

- SINGLE OUTPUT UP TO 3.5A
- INPUT TO OUTPUT ISOLATION (BASIC INSULATION)
- INDUSTRY STANDARD PIN-OUT FEC15 SERIES COMPATIBLE
- SURFACE-MOUNT OR THROUGH-HOLE
- COST EFFICIENT OPEN FRAME DESIGN
- -40°C to +85°C WIDE OPERATING TEMPERATURE
- SMALL SIZE AND LOW PROFILE : 1.10 x 0.94 x 0.335 Inch
- FIXED SWITCHING FREQUENCY

LED15 single output DC/DC converters provide up to 15 watts of output power in an industry standard package and footprint. These units are specifically designed to meet the power needs of low profile. All models feature a wide input range, comprehensively protected against over-current, over-voltage and input under-voltage protection conditions, and trimmable output voltage.

The LED15 converters are especially suited to Network, Data processing, Wireless and Enterprise equipment and microprocessor, intermediate bus voltage power application.

TECHNICAL SPECIFICATION

All specifications are typical at nominal input, full load and 25°C otherwise noted

OUTPUT SPECIFICATIONS

Output power	15Watts max		
Voltage accuracy	±1%		
Voltage adjustability (Note 1)	±10%		
Minimum load	0%		
Line regulation	LL to HL at Full Load	0.2%	
Load regulation	0% to 100% FL	0.2%	
Ripple and noise	20MHz bandwidth	5V,3.3V	75mVp-p
	(Measured with a 1uF M/C and a 10uF T/C)	15V,12V	100 mVp-p
Temperature coefficient	±0.02%/°C		
Transient response recovery time	25% load step change ΔIo/Δt=0.1A/us	300us	
Over voltage protection Ctrl. voltage clamp	3.3V output	3.7V-5.4V	
	5V output	5.6V-7.0V	
	12V output	13.5V-19.6V	
	15V output	16.8V-20.5V	
Output load protection	110%-140%		
Short circuit protection	Hiccup & Automatics recovery		
Output voltage overshoot	3%		

INPUT SPECIFICATIONS

Input voltage range	24V nominal input	18-36Vdc	
	48V nominal input	36-75Vdc	
UVLO start-up voltage	24V input	16V typ.	
	48V input	33V typ.	
UVLO shutdown voltage	24V input	13V typ.	
	48V input	30.5V typ.	
Input voltage variation	dv/dt	5V/ms,max (complies with EST300 132 part 4.4)	
Input surge voltage 100mS max	24V input	50Vdc	
	48V input	100Vdc	
Input reflected ripple (Note 2)	12uH source impedance (π filter with 220uF&33uF)	30mA _{p-p} ,Typ.	
Start up time	Nominal Vin	Power up	30ms, Max.
	Constant resistive load	RemoteON/OFF	30ms, Max.
Remote ON/OFF (Note 3)			
(Negative logic)	DC-DC ON	Short or - 0.7V < Vr < 1.2V	
	DC-DC OFF	Open or 3.5V < Vr < 15V	
(Positive logic)	DC-DC ON	Short or -0.7V < Vr < 1.2V	
	DC-DC OFF	Open or 3.5V < Vr < 15V	
Remote off input current	Nominal Vin	20mA,Max	

GENERAL SPECIFICATIONS

Efficiency	See table		
Isolation voltage	Input to Output	2250Vdc, Min.	
Isolation resistance	10MΩ, Min.		
Isolation capacitance	1000pF, Typ.		
Switching frequency	5V,3.3V	270KHz, Typ.	
	15V,12V	470KHz, Typ.	
Safety standard pending	IEC60950-1,UL60950-1,EN60950-1		
Dimensions	1.10 X 0.94 X 0.335 Inch (27.94 X 23.88 X 8.5 mm)		
Weight	10.5g(0.36oz)		
MTBF	8.1x10 ⁵ hrs		

ENVIRONMENTAL SPECIFICATIONS

Operating temperature range (Note 4)	-40°C to +85°C (with derating)		
Storage temperature range	-55°C to +125°C		
Thermal shock	MIL-STD-810D		
Vibration	10-55HZ,2G,3minutes period,30 minutes along X,Y and Z		
Relative humidity	5% to 95% RH		

EMC CHARACTERISTICS

Radiated emissions	EN55022(Note 5)	Class B
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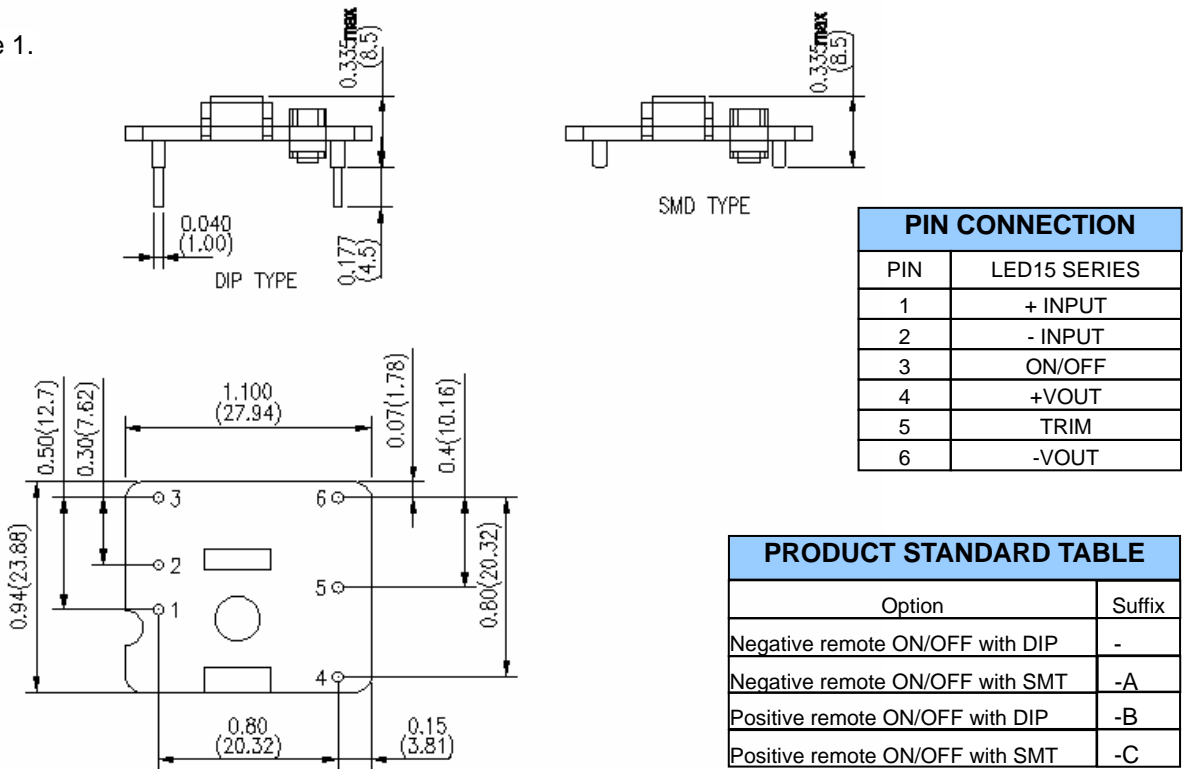
LED15 SERIES

Model Number	Input Range	Output Voltage	Output Current	Input ⁽⁶⁾ Current	Eff ⁽⁷⁾ (%)	Capacitor ⁽⁸⁾ Load max
			Full Load			
LED15-24S3P3	18 - 36 VDC	3.3 VDC	3.5A	602mA	84	1000uF
LED15-24S05	18 - 36 VDC	5 VDC	3.0A	781mA	84	1000uF
LED15-24S12	18 - 36 VDC	12 VDC	1.25A	772mA	85	330uF
LED15-24S15	18 - 36 VDC	15 VDC	1.0A	762mA	86	220uF
LED15-48S3P3	36 - 75 VDC	3.3 VDC	3.5A	297mA	85	1000uF
LED15-48S05	36 - 75 VDC	5 VDC	3.0A	381mA	86	1000uF
LED15-48S12	36 - 75 VDC	12 VDC	1.25A	377mA	87	330uF
LED15-48S15	36 - 75 VDC	15 VDC	1.0A	372mA	88	220uF

Note

1. Trimming allows the user to increase or decrease the output voltage set point of the module. This is accomplished by connecting an external resistor between the TRIM pin and either the +VOUT pin or the -VOUT pin.
2. Measure input reflected ripple current with a simulated source inductance of 12uH, capacitor of 220uF offsets possible battery impedance. Capacitor of 33uF mounted close to the power module help ensure the stability of the unit.
3. To turn the power module on and off, the user must supply a switch(open collector or equivalent)to control the voltage(V_{on/off}) between the on/off terminal and the Vin(-)terminal.
4. The power module operate in a variety of thermal environments; however, sufficient cooling should be provided to help ensure reliable operation.
5. The LED15 meets EN55022 class B only with external components connected before the input pin to the converter.
6. Maximum value at nominal input voltage and full load.
7. Typical value at nominal input voltage and full load.
8. Test by minimum Vin and constant resistor load.

Figure 1.



1. All dimensions in inches(mm)
2. Tolerance : x.xx±0.02(x.xx±0.5)
x.xxx±0.010(x.xx±0.25)
3. Pin pitch tolerance ±0.014(0.35)

