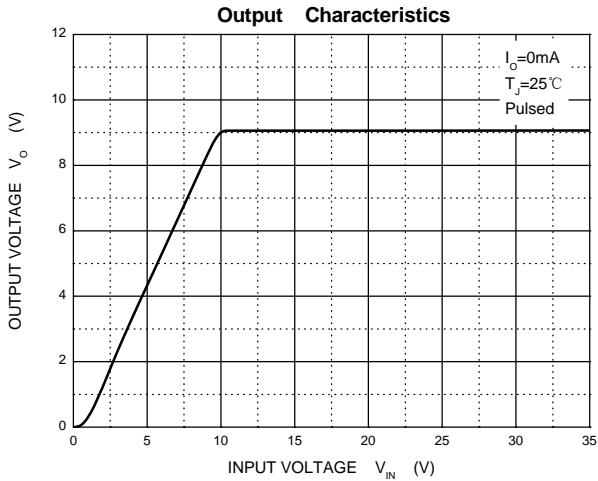
( $V_i=16\text{V}$ ,  $I_o=500\text{mA}$ ,  $C_i=0.33\mu\text{F}$ ,  $C_o=0.1\mu\text{F}$ , unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT	
Output voltage	$V_o$		25 $^\circ\text{C}$	8.65	9	9.35	V
		$11.5\text{V} \leq V_i \leq 24\text{V}$ , $I_o = 5\text{mA} - 1\text{A}$ , $P \leq 15\text{W}$	0-125 $^\circ\text{C}$	8.55	9	9.45	V
Load Regulation	$\Delta V_o$	$I_o = 5\text{mA} - 1.5\text{A}$	25 $^\circ\text{C}$		12	180	mV
		$I_o = 250\text{mA} - 750\text{mA}$	25 $^\circ\text{C}$		4	90	mV
Line regulation	$\Delta V_o$	$11.5\text{V} \leq V_i \leq 27\text{V}$	25 $^\circ\text{C}$		7	180	mV
		$13\text{V} \leq V_i \leq 19\text{V}$	25 $^\circ\text{C}$		2	90	mV
Quiescent Current	$I_q$		25 $^\circ\text{C}$		4.3	8	mA
Quiescent Current Change	$\Delta I_q$	$11.5\text{V} \leq V_i \leq 27\text{V}$	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 $^\circ\text{C}$		-1		mV/ $^\circ\text{C}$
Output Noise Voltage	$V_N$	$10\text{Hz} \leq f \leq 100\text{KHz}$	25 $^\circ\text{C}$		60		$\mu\text{V}$
Ripple Rejection	RR	$12\text{V} \leq V_i \leq 22\text{V}$ , $f = 120\text{Hz}$	0-125 $^\circ\text{C}$	55	70		dB
Dropout Voltage	$V_d$	$I_o = 1\text{A}$	25 $^\circ\text{C}$		2		V
Output resistance	$R_o$	$f = 1\text{KHz}$	25 $^\circ\text{C}$		18		m $\Omega$
Short Circuit Current	$I_{sc}$		25 $^\circ\text{C}$		400		mA
Peak Current	$I_{pk}$		25 $^\circ\text{C}$		2.0		A

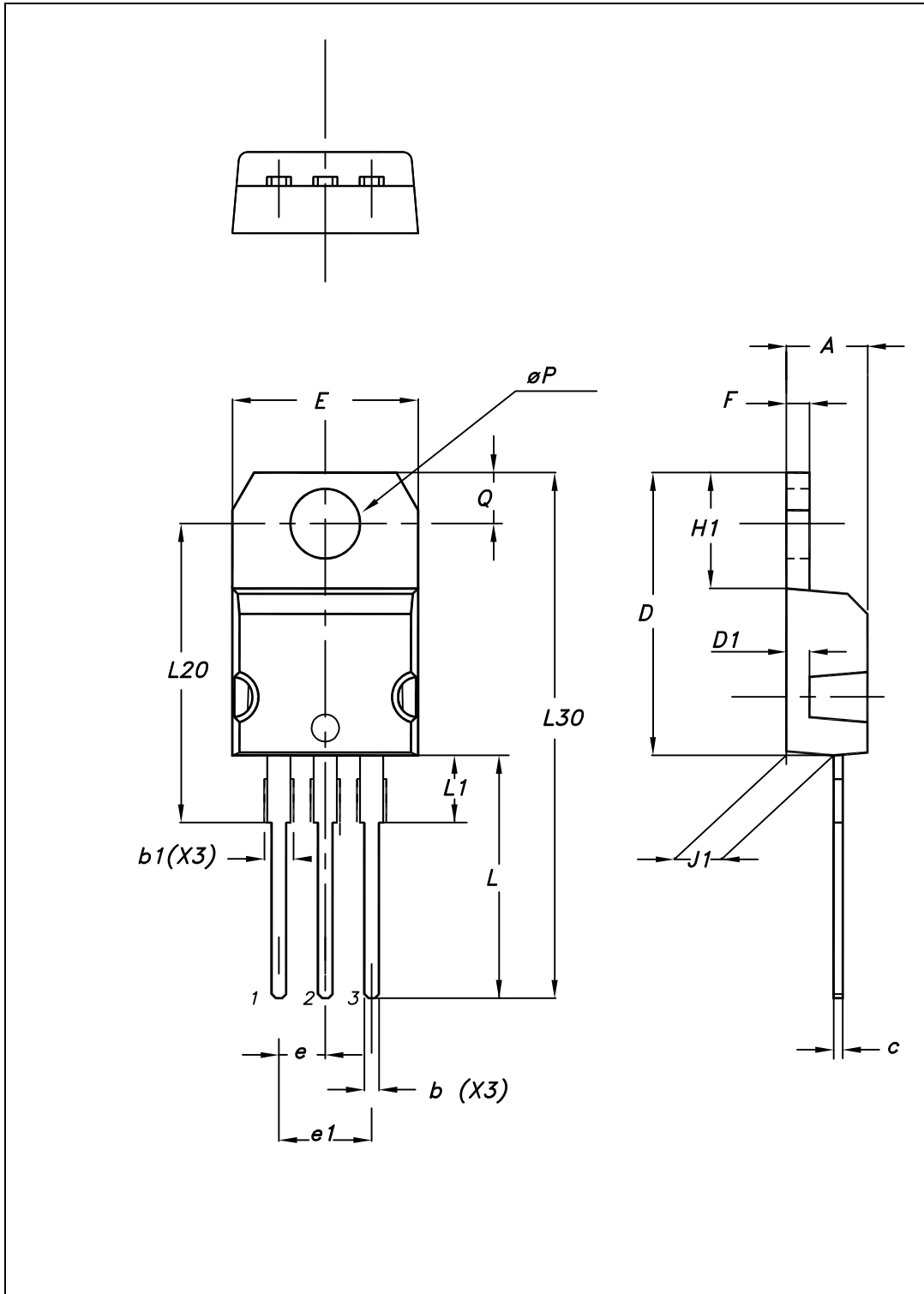
**TYPICAL APPLICATION**



Typical Characteristics



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
L7809CV(MS)	TO-220	50/One tube 1000/a box of

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