

Product Overview

NCP7800: Linear Voltage Regulator, 1 A, High PSRR

For complete documentation, see the data sheet.

The NCP7800 series consists of 3 pin, fixed output, positive linear voltage regulators, suitable for a wide variety of applications. These regulators are extremely rugged, incorporating internal current limiting, thermal shutdown and safe-area compensation. With adequate heat sinking they can deliver output currents in excess of 1.0 A. Designed as direct replacements for the popular MC7800 family, these products offer enhanced ESD protection.

Features

- Output Current in Excess of 1.0 A
- No External Components Required
- Internal Thermal Overload Protection
- Internal Short Circuit Current Limiting
- Available in Standard 3 Lead Transistor Packages
- Enhanced ESD Tolerance: HBM 4 kV (5 V and 8 V Options), 3 kV(12 V and 15 V Options), and MM 400 V
- These are Pb-Free Devices
- Output Transistor SafeArea Compensation
- Output Voltage Offered in 4% Tolerance
- For Tighter Tolerances and Extended Operating Range Refer to MC7800

For more features, see the data sheet

Benefits

- Suitable for a very wide variety of applications
- Simple to design with and very cost effective
- Can be used under a wide variety of operating conditions
- Rugged and robust
- Excellent power dissipation
- Reduced risk of damage during end product assembly
- Meets regulatory requirements and is environmentally friendly

Applications

- Power supplies
- On board post regulation
- Industrial and consumer applications

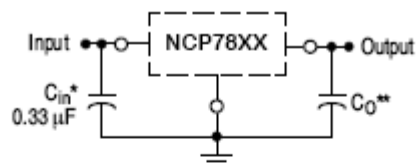
End Products

- Fridges, air conditioning, domestic appliances
- TV, Set top boxes, Antenna drivers

Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Output	Polarity	V _O (V)	I _O Typ (A)	V _{Min} (V)	V _{Max} (V)	V _{DO} Typ (V)	I _q Typ (mA)	PSRR (dB)	Noise (μV _{rms})	Enable	PowerGood	Package Type
NCP7805ETG	0.158	Pb-free Halide free	Active	Single	Positive	5	1	7	35	2	3	75	34	No	No	TO-220-3
NCP7805TG	0.1496	Pb-free Halide free	Active	Single	Positive	5	1	7	35	2	3	75	34	No	No	TO-220-3
NCP7808TG	0.2068	Pb-free Halide free	Active	Single	Positive	8	1	7	35	2	3	72	54.4	No	No	TO-220-3
NCP7812ETG	0.158	Pb-free Halide free	Active	Single	Positive	12	1	7	35	2	3	71	81.6	No	No	TO-220-3
NCP7812TG	0.1751	Pb-free Halide free	Active	Single	Positive	12	1	7	35	2	3	71	81.6	No	No	TO-220-3
NCP7815TG	0.1813	Pb-free Halide free	Active	Single	Positive	15	1	7	35	2	3	70	102	No	No	TO-220-3

Application Diagram



A common ground is required between the input and the output voltages. The input voltage must remain typically 2.0 V above the output voltage even during the low point on the input ripple voltage.

XX These two digits of the type number indicate nominal voltage.

* C_{in} is required if regulator is located an appreciable distance from power supply filter.

** C_o is not needed for stability; however, it does improve transient response. Values of less than 0.1 μF could cause instability.

Figure 1. Application Schematic

For more information please contact your local sales support at www.onsemi.com.

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