

7818

DATASHEET

Specification Revision History:

Version	Date	Description
V1.0	2020/08	New
V1.1	2021/05	Modify Ordering Information
V1.2	2023/02	Modify Ordering Information
V1.3	2025/03	Add application precautions and overall typesetting.

Three-terminal positive Voltage Regulator

General Description

The 78XX family is monolithic fixed voltage regulator integrated circuit. They are suitable for applications that required supply current up to 1.0 A.

FEATURES

- Output Current Up To 1.0A
- Fixed Output Voltage Of 3.3V, 5V, 6V, 8V, 9V, 12V, 15V, 18V and 24V Available
- Thermal Overload Shutdown Protection
- Short Circuit Current Limiting
- Output Transistor SOA Protection

The appearance of the product



TO-220

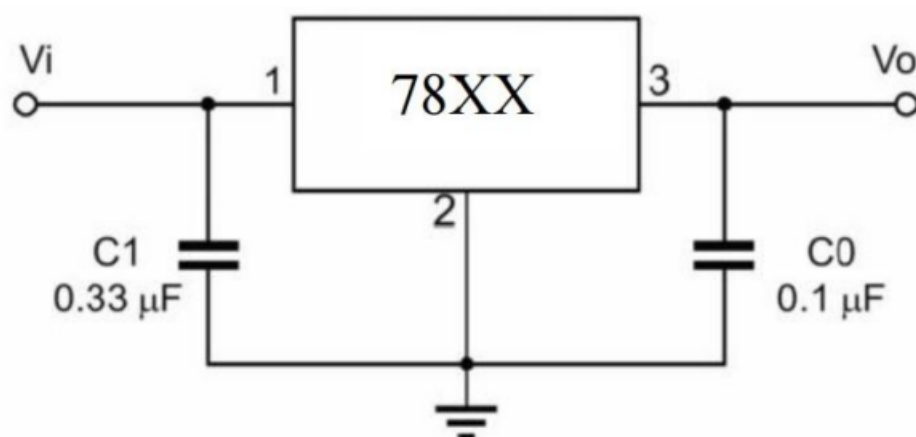


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Ordering Information

Product Model	Package Type	Marking	Packing	Packing Qty
L7818CV(GMIC)	TO-220	7818 299	TUBE	1000PCS/BOX
L7818CD(GMIC)	TO-263-2	7818 299	TUBE	1000PCS/BOX

Typical Application Circuits



Absolute Maximum Ratings ($T=25^{\circ}C$, unless otherwise specified)

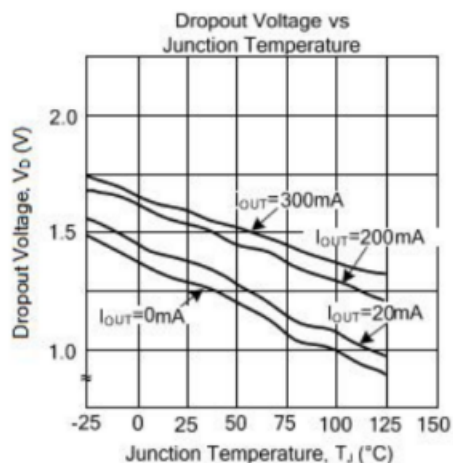
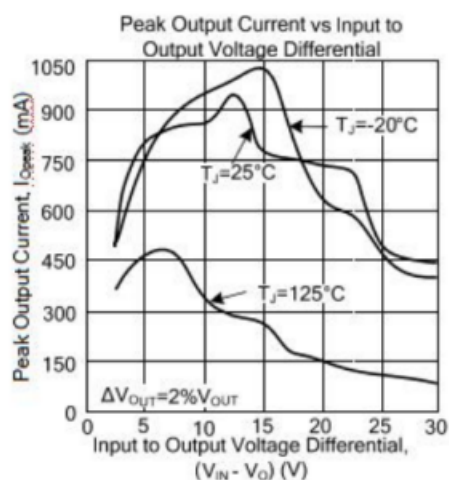
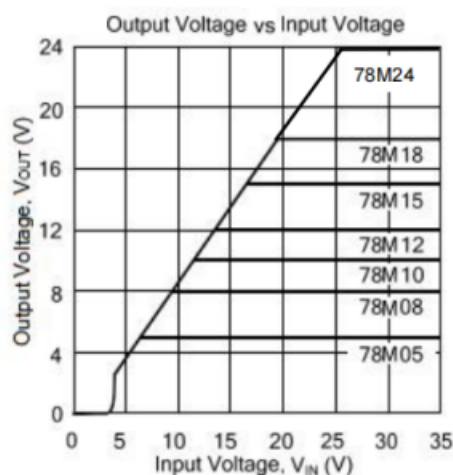
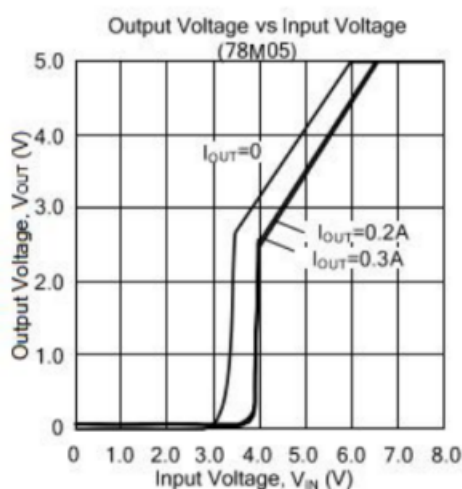
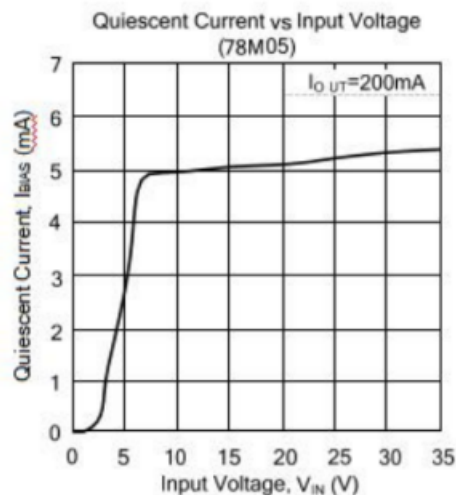
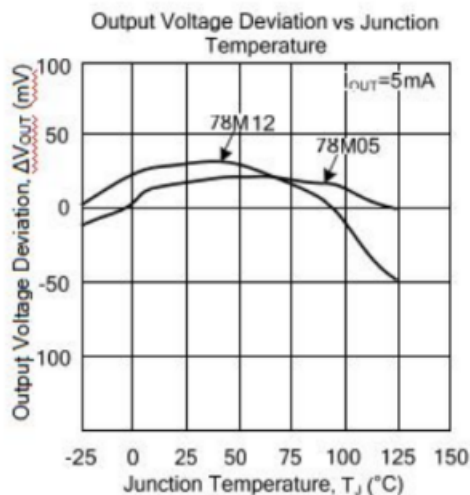
Characteristic	Value	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance Junction-Case	$R_{\theta JC}$	10	C/W
Thermal Resistance Junction-Air	$R_{\theta JA}$	93	C/W
Operating Temperature Range	T_{OPR}	-40~+125	$^{\circ}C$
Storage Temperature Range	T_{STG}	-55~+150	$^{\circ}C$

Electrical Characteristics

For 78M18(S)(unless otherwise noted, $V_i=25V$, $I_o=350mA$, $C_i=0.33\mu F$, $C_o=0.1\mu F$)

Characteristics	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_o	$T_j=+25^{\circ}C$	17.28	18	18.72	V
		$20V \leq V_i \leq 30V, I_o=5mA \sim 0.35A$	17.1	18	18.90	
Line Regulation*	ΔV_o	$20V \leq V_i \leq 30V, I_o=0.2A, T_j=25^{\circ}C$		8	100	mV
		$22V \leq V_i \leq 30V, I_o=0.2A, T_j=25^{\circ}C$		4	80	
Load Regulation*	ΔV_o	$T_j=25^{\circ}C, I_o=5mA \sim 0.5A$		27	300	mV
		$T_j=25^{\circ}C, I_o=5mA \sim 200mA$		10	150	
Quiescent Current	I_q	$T_j=+25^{\circ}C$		4.0	6.0	mA
Quiescent Current Change	ΔI_q	$21V \leq V_i \leq 30V, I_o=200mA$			0.8	mA
		$5mA \leq I_o \leq 0.35A$			0.5	
Output Noise Voltage	V_n	$10Hz \leq f \leq 100kHz, T_j=25^{\circ}C$		70	300	μV
Ripple Rejection	RR	$20V \leq V_i \leq 30V, f=120Hz, I_o=300mA, T_j=25^{\circ}C$	48	55		dB
Dropout Voltage	V_d	$T_j=+25^{\circ}C$		1.7		V
Short Circuit Current Limit	I_{sc}	$V_i=V_o+2V, T_j=+25^{\circ}C$		0.9		A

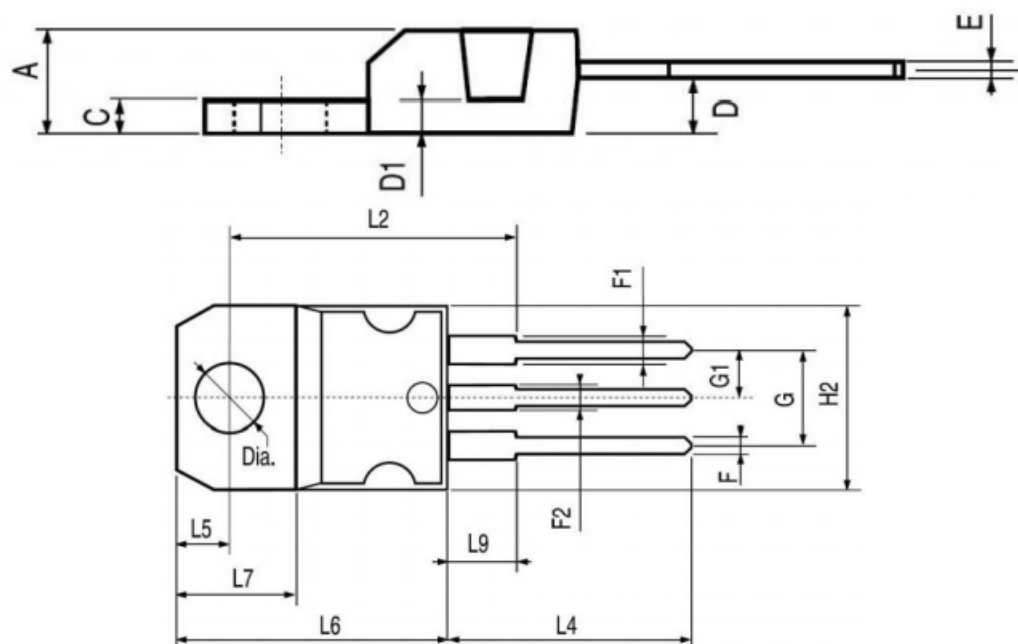
Typical Characteristics



Outline Dimensions

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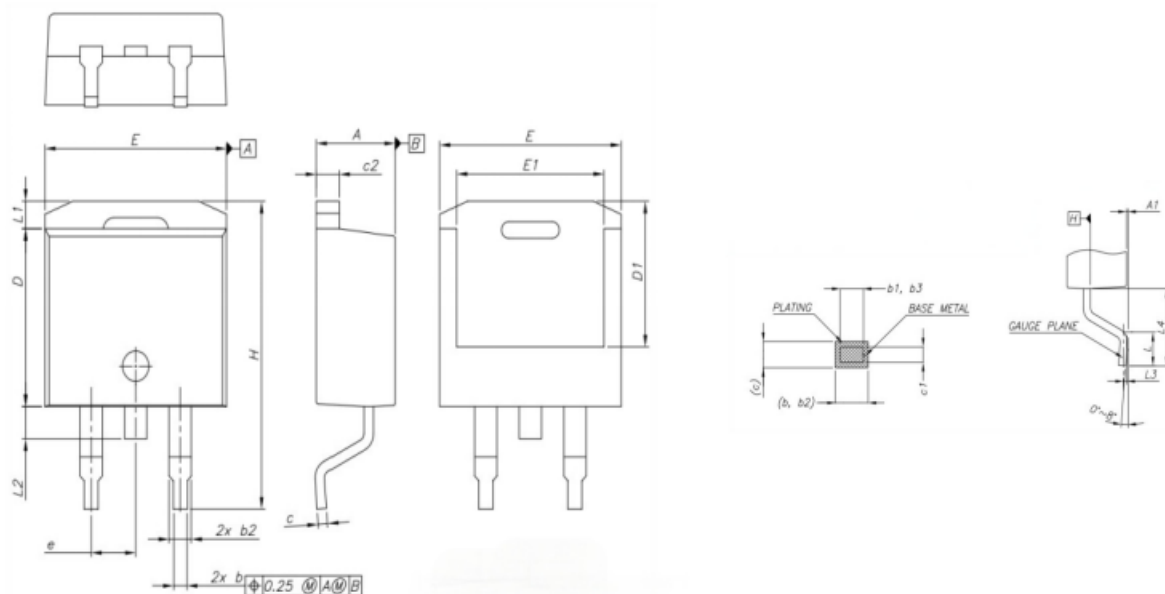
Unit : mm



Symbol	mm.			inch		
	MIN.	TYP	MAX.	MIN.	TYP.	MAX.
A	4.40		4.60	0.173		0.181
C	1.23		1.32	0.048		0.051
D	2.40		2.72	0.094		0.107
D1		1.27			0.050	
E	0.49		0.70	0.019		0.027
F	0.61		0.88	0.024		0.034
F1	1.14		1.70	0.044		0.067
F2	1.14		1.70	0.044		0.067
G	4.95		5.15	0.194		0.203
G1	2.4		2.7	0.094		0.106
H2	10.0		10.70	0.393		0.409
L2		16.4			0.645	
L4	13.0		14.0	0.511		0.551
L5	2.65		2.95	0.104		0.116
L6	15.25		15.75	0.600		0.620
L7	6.2		6.6	0.244		0.260
L9	3.5		3.93	0.137		0.154
DIA.	3.75		3.85	0.147		0.151

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Unit : mm



Dim.	mm		
	Min.	Typ.	Max.
A	4.36		4.56
A1	0		0.25
b	0.70		0.90
b1	0.51		0.89
b2	1.17		1.37
b3	1.36		1.46
C	0.38		0.694
c1	0.38		0.534
c2	1.19		1.34
D	8.60		9.00
D1	6.90		7.50
E	10.15		10.55
E1	8.10		8.70
e		2.54	
H	15.00		15.60
L	1.90		2.50
L1			1.65
L2			1.78
L3		0.25	
L4	4.78		5.28

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