

## Product Overview

### MC7800: Linear Voltage Regulator, 1 A, 5 to 24 V, Positive

For complete documentation, see the data sheet.

The MC7800 Series of positive linear voltage regulators are monolithic integrated circuits designed as fixed-voltage regulators for a wide variety of applications including local, on-card regulation. These regulators employ internal current limiting, thermal shutdown, and safe-area compensation. With adequate heatsinking they can deliver output currents in excess of 1.0 A. Although designed primarily as a fixed voltage regulator, these devices can be used with external components to obtain adjustable voltages and currents. The linear voltage regulator is also available in automotive NCV7800 version.

#### Specifications:

	MC7800AB	MC7800AC	MC7800B	MC7800C
Tolerance	2%	2%	4%	4%
Temperature Range	-40°C to +125°C	0°C to +125°C	-40°C to +125°C	0°C to +125°C
Package	D2PAK, TO-220	D2PAK, TO-220	DPAK, D2PAK, TO-220	DPAK, D2PAK, TO-220

#### Features

- Output Current in Excess of 1.0 A
- No External Components Required
- Internal Thermal Overload Protection
- Internal Short Circuit Current Limiting
- Output Transistor Safe-Area Compensation
- Output Voltage Offered in 2% and 4% Tolerance
- Pb-Free Packages are Available

## Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Output	Polarity	V <sub>O</sub> (V)	I <sub>O</sub> Typ (A)	V <sub>Min</sub> (V)	V <sub>Max</sub> (V)	V <sub>DO</sub> Typ (V)	I <sub>q</sub> Typ (mA)	PSR R (dB)	Noise (μV <sub>rms</sub> )	Enable	PowerGood	Package Type
MC7805ABD2TG	0.3128	Pb-free Halide free	Active	Single	Positive	5	1	7	35	2	3.2	68	10	No	No	D <sup>2</sup> PAK-3
MC7805ABD2TR4G	0.3252	Pb-free Halide free	Active	Single	Positive	5	1	7	35	2	3.2	68	10	No	No	D <sup>2</sup> PAK-3
MC7805ABTG	0.2383	Pb-free Halide free	Active	Single	Positive	5	1	7	35	2	3.2	68	10	No	No	TO-220-3
MC7805ACD2TG	0.2667	Pb-free Halide free	Active	Single	Positive	5	1	7	35	2	3.2	68	10	No	No	D <sup>2</sup> PAK-3
MC7805ACD2TR4G	0.282	Pb-free Halide free	Active	Single	Positive	5	1	7	35	2	3.2	68	10	No	No	D <sup>2</sup> PAK-3
MC7805ACTG	0.2064	Pb-free Halide free	Active	Single	Positive	5	1	7	35	2	3.2	68	10	No	No	TO-220-3
MC7805BD2TG	0.2647	Pb-free Halide free	Active	Single	Positive	5	1	7	35	2	3.2	68	10	No	No	D <sup>2</sup> PAK-3
MC7805BD2TR4G	0.3059	Pb-free Halide free	Active	Single	Positive	5	1	7	35	2	3.2	68	10	No	No	D <sup>2</sup> PAK-3
MC7805BDTG	0.1837	Pb-free Halide free	Active	Single	Positive	5	1	7	35	2	3.2	68	10	No	No	DPAK-3
MC7805BDTRKG	0.1768	Pb-free Halide free	Active	Single	Positive	5	1	7	35	2	3.2	68	10	No	No	DPAK-3
MC7805BTG	0.2067	Pb-free Halide free	Active	Single	Positive	5	1	7	35	2	3.2	68	10	No	No	TO-220-3
MC7805CD2TG	0.2209	Pb-free Halide free	Active	Single	Positive	5	1	7	35	2	3.2	68	10	No	No	D <sup>2</sup> PAK-3
MC7805CD2TR4G	0.2311	Pb-free Halide free	Active	Single	Positive	5	1	7	35	2	3.2	68	10	No	No	D <sup>2</sup> PAK-3
MC7805CDTG	0.1971	Pb-free Halide free	Active	Single	Positive	5	1	7	35	2	3.2	68	10	No	No	DPAK-3
MC7805CDTRKG	0.1812	Pb-free Halide free	Active	Single	Positive	5	1	7	35	2	3.2	68	10	No	No	DPAK-3
MC7805CTG	0.12	Pb-free Halide free	Active	Single	Positive	5	1	7	35	2	3.2	68	10	No	No	TO-220-3
MC7806ACTG	0.2012	Pb-free Halide free	Active	Single	Positive	6	1	8	35	2	3.3	65	10	No	No	TO-220-3
MC7806BD2TG	0.2879	Pb-free Halide free	Active	Single	Positive	6	1	8	35	2	3.3	65	10	No	No	D <sup>2</sup> PAK-3
MC7806BD2TR4G	0.2357	Pb-free Halide free	Active	Single	Positive	6	1	8	35	2	3.3	65	10	No	No	D <sup>2</sup> PAK-3
MC7806BTG	0.1785	Pb-free Halide free	Active	Single	Positive	6	1	8	35	2	3.3	65	10	No	No	TO-220-3
MC7806CTG	0.2027	Pb-free Halide free	Active	Single	Positive	6	1	8	35	2	3.3	65	10	No	No	TO-220-3
MC7808ABD2TG	0.3136	Pb-free Halide free	Active	Single	Positive	8	1	10	35	2	3.3	62	10	No	No	D <sup>2</sup> PAK-3
MC7808ABD2TR4G	0.2928	Pb-free Halide free	Active	Single	Positive	8	1	10	35	2	3.3	62	10	No	No	D <sup>2</sup> PAK-3
MC7808ABTG	0.1873	Pb-free Halide free	Active	Single	Positive	8	1	10	35	2	3.3	62	10	No	No	TO-220-3
MC7808ACTG	0.2249	Pb-free Halide free	Active	Single	Positive	8	1	10	35	2	3.3	62	10	No	No	TO-220-3
MC7808BD2TG	0.2879	Pb-free Halide free	Active	Single	Positive	8	1	10	35	2	3.3	62	10	No	No	D <sup>2</sup> PAK-3

MC7808BD2TR4G	0.2795	Pb-free Halide free	Active	Singl e	Positi ve	8	1	10	35	2	3.3	62	10	No	No	<sup>2</sup> D PA K-3
MC7808BDTG	0.2043	Pb-free Halide free	Active	Singl e	Positi ve	8	1	10	35	2	3.3	62	10	No	No	DPA K-3
MC7808BDTRKG	0.1667	Pb-free Halide free	Active	Singl e	Positi ve	8	1	10	35	2	3.3	62	10	No	No	DPA K-3
MC7808BTG	0.2067	Pb-free Halide free	Active	Singl e	Positi ve	8	1	10	35	2	3.3	62	10	No	No	TO- 220-3
MC7808CD2TG	0.2388	Pb-free Halide free	Active	Singl e	Positi ve	8	1	10	35	2	3.3	62	10	No	No	<sup>2</sup> D PA K-3
MC7808CD2TR4G	0.238	Pb-free Halide free	Active	Singl e	Positi ve	8	1	10	35	2	3.3	62	10	No	No	<sup>2</sup> D PA K-3
MC7808CDTG	0.1844	Pb-free Halide free	Active	Singl e	Positi ve	8	1	10	35	2	3.3	62	10	No	No	DPA K-3
MC7808CDTRKG	0.1943	Pb-free Halide free	Active	Singl e	Positi ve	8	1	10	35	2	3.3	62	10	No	No	DPA K-3
MC7808CDTT5G	0.4173	Pb-free Halide free	Active	Singl e	Positi ve	8	1	10	35	2	3.3	62	10	No	No	DPA K-3
MC7808CTG	0.1653	Pb-free Halide free	Active	Singl e	Positi ve	8	1	10	35	2	3.3	62	10	No	No	TO- 220-3
MC7809ABTG		Pb-free Halide free	Active	Singl e	Positi ve	9	1	11	35	2	3.3	61	10	No	No	TO- 220-3
MC7809ACTG	0.1661	Pb-free Halide free	Active	Singl e	Positi ve	9	1	11	35	2	3.3	61	10	No	No	TO- 220-3
MC7809BTG	0.1755	Pb-free Halide free	Active	Singl e	Positi ve	9	1	11	35	2	3.4	61	10	No	No	TO- 220-3
MC7809CD2TG	0.2347	Pb-free Halide free	Active	Singl e	Positi ve	9	1	11	35	2	3.4	61	10	No	No	<sup>2</sup> D PA K-3
MC7809CD2TR4G	0.2333	Pb-free Halide free	Active	Singl e	Positi ve	9	1	11	35	2	3.4	61	10	No	No	<sup>2</sup> D PA K-3
MC7809CTG	0.1653	Pb-free Halide free	Active	Singl e	Positi ve	9	1	11	35	2	3.4	61	10	No	No	TO- 220-3
MC7812ABD2TG	0.3067	Pb-free Halide free	Active	Singl e	Positi ve	12	1	14	35	2	3.4	60	10	No	No	<sup>2</sup> D PA K-3
MC7812ABD2TR4G	0.3288	Pb-free Halide free	Active	Singl e	Positi ve	12	1	14	35	2	3.4	60	10	No	No	<sup>2</sup> D PA K-3
MC7812ABTG	0.2	Pb-free Halide free	Active	Singl e	Positi ve	12	1	14	35	2	3.4	60	10	No	No	TO- 220-3
MC7812ACD2TG	0.2667	Pb-free Halide free	Active	Singl e	Positi ve	12	1	14	35	2	3.4	60	10	No	No	<sup>2</sup> D PA K-3
MC7812ACD2TR4G	0.2952	Pb-free Halide free	Active	Singl e	Positi ve	12	1	14	35	2	3.4	60	10	No	No	<sup>2</sup> D PA K-3
MC7812ACTG	0.1815	Pb-free Halide free	Active	Singl e	Positi ve	12	1	14	35	2	3.4	60	10	No	No	TO- 220-3
MC7812BD2TG	0.2701	Pb-free Halide free	Active	Singl e	Positi ve	12	1	14	35	2	3.4	60	10	No	No	<sup>2</sup> D PA K-3
MC7812BD2TR4G	0.288	Pb-free Halide free	Active	Singl e	Positi ve	12	1	14	35	2	3.4	60	10	No	No	<sup>2</sup> D PA K-3
MC7812BDTG	0.1911	Pb-free Halide free	Active	Singl e	Positi ve	12	1	14	35	2	3.4	60	10	No	No	DPA K-3
MC7812BDTRKG	0.2149	Pb-free Halide free	Active	Singl e	Positi ve	12	1	14	35	2	3.4	60	10	No	No	DPA K-3
MC7812BTG	0.1937	Pb-free Halide free	Active	Singl e	Positi ve	12	1	14	35	2	3.4	60	10	No	No	TO- 220-3

MC7812CD2TG	0.2267	Pb-free Halide free	Active	Singl e	Positi ve	12	1	14	35	2	3.4	60	10	No	No	<sup>2</sup> PA K-3
MC7812CD2TR4G	0.2616	Pb-free Halide free	Active	Singl e	Positi ve	12	1	14	35	2	3.4	60	10	No	No	<sup>2</sup> PA K-3
MC7812CDTG	0.2079	Pb-free Halide free	Active	Singl e	Positi ve	12	1	14	35	2	3.4	60	10	No	No	DPA K-3
MC7812CDTRKG	0.1976	Pb-free Halide free	Active	Singl e	Positi ve	12	1	14	35	2	3.4	60	10	No	No	DPA K-3
MC7812CTG	0.1941	Pb-free Halide free	Active	Singl e	Positi ve	12	1	14	35	2	3.4	60	10	No	No	TO- 220-3
MC7815ABD2TG	0.2863	Pb-free Halide free	Active	Singl e	Positi ve	15	1	17	35	2	3.5	80	10	No	No	<sup>2</sup> PA K-3
MC7815ABD2TR4G	0.3564	Pb-free Halide free	Active	Singl e	Positi ve	15	1	17	35	2	3.5	80	10	No	No	<sup>2</sup> PA K-3
MC7815ABTG	0.1667	Pb-free Halide free	Active	Singl e	Positi ve	15	1	17	35	2	3.5	80	10	No	No	TO- 220-3
MC7815ACD2TG	0.2667	Pb-free Halide free	Active	Singl e	Positi ve	15	1	17	35	2	3.5	80	10	No	No	<sup>2</sup> PA K-3
MC7815ACTG	0.1524	Pb-free Halide free	Active	Singl e	Positi ve	15	1	17	35	2	3.5	80	10	No	No	TO- 220-3
MC7815BD2TG	0.2712	Pb-free Halide free	Active	Singl e	Positi ve	15	1	17	35	2	3.5	58	10	No	No	<sup>2</sup> PA K-3
MC7815BD2TR4G	0.2621	Pb-free Halide free	Active	Singl e	Positi ve	15	1	17	35	2	3.5	58	10	No	No	<sup>2</sup> PA K-3
MC7815BDTG	0.2017	Pb-free Halide free	Active	Singl e	Positi ve	15	1	17	35	2	3.5	58	10	No	No	DPA K-3
MC7815BDTRKG	0.2295	Pb-free Halide free	Active	Singl e	Positi ve	15	1	17	35	2	3.5	58	10	No	No	DPA K-3
MC7815BTG	0.1999	Pb-free Halide free	Active	Singl e	Positi ve	15	1	17	35	2	3.5	58	10	No	No	TO- 220-3
MC7815CD2TG	0.2385	Pb-free Halide free	Active	Singl e	Positi ve	15	1	17	35	2	3.5	58	10	No	No	<sup>2</sup> PA K-3
MC7815CD2TR4G	0.2643	Pb-free Halide free	Active	Singl e	Positi ve	15	1	17	35	2	3.5	58	10	No	No	<sup>2</sup> PA K-3
MC7815CDTG	0.194	Pb-free Halide free	Active	Singl e	Positi ve	15	1	17	35	2	3.5	58	10	No	No	DPA K-3
MC7815CDTRKG	0.2188	Pb-free Halide free	Active	Singl e	Positi ve	15	1	17	35	2	3.5	58	10	No	No	DPA K-3
MC7815CTG	0.1941	Pb-free Halide free	Active	Singl e	Positi ve	15	1	17	35	2	3.5	58	10	No	No	TO- 220-3
MC7818ACTG	0.1995	Pb-free Halide free	Active	Singl e	Positi ve	18	1	20	35	2	3.5	57	10	No	No	TO- 220-3
MC7818BTG	0.1623	Pb-free Halide free	Active	Singl e	Positi ve	18	1	20	35	2	3.5	57	10	No	No	TO- 220-3
MC7818CD2TR4G	0.2335	Pb-free Halide free	Active	Singl e	Positi ve	18	1	20	35	2	3.5	57	10	No	No	<sup>2</sup> PA K-3
MC7818CTG	0.1263	Pb-free Halide free	Active	Singl e	Positi ve	18	1	20	35	2	3.5	57	10	No	No	TO- 220-3
MC7824ACTG	0.2015	Pb-free Halide free	Active	Singl e	Positi ve	24	1	26	40	2	3.6	54	10	No	No	TO- 220-3
MC7824BD2TG	0.28	Pb-free Halide free	Active	Singl e	Positi ve	24	1	26	40	2	3.6	54	10	No	No	<sup>2</sup> PA K-3
MC7824BD2TR4G	0.2731	Pb-free Halide free	Active	Singl e	Positi ve	24	1	26	40	2	3.6	54	10	No	No	<sup>2</sup> PA K-3

MC7824BTG	0.1528	Pb-free Halide free	Active	Single	Positive	24	1	26	40	2	3.6	54	10	No	No	TO-220-3
MC7824CD2TG	0.2661	Pb-free Halide free	Active	Single	Positive	24	1	26	40	2	3.6	54	10	No	No	D <sup>2</sup> PA K-3
MC7824CD2TR4G	0.2755	Pb-free Halide free	Active	Single	Positive	24	1	26	40	2	3.6	54	10	No	No	D <sup>2</sup> PA K-3
MC7824CTG	0.1616	Pb-free Halide free	Active	Single	Positive	24	1	26	40	2	3.6	54	10	No	No	TO-220-3
NCV7815BTG	0.2105	AEC Qualified PPAP Capable Pb-free Halide free	Active	Single	Positive	15	1	17	35	2	3.5	58	150	No	No	TO-220-3

For more information please contact your local sales support at [www.onsemi.com](http://www.onsemi.com).

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