

# SIMPLE SWITCHER® Power Modules for Military

Highly reliable solutions for rugged military conditions.

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SIMPLE SWITCHER power modules optimize system efficiency, increase power density, and deliver robust system performance. The power modules integrate the control circuitry, a shielded inductor, MOSFETs, and small passives in an easy-to-use package. Packaged in a completely enclosed plastic molding, the modules feature leads and a single exposed metal bottom ideal for harsh environments.



## High Reliability

- Guaranteed and tested to perform at IC junction temperatures ranging from -40° C to 125° C
- Single exposed bottom offer best-in-class thermal performance and leads offer board-to-device stress relief from varying ambient temperatures
- Excellent thermal performance eliminates the need for external heat sinks and fans
- Semiconductor integrated circuit level reliability and performance for rugged environments
- Fully RoHS compliant

## Robust System Performance

- Guaranteed low EMI performance will not interfere with sensitive analog signal paths
- Low output voltage ripple for powering noise-sensitive transceiver and signaling ICs
- Excellent transient performance for fast response to varying load conditions
- Self-protected against output overvoltage and short circuit conditions

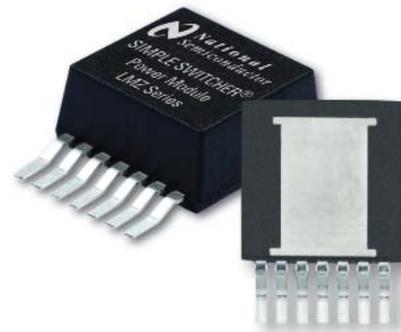
## High Energy Efficiency

- Up to 94% peak efficiency using synchronous DC-DC switching reduces system heat generation and energy costs



## Fast Development Time

- Innovative packaging similar to TO-263 makes design easy, similar to a Linear Dropout Regulator (LDO)
- Highly integrated solution simplifies board layout and design qualification, lowers manufacturing and overall risk
- Compatible with pick-and-place manufacturing used for TO-263 packages
- Easy to hand solder for quick prototyping
- Complies with EN55022 Class B radiated EMI standards
- Pin-to-pin compatibility and identical footprint for different load currents within each module series maximizes design reusability



## DESIGN MADE EASY



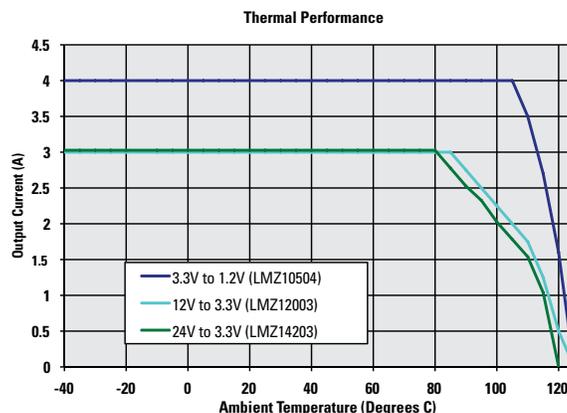
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## Target Military Applications

- Military communications
- Telemetry
- Sensing and control systems
- Weapon systems
- Radar and Lidar



LMZ12003 & LMZ14203 thermal performance measured on 3" x 1.7" four layer board, 1 oz. copper  
 LMZ10504 thermal performance measured on 2.25" x 2.25" four layer board, 1 oz. copper

## 3.3V and 5V Input Rail Devices

Device	Output Current	Input Voltage	Output Voltage	Output Voltage Ripple (3.3V to 1.2V)	Peak Efficiency (3.3V to 1.2V)	Package Dimensions (including leads)	EMI Certification	Pricing (500u)
LMZ10505	5A	2.95V to 5.5V	0.8V to 5V	10 mV pk-pk	91%	7-pin TZA 10.16 x 13.77 x 4.57mm	EN55022 (Class B)	\$7.60
LMZ10504	4A	2.95V to 5.5V	0.8V to 5V	10 mV pk-pk	91%	7-pin TZA 10.16 x 13.77 x 4.57mm	EN55022 (Class B)	\$7.10
LMZ10503	3A	2.95V to 5.5V	0.8V to 5V	8 mV pk-pk	90.7%	7-pin TZA 10.16 x 13.77 x 4.57mm	EN55022 (Class B)	\$6.60

## 12V Input Rail Devices

Device	Output Current	Input Voltage	Output Voltage	Output Voltage Ripple (12V to 3.3V)	Peak Efficiency (12V to 3.3V)	Package Dimensions (including leads)	EMI Certification	Pricing (500u)
LMZ12003	3A	4.5V to 20V	0.8V to 6V	25 mV pk-pk	90%	7-pin TZA 10.16 x 13.77 x 4.57mm	EN55022 (Class B)	\$7.25
LMZ12002	2A	4.5V to 20V	0.8V to 6V	18 mV pk-pk	90.5%	7-pin TZA 10.16 x 13.77 x 4.57mm	EN55022 (Class B)	\$6.00
LMZ12001	1A	4.5V to 20V	0.8V to 6V	13 mV pk-pk	90.5%	7-pin TZA 10.16 x 13.77 x 4.57mm	EN55022 (Class B)	\$5.25

## 24V Input Rail Devices

Device	Output Current	Input Voltage	Output Voltage	Output Voltage Ripple (24V to 3.3V)	Peak Efficiency (24V to 3.3V)	Package Dimensions (including leads)	EMI Certification	Pricing (500u)
LMZ14203	3A	6V to 42V	0.8V to 6V	29 mV pk-pk	86.5%	7-pin TZA 10.16 x 13.77 x 4.57mm	EN55022 (Class B)	\$9.50
LMZ14202	2A	6V to 42V	0.8V to 6V	20 mV pk-pk	87%	7-pin TZA 10.16 x 13.77 x 4.57mm	EN55022 (Class B)	\$7.50
LMZ14201	1A	6V to 42V	0.8V to 6V	17 mV pk-pk	87%	7-pin TZA 10.16 x 13.77 x 4.57mm	EN55022 (Class B)	\$6.50

**National Semiconductor**  
 2900 Semiconductor Drive  
 Santa Clara, CA 95051  
 1 800 272 9959

**Mailing address:**  
 PO Box 58090  
 Santa Clara, CA 95052

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Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265  
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