



12V Mega TLynx<sup>™</sup> : Non-Isolated DC-DC Power Modules:  
6.0Vdc – 14Vdc input; 0.8 to 3.63Vdc Output; 30A Output Current

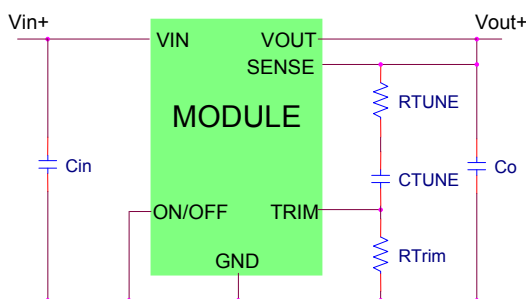
TUNABLE  
LOOP<sup>™</sup>  
A LINEAGE POWER TRADEMARK



RoHS Compliant

### Applications

- Distributed power architectures
- Intermediate bus voltage applications
- Telecommunications equipment
- Servers and storage applications
- Networking equipment



### Description

The 12V Mega TLynx<sup>™</sup> power modules are non-isolated dc-dc converters<sup>™</sup> that can deliver up to 30A of output current. These modules operate over a wide range of input voltage ( $V_{IN} = 6Vdc-14Vdc$ ) and provide a precisely regulated output voltage from 0.8Vdc to 3.63Vdc, programmable via an external resistor. Features include remote On/Off, adjustable output voltage, over current and over temperature protection, output voltage sequencing and paralleling with active current sharing (-P versions). A new feature, the Tunable Loop<sup>™</sup>, allows the user to optimize the dynamic response of the converter to match the load with reduced amount of output capacitance leading to savings on cost and PWB area

### Features

- Compliant to RoHS EU Directive 2002/95/EC (-Z versions)
- Compliant to ROHS EU Directive 2002/95/EC with lead solder exemption (non-Z versions)
- Compliant to IPC-9592 (September 2008), Category 2, Class II
- Delivers up to 30A of output current
- High efficiency: 92.9% @ 3.3V full load ( $V_{IN}=12Vdc$ )
- Input voltage range from 6 to 14Vdc
- Output voltage programmable from 0.8 to 3.63Vdc
- Small size and low profile:  
33.0 mm x 13.46 mm x 10.00 mm  
(1.30 in. x 0.53 in. x 0.39 in.)
- Monotonic start-up
- Startup into pre-biased output
- Output voltage sequencing (EZ-SEQUENCE<sup>™</sup>)
- Remote On/Off
- Remote Sense
- Over current and Over temperature protection
- Option- Parallel operation with active current sharing
- Wide operating temperature range (-40°C to 85°C)
- UL\* 60950 Recognized, CSA<sup>†</sup> C22.2 No. 60950-00 Certified, and VDE<sup>‡</sup> 0805 (EN60950-1 3<sup>rd</sup> edition) Licensed
- ISO\*\* 9001 and ISO 14001 certified manufacturing facilities

\* UL is a registered trademark of Underwriters Laboratories, Inc.

† CSA is a registered trademark of Canadian Standards Association.

‡ VDE is a trademark of Verband Deutscher Elektrotechniker e.V.

\*\* ISO is a registered trademark of the International Organization of Standards

## Absolute Maximum Ratings

Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. These are absolute stress ratings only, functional operation of the device is not implied at these or any other conditions in excess of those given in the operations sections of the data sheet. Exposure to absolute maximum ratings for extended periods can adversely affect the device reliability.

Parameter	Device	Symbol	Min	Max	Unit
Input Voltage Continuous	All	$V_{IN}$	-0.3	15	Vdc
Sequencing pin voltage	All	$V_{SEQ}$	-0.3	15	Vdc
Operating Ambient Temperature (see Thermal Considerations section)	All	$T_A$	-40	85	°C
Storage Temperature	All	$T_{stg}$	-55	125	°C

## Electrical Specifications

Unless otherwise indicated, specifications apply over all operating input voltage, resistive load, and temperature conditions.

Parameter	Device	Symbol	Min	Typ	Max	Unit
Operating Input Voltage	All	$V_{IN}$	6.0	12	14	Vdc
Maximum Input Current ( $V_{IN} = V_{IN,min}$ , $V_O = V_{O,set}$ , $I_O = I_{O,max}$ )	All	$I_{IN,max}$			19	Adc
Inrush Transient	All	$I^2 t$			1	$A^2 s$
Input No Load Current ( $V_{IN} = 12.0Vdc$ , $I_O = 0$ , module enabled)	$V_{O,set} = 0.8 Vdc$	$I_{IN,No load}$		91		mA
	$V_{O,set} = 3.3Vdc$	$I_{IN,No load}$		265		mA
Input Stand-by Current ( $V_{IN} = 12.0Vdc$ , module disabled)	All	$I_{IN,stand-by}$		20		mA
Input Reflected Ripple Current, peak-to-peak (5Hz to 20MHz, 1 $\mu$ H source impedance; $V_{IN} = 6.0V$ to 14.0V, $I_O = I_{O,max}$ ; See Figure 1)	All			100		mAp-p
Input Ripple Rejection (120Hz)	All			50		dB