Data Sheet
October 20, 2011

Austin MegaLynx™ SMT: Non-Isolated DC-DC Power Modules:
4.5Vdc – 5.5Vdc input; 0.8 to 3.63Vdc; 30A Output Current
6.0Vdc – 14Vdc input; 0.8 to 3.63Vdc Output; 20/30A Output Current

RoHS Compliant

Applications

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

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)
- Delivers up to 30A of output current
- High efficiency: 92% @ 3.3V full load (12Vin)
- Available in two input voltage ranges
  - ATH: 4.5 to 5.5Vdc
  - ATS: 6 to 14Vdc
- Output voltage programmable from
  - ATH: 0.8 to 3.63Vdc
  - ATS030: 0.8 to 2.75Vdc
  - ATS020: 0.8 to 3.63Vdc
- Small size and low profile:
  33.0 mm x 10.0 mm x 13.5 mm
  (1.30 in. x 0.39 in. x 0.53 in.)
- Monotonic start-up into pre-biased output
- Output voltage sequencing (EZ-SEQUENCE™)
- Remote On/Off
- Remote Sense
- Over current and Over temperature protection
- -P option: Paralleling with active current share
- -H option: Additional GND pins for improved thermal derating
- Wide operating temperature range (-40°C to 85°C)
- *UL** 60950 Recognized, *CSA*† C22.2 No. 60950-00 Certified, and *VDE*‡ 0805 (EN60950-1 3rd edition) Licensed
- ISO** 9001 and ISO 14001 certified manufacturing facilities

Description

The Austin MegaLynx series SMT power modules are non-isolated DC-DC converters in an industry standard package that can deliver up to 30A of output current with a full load efficiency of 92% at 2.5Vdc output voltage (V_{IN} = 12Vdc). The ATH series of modules operate off an input voltage from 4.5 to 5.5Vdc and provide an output voltage that is programmable from 0.8 to 3.63Vdc, while the ATS series of modules have an input voltage range from 6 to 14V and provide a programmable output voltage ranging from 0.8 to 3.63Vdc. Both series have a sequencing feature that enables designers to implement various types of output voltage sequencing when powering multiple modules on the board. Additional features include remote On/Off, adjustable output voltage, remote sense, over current, over temperature protection and active current sharing between modules.

* *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	ATH	V_{IN}	-0.3	6	Vdc
	ATS	V_{IN}	-0.3	15	Vdc
Sequencing pin voltage	ATH	V_{SEQ}	-0.3	6	Vdc
	ATS	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	ATH	V_{IN}	4.5	5.0	5.5	Vdc
	ATS	V_{IN}	6.0	12	14	Vdc
Maximum Input Current	ATH	$I_{IN,max}$			27	Adc
(V_{IN}= $V_{IN,min}$, V_O= $V_{O,set}$, I_O=$I_{O,max}$)	ATS020	$I_{IN,max}$			13.3	Adc
	ATS030	$I_{IN,max}$			15.8	Adc
Inrush Transient	All	I^2t			1	A^2s
Input Reflected Ripple Current, peak-to-peak (5Hz to 20MHz, 1µH source impedance; V_{IN}=6.0V to 14.0V, I_O= I_{Omax}; See Figure 1)	All			100		mAp-p
Input Ripple Rejection (120Hz)	All			50		dB