

7824-287

DATASHEET

Specification Revision History:

Version	Date	Description
V1.0	2019/08	New
V1.1	2021/05	Modify Ordering Information
V1.2	2025/02	Modify Ordering Information
V1.3	2025/03	Add application precautions and overall typesetting.

·3-Terminal Regulators

Output current up to 1000mA

Internal Thermal Overload Protection Internal Short-Circuit Limiting

Output transistor safe operating area protection

Description

The 78XX series of three terminal regulators are available in the TO-220 package with several fixed output voltages making it useful in a wide range of applications

The appearance of the product



TO220



TO263-2

Ordering Information

Product Model	Package Type	Marking	Packing	Packing Qty
L7824CV(GMIC)	TO-220	L7824 287	TUBE	2000PCS/BOX
L7824CD(GMIC)	TO-263-2	L7824 287	REEL	800PCS/REEL

Absolute maximum ratings over operating temperature range

(unless otherwise noted)

		7824	UNIT
Input voltage	35	40	V
Operating free-air,case,or virtual junction temperature range	0 to 150	0 to 150	°C
Storage temperature range	-65 to 150	-65 to 150	
Lead temperature 1.6mm(1/16 inch)from case for 10 seconds	260	260	

Recommended operating condition

PARAMETR		MIN	MAX	
Input voltage,V	7824	7	25	UN
		8	25	
		10.5	25	
		10.5	25	
		11.5	27	
		12.5	28	
		14.5	30	
		17.5	30	
		21	33	
		23	36	
		27	38	
		30	40	
Output current,I _o			1.0	A
Operating virtual junction temperature,T _j		0	125	°C

7824-287 electrical characteristics at specified virtual junction temperature, $V_r=31V$, $I_o=350mA$

(unless otherwise noted)

PARAMETER	TEST CONDITIONS					UNIT
			MIN	TYP	MAX	
Output voltage**		25°C	23.04	24	24.96	V
	$I_o=5mA$ to $350mA$ $V=27V$ to $38V$	0 to 125°C	22.8	24	25.2	
Input regulation	$I_o=200mA$	$V=27.5V$ to $38V$			150	mV
		$V_1=30V$ to $38V$			75	
Ripple rejection	$V_1=28.5V$ to $37V$, $f=120Hz$	25°C	55	65		dB
Output regulation	$I_o=5mA$ to $500mA$	25°C			480	mV
	$I_o=5mA$ to $200mA$				240	
Output noise voltage	$f=10Hz-100Hz$	25°C		140		μV
Dropout voltage		25°C		2		V
Bias current		25°C		4.9	8	mA
		125°C			7.5	
Bias current change_	$V=27.5V$ to $38V$	0 to 125°C			1.0	
	$I_o=5mA$ to $350mA$				0.5	

Pulse testing techniques are used to maintain the junction temperature as close to the ambient

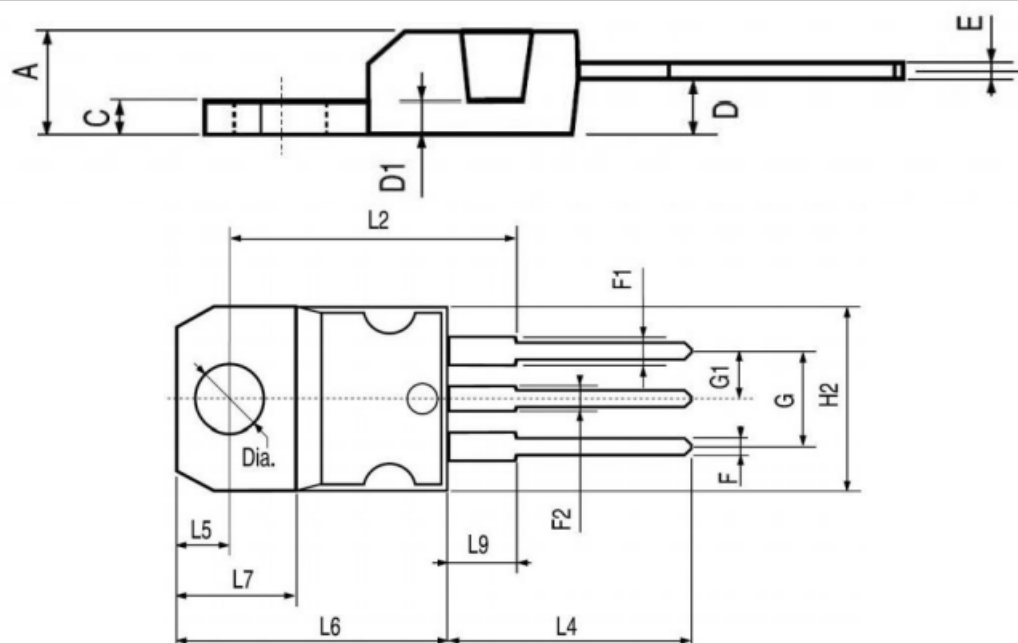
temperature as possible. Thermal effects must be taken into account separately. All characteristics are measured with a $0.33\mu F$ capacitor across the input and a $0.1\mu F$ capacitor across the output.

This specification applies only for the power dissipation permitted by absolute maximum ratings

Outline Dimensions

TO-220

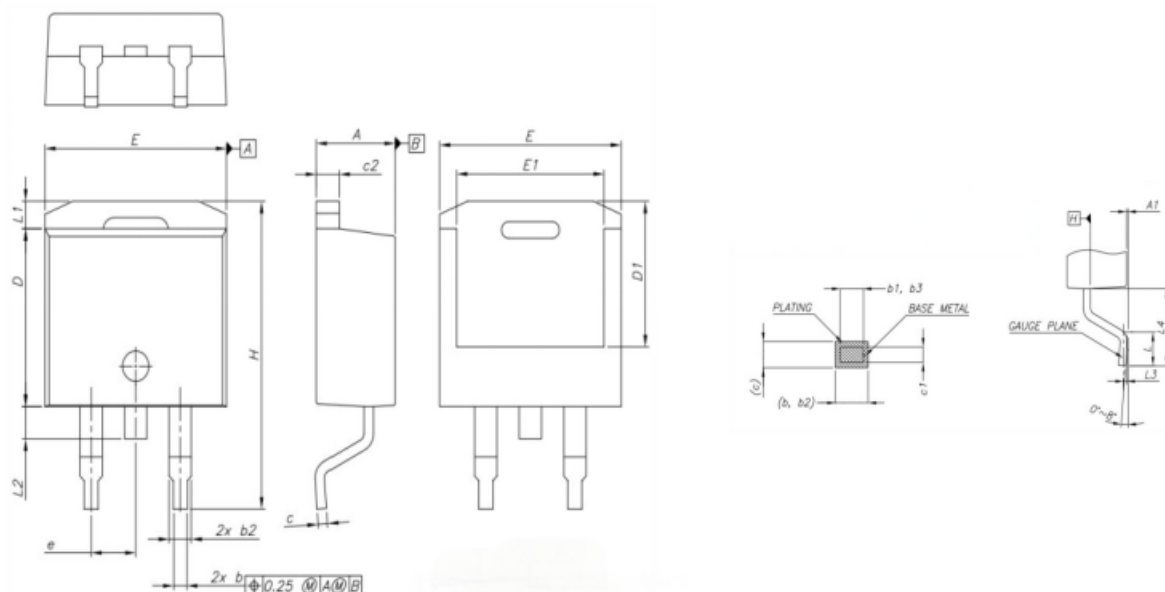
Unit : mm



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

T0-263-2

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
	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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