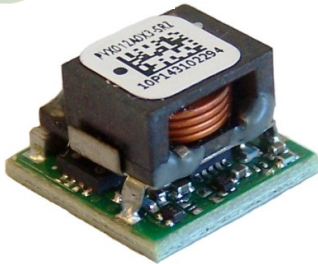


## 12A Analog Pico DLynx<sup>™</sup>: Non-Isolated DC-DC Power Modules 3Vdc –14.4Vdc input; 0.6Vdc to 5.5Vdc output; 12A Output Current

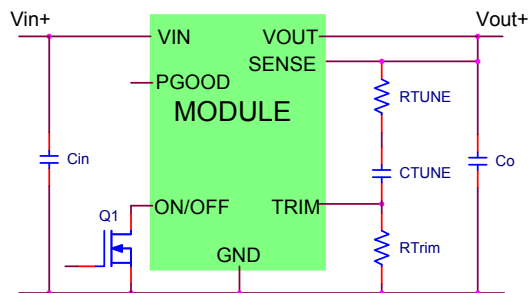
TUNABLE  
LOOP<sup>™</sup>  
A LINEAGE POWER TRADEMARK



### RoHS Compliant

### Applications

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



### Description

The 12A Analog Pico DLynx<sup>™</sup> power modules are non-isolated dc-dc converters that can deliver up to 12A of output current. These modules operate over a wide range of input voltage ( $V_{IN} = 3\text{Vdc}-14.4\text{Vdc}$ ) and provide a precisely regulated output voltage from 0.6Vdc to 5.5Vdc, programmable via an external resistor. Features include remote On/Off, adjustable output voltage, over current and over temperature protection. The Tunable Loop<sup>™</sup> feature 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)
- Compatible in a Pb-free or SnPb reflow environment (Z versions)
- DOSA based
- Wide Input voltage range (3Vdc-14.4Vdc)
- Output voltage programmable from 0.6Vdc to 5.5Vdc via external resistor
- Tunable Loop<sup>™</sup> to optimize dynamic output voltage response
- Power Good signal
- Fixed switching frequency
- Output overcurrent protection (non-latching)
- Overtemperature protection
- Remote On/Off
- Ability to sink and source current
- Cost efficient open frame design
- Small size: 12.2 mm x 12.2 mm x 8.5 mm (0.48 in x 0.48 in x 0.335 in)
- Wide operating temperature range [-40°C to 85°C]
- UL\* 60950-1 Recognized, CSA<sup>†</sup> C22.2 No. 60950-1-03 Certified, and VDE<sup>‡</sup> 0805:2001-12 (EN60950-1) 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
Operating Ambient Temperature (see Thermal Considerations section)	All	$T_A$	-40	85	°C
	-D version	$T_A$	-40	105	°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	$V_{IN}$	3	—	14.4	Vdc
Maximum Input Current ( $V_{IN}=3V$ to $14V$ , $I_O=I_{O,max}$ )	All	$I_{IN,max}$			12	Adc
Input No Load Current ( $V_{IN} = 12.0Vdc$ , $I_O = 0$ , module enabled)	$V_{O,set} = 0.6 Vdc$	$I_{IN,No load}$		45		mA
	$V_{O,set} = 5Vdc$	$I_{IN,No load}$		75		mA
Input Stand-by Current ( $V_{IN} = 12.0Vdc$ , module disabled)	All	$I_{IN,stand-by}$		0.65		mA
Inrush Transient	All	$I^2t$			1	A <sup>2</sup> s
Input Reflected Ripple Current, peak-to-peak (5Hz to 20MHz, 1μH source impedance; $V_{IN}=0$ to 14V, $I_O=I_{O,max}$ ; See Test Configurations)	All			40		mAp-p
Input Ripple Rejection (120Hz)	All			-60		dB