

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

L7812CD2T(MS)

Product specification

Three-terminal positive voltage

FEATURES

- Maximum Output current I_{OM} : 1.5 A
- Output voltage V_o : 12V
- 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)

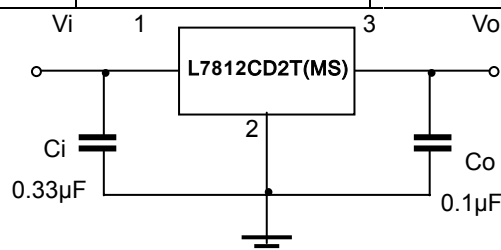
Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance from Junction to Air	$R_{\theta JA}$	83.3	$^\circ\text{C/W}$
Thermal Resistance from Junction to Case	$R_{\theta JC}$	8.33	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_{OPR}	0~+150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55~+150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE

($V_i=10\text{V}$, $I_o=500\text{mA}$, $C_i=0.33\mu\text{F}$, $C_o=0.1\mu\text{F}$, unless otherwise specified)

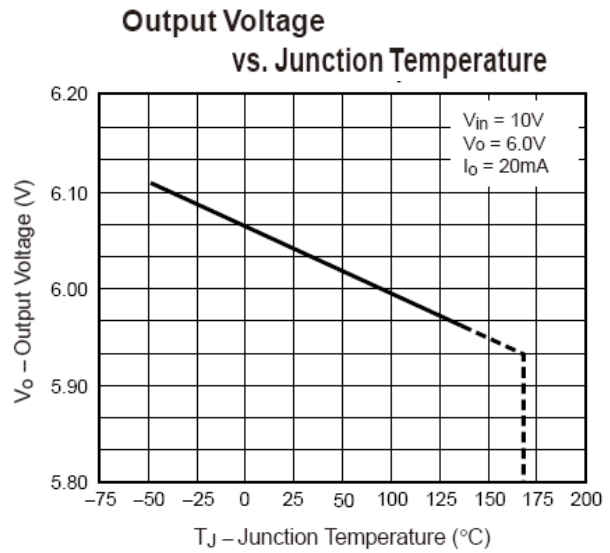
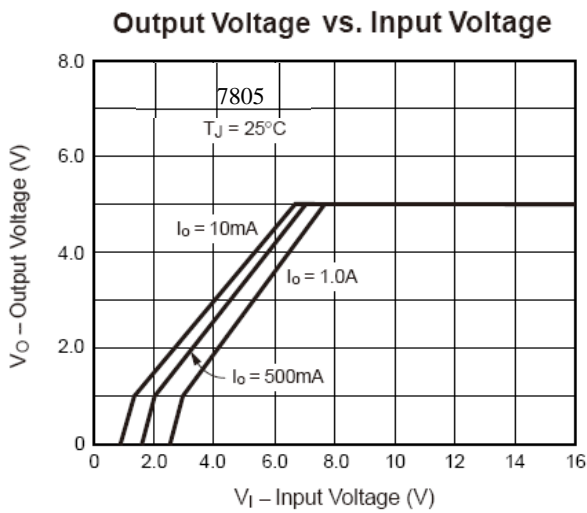
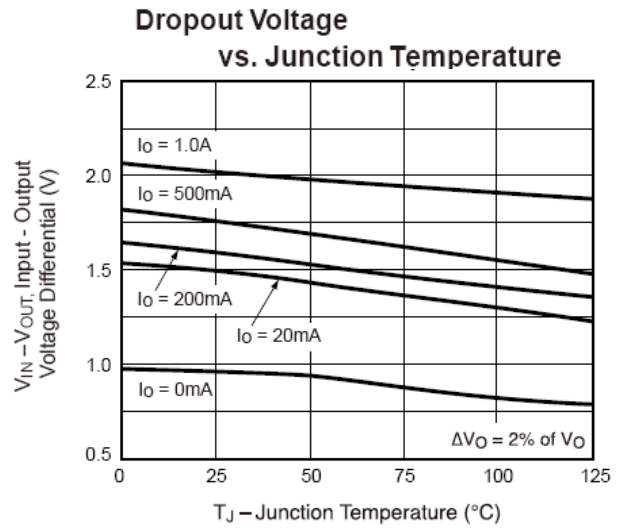
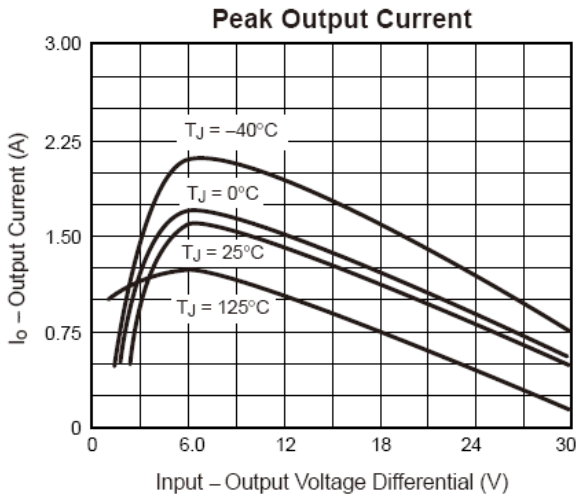
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	V_o	25°C	11.64	12	12.36	V
		$7\text{V} \leq V_i \leq 20\text{V}$, $I_o=5\text{mA}-1\text{A}$, $P \leq 15\text{W}$	0-125 $^\circ\text{C}$	11.4	12	12.6
Load Regulation	ΔV_o	$I_o=5\text{mA}-1.5\text{A}$	25°C	9	100	mV
		$I_o=250\text{mA}-750\text{mA}$	25°C	4	50	mV
Line regulation	ΔV_o	$7\text{V} \leq V_i \leq 25\text{V}$	25°C	4	100	mV
		$8\text{V} \leq V_i \leq 12\text{V}$	25°C	1.6	50	mV
Quiescent Current	I_q	25°C		5	8	mA
Quiescent Current Change	ΔI_q	$7\text{V} \leq V_i \leq 25\text{V}$	0-125 $^\circ\text{C}$	0.3	1.3	mA
		$5\text{mA} \leq I_o \leq 1\text{A}$	0-125 $^\circ\text{C}$	0.03	0.5	mA
Output Noise Voltage	V_N	$10\text{Hz} \leq f \leq 100\text{KHz}$	25°C	42		μV
Output voltage drift	$\Delta V_o / \Delta T$	$I_o=5\text{mA}$	0-125 $^\circ\text{C}$	-1.1		$\text{mV}/^\circ\text{C}$
Ripple Rejection	RR	$8\text{V} \leq V_i \leq 18\text{V}$, $f=120\text{Hz}$	0-125 $^\circ\text{C}$	62	73	dB
Dropout Voltage	V_d	$I_o=1\text{A}$	25°C	2		V
Output resistance	R_o	$f=1\text{KHz}$	0-125 $^\circ\text{C}$	10		$\text{m}\Omega$
Short Circuit Current	I_{sc}	25°C		230		mA
Peak Current	I_{pk}	25°C		2.2		A

TYPICAL APPLICATION

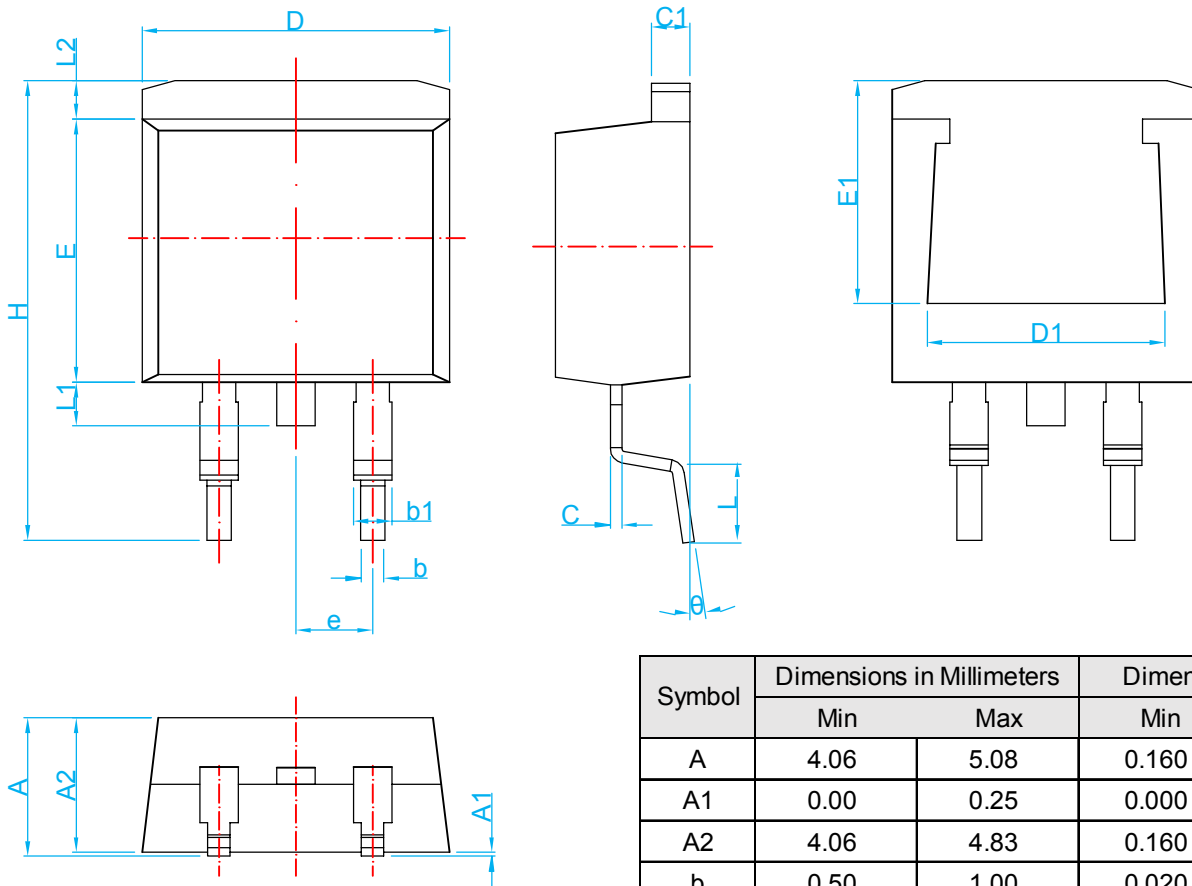


Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

Typical Characteristics



Package Outline Dimensions



Symbol	Dimensions in Millimeters		Dimensions in Inches	
	Min	Max	Min	Max
A	4.06	5.08	0.160	0.200
A1	0.00	0.25	0.000	0.010
A2	4.06	4.83	0.160	0.190
b	0.50	1.00	0.020	0.039
b1	1.14	1.78	0.045	0.070
C	0.33	0.74	0.013	0.029
C1	1.14	1.67	0.045	0.066
D	9.65	10.67	0.380	0.420
D1	6.23	---	0.245	---
E	8.38	9.66	0.330	0.380
E1	6.86	---	0.270	---
H	14.60	15.88	0.575	0.625
e	2.54 TYP		0.100 TYP	
L	1.78	2.84	0.070	0.112
L1	1.20	1.78	0.047	0.070
L2	1.17	1.68	0.046	0.066
θ	0°	8°	0°	8°

REEL SPECIFICATION

P/N	PKG	QTY
L7812CD2T(MS)	TO-263	1000

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