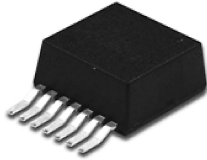
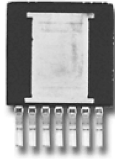


5A SIMPLE SWITCHER® Power Module with 5.5V Maximum Input Voltage

Easy to Use 7 Pin Package



Top View



Bottom View

30107486

TO-PMOD 7 Pin Package
 10.16 x 13.77 x 4.57 mm (0.4 x 0.39 x 0.18 in)
 $\theta_{JA} = 20^{\circ}\text{C/W}$, $\theta_{JC} = 1.9^{\circ}\text{C/W}$ (See Note 1)
 RoHS Compliant

Performance Benefits

- Operates at high ambient temperatures
- High efficiency up to 96% reduces system heat generation
- Low radiated emissions (EMI) complies with EN55022 class B standard (See Note 2)
- Passes 10V/m radiated immunity EMI test standard EN61000 4-3
- Low output voltage ripple of 10 mV allows for powering noise-sensitive transceiver and signaling ICs
- Fast transient response for powering FPGAs and ASICs

Electrical Specifications

- 25W maximum total output power
- Up to 5A output current
- Input voltage range 2.95V to 5.5V
- Output voltage range 0.8V to 5V
- $\pm 1.63\%$ feedback voltage accuracy over temperature
- Efficiency up to 96%

Key Features

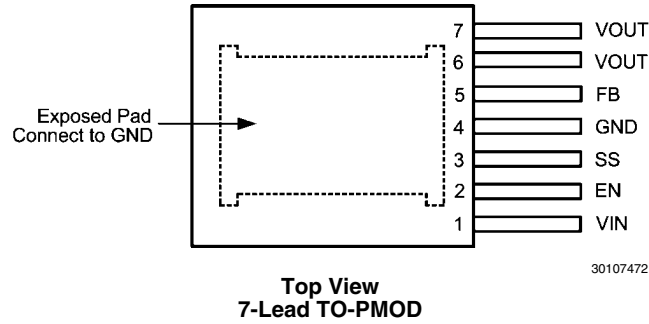
- Integrated shielded inductor
- Flexible startup sequencing using external soft-start, tracking, and precision enable
- Protection against in-rush currents and faults such as input UVLO and output short-circuit
- -40°C to $+125^{\circ}\text{C}$ junction temperature operating range
- Single exposed pad and standard pinout for easy mounting and manufacturing
- Pin-to-pin compatible with LMZ10503 (3A/15W max) LMZ10504 (4A/20W max)
- Fully enable for WEBENCH® and Power Designer

Applications

- Point-of-load conversions from 3.3V and 5V rails
 - Space constrained applications
 - Extreme temperatures/no air flow environments
 - Noise sensitive applications (i.e. transceiver, medical)
- Note 1: θ_{JA} measured on a 2.25" x 2.25" (5.8 cm x 5.8 cm) four layer board.

Note 2: EN 55022:2006, +A1:2007, FCC Part 15 Subpart B: 2007.

Connection Diagram



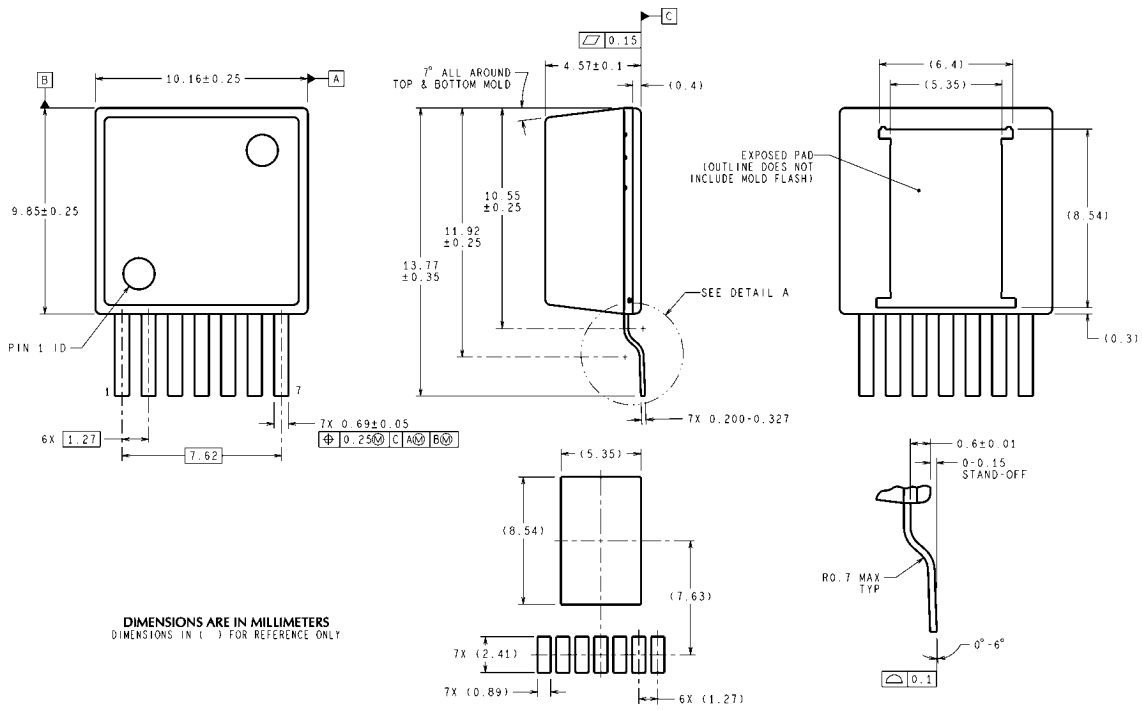
Ordering Information

Order Number	Supplied As	Package Type	NSC Package Drawing	Package Marking
LMZ10505TZ-ADJ	250 Units in Tape and Reel	TO-PMOD-7	TZA07A	LMZ10505TZ-ADJ
LMZ10505TZX-ADJ	500 Units in Tape and Reel			

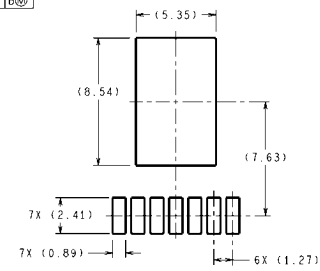
Pin Descriptions

Pin Number	Name	Description
1	VIN	A low ESR input capacitance should be located as close as possible to VIN pin and GND pin.
2	EN	Active high enable input for the device.
3	SS	Soft-start control pin. An internal 2 uA current source charges and external capacitor connected between this pin and GND (pin 4) to set the output voltage ramp rate during startup. This pin can also be used to configure the tracking feature.
4	GND	Power ground and signal ground. Connect the bottom feedback resistor between this pin and the feedback pin.
5	FB	Feedback pin. This is the inverting input of the error amplifier used for sensing the output voltage.
6, 7	VOUT	This is the output of the internal inductor. Connect an external resistor voltage divider from VOUT to FB to ground.
EP	Exposed Pad	Exposed pad thermal connection. Connect this pad to the PC board ground plane in order to reduce thermal resistance value. It also provides an electrical connection to the input and output capacitors ground terminals.

Physical Dimensions inches (millimeters) unless otherwise noted



DIMENSIONS ARE IN MILLIMETERS
DIMENSIONS IN () FOR REFERENCE ONLY



RECOMMENDED LAND PATTERN
TO-PMOD-7 Pin Package
NS Package Number TZA07A

TZA07A (Rev C)

Notes

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LED Lighting	www.national.com/led	Feedback/Support	www.national.com/feedback
Voltage References	www.national.com/vref	Design Made Easy	www.national.com/easy
PowerWise® Solutions	www.national.com/powerwise	Applications & Markets	www.national.com/solutions
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