

L7824

DATASHEET

Specification Revision History:

Version	Date	Description
V1.0	2020/12	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.

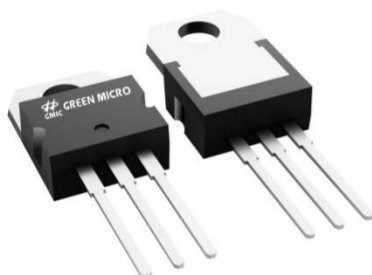
General Description

The 7824 is monolithic fixed voltage regulator integrated circuit. They are suitable for applications that required supply current up to 0.8A.

Features

- ※ Output Current Up To 0.8A
- ※ 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

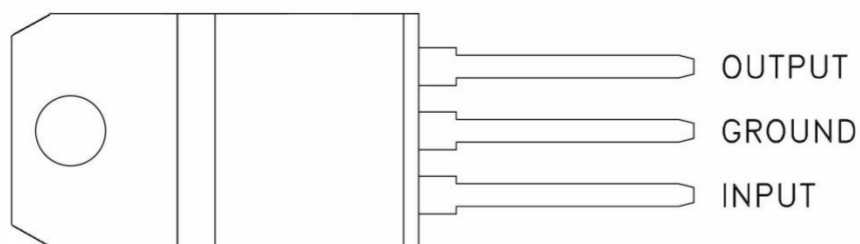


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Ordering Information

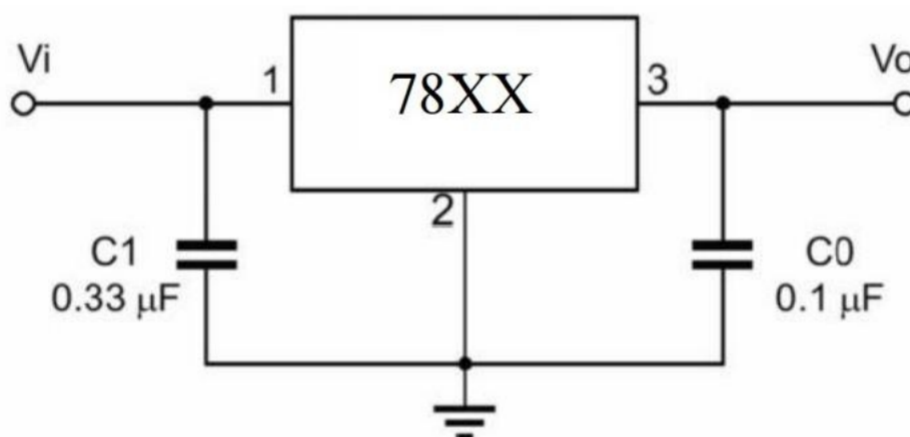
Product Model	Package Type	Marking	Packing	Packing Qty
L7824CV(GMIC)	TO-220-3	7818 T355	TUBE	1000PCS/BOX
L7824	TO-220-3	7818 G355	TUBE	1000PCS/BOX

Pin Configurations



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Typical Application Circuits



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

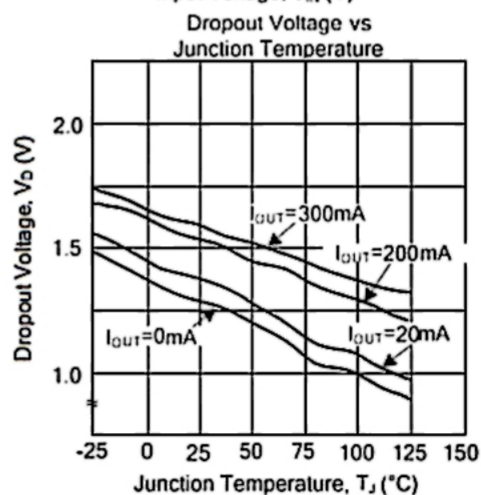
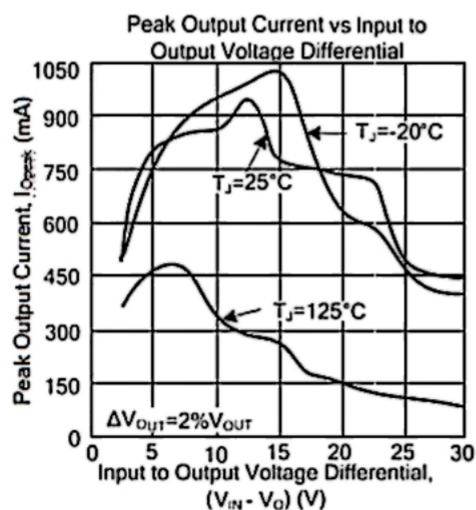
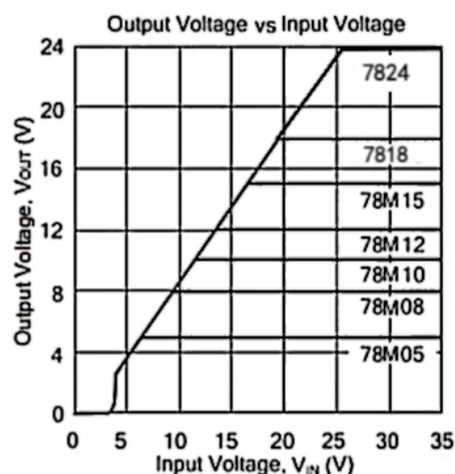
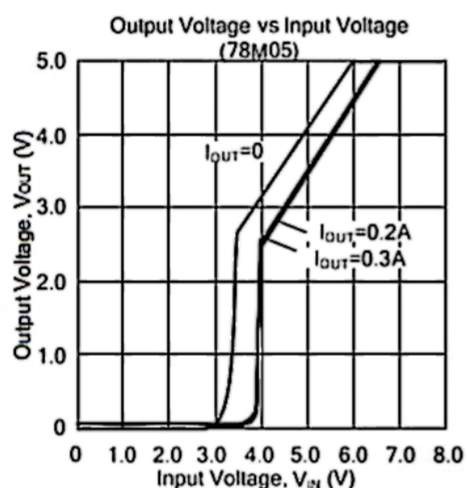
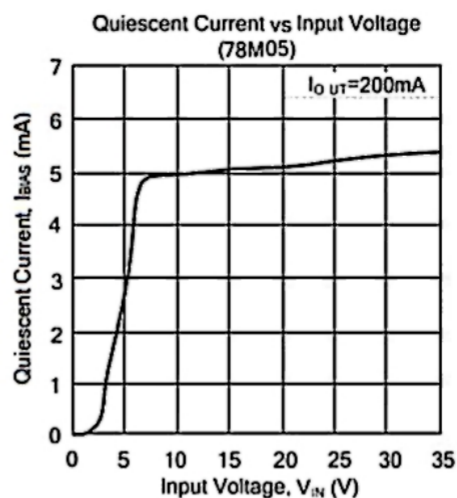
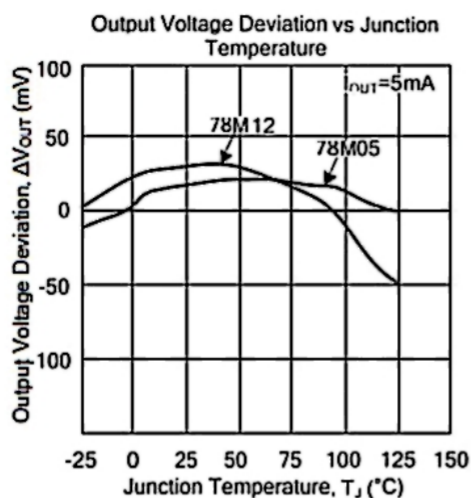
Characteristic	Value	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance Junction-Case	$R_{\theta JC}$	10	$^{\circ}\text{C}/\text{W}$
Thermal Resistance Junction-Air	$R_{\theta JA}$	93	$^{\circ}\text{C}/\text{W}$
Operating Temperature Range	T_{OPR}	-40~+125	$^{\circ}\text{C}$
Storage Temperature Range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

Electrical Characteristics

For 7824(unless otherwise noted, $V_i=33V$, $I_o=350mA$, $C_i=0.33\mu F$, $C_o=0.1\mu F$)

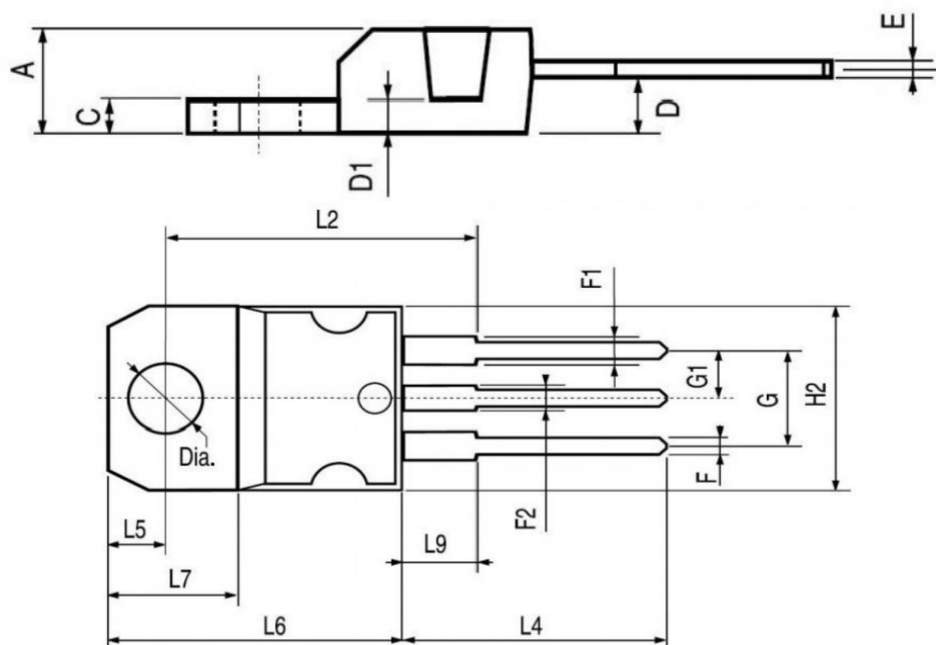
Characteristics	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_o	$T_j=+25^{\circ}C$	23	24	25	V
		$27V \leq V_i \leq 38V, I_o=5mA \sim 0.35A$	22.8	24	25.2	
Line Regulation	ΔV_o	$27V \leq V_i \leq 38V, I_o=0.2A, T_j=25^{\circ}C$		12	100	mV
		$28V \leq V_i \leq 38V, I_o=0.2A, T_j=25^{\circ}C$		7	50	
Load Regulation	ΔV_o	$T_j=25^{\circ}C, I_o=5mA \sim 0.5A$		30	480	mV
		$T_j=25^{\circ}C, I_o=5mA \sim 200mA$		10	240	
Quiescent Current	I_q	$T_j=+25^{\circ}C$		5.0	8.0	mA
Quiescent Current Change	ΔI_q	$27.5V \leq V_i \leq 38.5V, I_o=200mA$			0.8	mA
		$5mA \leq I_o \leq 0.35A$			0.5	
Output Noise Voltage	V_N	$10Hz \leq f \leq 100kHz, T_j=25^{\circ}C$		115	650	μV
Ripple Rejection	RR	$28V \leq V_i \leq 38V, f=120Hz,$ $I_o=300mA, T_j=25^{\circ}C$	46	53		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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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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