

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.

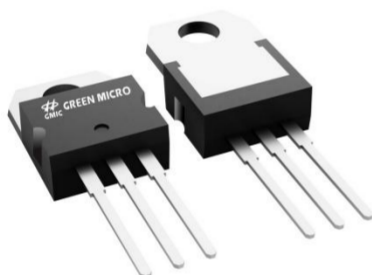
General Description

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

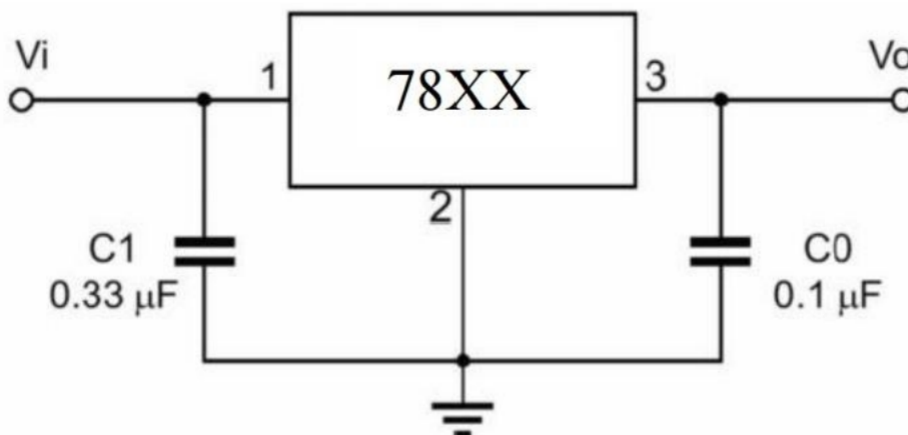


TO-220-3

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

Typical Application Circuits



Absolute Maximum Ratings (T=25°C, unless otherwise specified)

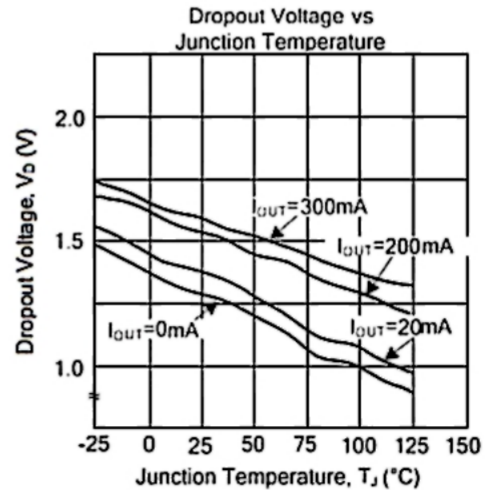
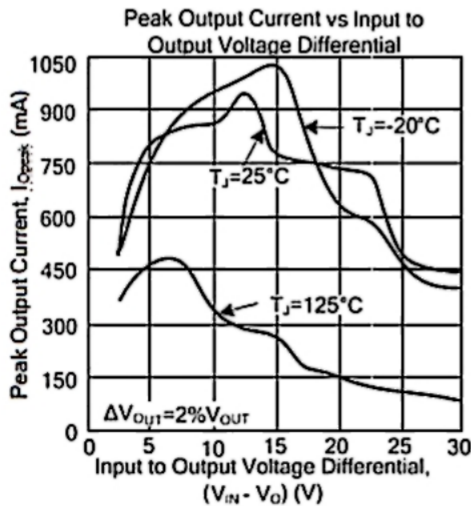
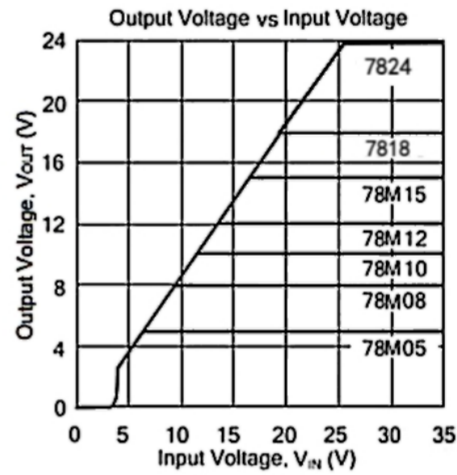
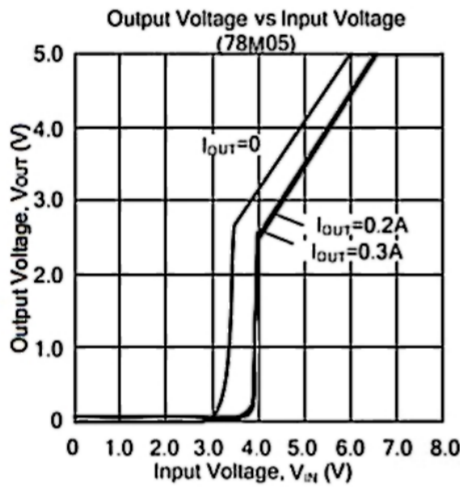
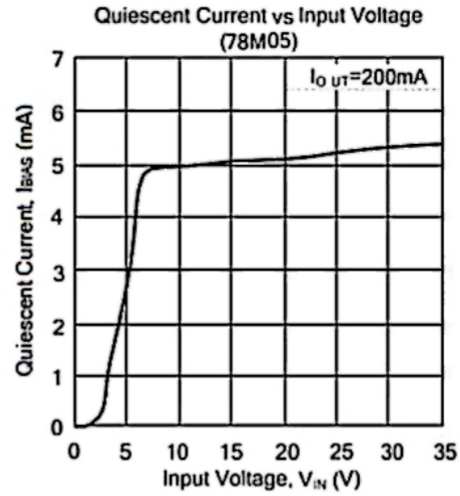
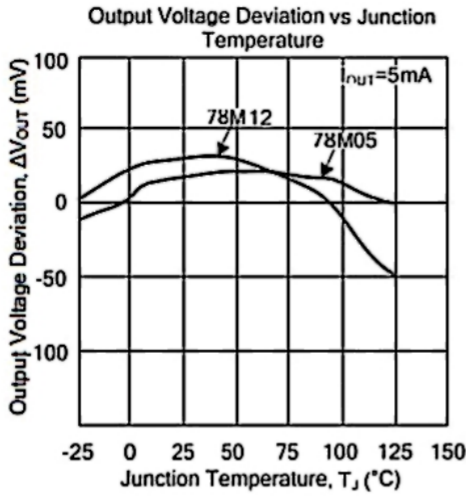
Characteristic	Value	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance Junction-Case	$R_{\theta JC}$	10	°C/W
Thermal Resistance Junction-Air	$R_{\theta JA}$	93	°C/W
Operating Temperature Range	T_{OPR}	-40~+125	°C
Storage Temperature Range	T_{STG}	-55~+150	°C

Electrical Characteristics

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

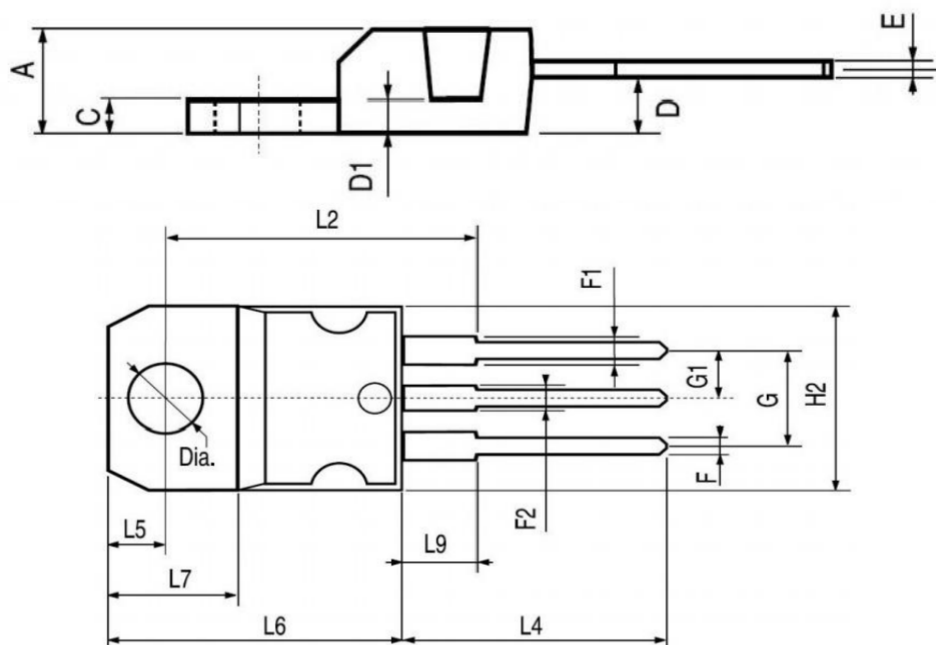
Characteristics	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_o	$T_j=+25^{\circ}C$	23	24	25	V
		$27V \leq V_i \leq 38V, I_o=5mA \sim 0.35A$	22.8	24	25.2	
Line Regulation	ΔV_o	$27V \leq V_i \leq 38V, I_o=0.2A, T_j=25^{\circ}C$		12	100	mV
		$28V \leq V_i \leq 38V, I_o=0.2A, T_j=25^{\circ}C$		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

TO-220-3



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

Important Notice

- Green Micro chip reserves the right to change products and documents without notice. Customers should obtain and verify the completeness of the latest technical information before placing orders. Meanwhile, Green Micro chip shall not assume any responsibility or obligation for non-officially revised documents.
- Any parameters in the entire product specification are for reference only, and actual application testing shall prevail. When customers use the products for system design, they must comply with safety regulations and independently assume the following responsibilities: selecting suitable Green Micro chip products according to application requirements; completing design verification and full-link testing of the application; and ensuring that the application complies with safety regulations or other requirements of the target market. Customers shall bear all personal or property losses caused by design defects or illegal operations, which shall have no relation to Green Micro chip.
- Green Micro chip products are prohibited from being used in scenarios such as life support, military equipment, and key aerospace applications. All accidents and legal liabilities arising from out-of-scope use shall be borne by the user, and Green Micro chip shall not be held responsible.
- All technical resources of Green Micro chip (including data sheets and reference designs) are provided "as is", without guarantee of no defects or universality, and without any express or implied warranties. The documents are only authorized for product development and research described in this document. Unauthorized use of intellectual property, public reproduction, and reverse engineering are strictly prohibited. All claims and losses caused by illegal use shall be borne by the user, and Green Micro chip shall not be liable.