



### FEATURES:

- RoHS compliant
- 2:1 input range
- Low ripple and noise
- Remote On/Off control
- Synchronous rectifier
- Power modules for PCB mounting
- Regulated output
- Operating temperature range: -40 to +85°C
- Capacitive loading up to 41000  $\mu$ F (36-75V input)



### Models Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (A)	Ripple & Noise typ	Isolation (VDC)	Efficiency (%)
AM15E-1203SIZ	9-18	3.3	4	80mV p-p	1500	79
AM15E-1205SIZ	9-18	5	3	80mV p-p	1500	83
AM15E-1212SIZ	9-18	12	1.25	120mVp-p	1500	85
AM15E-1215SIZ	9-18	15	1	150mVp-p	1500	85
AM15E-2403SIZ	18-36	3.3	4	80mV p-p	1500	81
AM15E-2405SIZ	18-36	5	3	80mV p-p	1500	83
AM15E-2412SIZ	18-36	12	1.25	120mVp-p	1500	88
AM15E-2415SIZ	18-36	15	1	150mVp-p	1500	87
AM15E-4803SIZ	36-75	3.3	4	80mV p-p	1500	81
AM15E-4805SIZ	36-75	5	3	80mV p-p	1500	83
AM15E-4812SIZ	36-75	12	1.25	120mVp-p	1500	88
AM15E-4815SIZ	36-75	15	1	150mVp-p	1500	87
<b>SH30IZ</b>						
AM15E-1203SH30IZ	9-18	3.3	4	80mV p-p	3000	74
AM15E-1205SH30IZ	9-18	5	3	80mV p-p	3000	78
AM15E-1212SH30IZ	9-18	12	1.25	120mVp-p	3000	82
AM15E-1215SH30IZ	9-18	15	1	150mVp-p	3000	83
AM15E-2403SH30IZ	18-36	3.3	4	80mV p-p	3000	75
AM15E-2405SH30IZ	18-36	5	3	80mV p-p	3000	77
AM15E-2412SH30IZ	18-36	12	1.25	120mVp-p	3000	84
AM15E-2415SH30IZ	18-36	15	1	150mVp-p	3000	83
AM15E-4803SH30IZ	36-75	3.3	4	80mV p-p	3000	75
AM15E-4805SH30IZ	36-75	5	3	80mV p-p	3000	76
AM15E-4812SH30IZ	36-75	12	1.25	120mVp-p	3000	85
AM15E-4815SH30IZ	36-75	15	1	150mVp-p	3000	85

### Models Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (A)	Ripple & Noise typ	Isolation (VDC)	Efficiency (%)
AM15E-1205DIZ	9-18	$\pm$ 5	$\pm$ 1.5	50mVp-p	1500	85
AM15E-1212DIZ	9-18	$\pm$ 12	$\pm$ 0.62	120mVp-p	1500	85
AM15E-1215DIZ	9-18	$\pm$ 15	$\pm$ 0.5	150mVp-p	1500	85
AM15E-2405DIZ	18-36	$\pm$ 5	$\pm$ 1.5	50mVp-p	1500	83
AM15E-2412DIZ	18-36	$\pm$ 12	$\pm$ 0.62	120mVp-p	1500	88
AM15E-2415DIZ	18-36	$\pm$ 15	$\pm$ 0.5	150mVp-p	1500	87
AM15E-4805DIZ	36-75	$\pm$ 5	$\pm$ 1.5	50mVp-p	1500	83
AM15E-4812DIZ	36-75	$\pm$ 12	$\pm$ 0.62	120mVp-p	1500	88
AM15E-4815DIZ	36-75	$\pm$ 15	$\pm$ 0.5	150mVp-p	1500	87
<b>DH30IZ</b>						
AM15E-1205DH30IZ	9-18	$\pm$ 5	$\pm$ 1.5	50mVp-p	3000	78
AM15E-1212DH30IZ	9-18	$\pm$ 12	$\pm$ 0.62	120mVp-p	3000	82
AM15E-1215DH30IZ	9-18	$\pm$ 15	$\pm$ 0.5	150mVp-p	3000	81

## Models

### Dual output (continued)

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (A)	Ripple & Noise typ	Isolation (VDC)	Efficiency (%)
AM15E-2405DH30IZ	18-36	±5	±1.5	50mVp-p	3000	80
AM15E-2412DH30IZ	18-36	±12	±0.62	120mVp-p	3000	82
AM15E-2415DH30IZ	18-36	±15	±0.5	150mVp-p	3000	84
AM15E-4805DH30IZ	36-75	±5	±1.5	50mVp-p	3000	76
AM15E-4812DH30IZ	36-75	±12	±0.62	120mVp-p	3000	83
AM15E-4815DH30IZ	36-75	±15	±0.5	150mVp-p	3000	85

NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

## Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	12	9-18		VDC
	24	18-36		
	48	37-75		
Filter	π (Pi) Network			
Remote On/Off Control	On	3.5 to 12VDC or open circuit		
	Off	0 to 1.2VDC or short circuit between pin 2 and 4; typical idle current 3mA		
Absolute Maximum Rating	12 Vin		25	VDC
	24 Vin		50	
	48 Vin		100	
Permissible absolute maximum duration			2	h
Recommended Input Fuse (slow blow)	12 Vin	4A/250V		
	24 Vin	2A/250V		
	48 Vin	1A/250V		

## Isolation Specifications

Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage	3 sec	1500 & 3000		VDC
Resistance		> 1000		MOhm
Capacitance		1000		pF

## Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±2		%
Short Circuit protection	Continuous			
Short Circuit restart	Auto recovery			
Over voltage protection	Zener diode clamp protection			
Over load protection	Over 110% full load with auto-recovery			
Line voltage regulation (Single)	HL-LL	±0.5		%
Line voltage regulation (Dual)	HL-LL	±0.5		%
Load voltage regulation (Single)	25-100%	±0.5		%
Load voltage regulation (Dual)	25-100%	±2		%
Temperature coefficient		±0.05		%/°C
Transient response recovery time	25% load step change	300		uS

## General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	200		KHz
Operating temperature	With derating above +75		-40 to +75	°C
Storage temperature			-55 to +115	°C
Maximum Case temperature			95	°C
Cooling	Free air convection			
Humidity			95	%
Case material	Nickel coated copper			
Weight		33		g
Dimensions (L x W x H)		2.00 x 1.00 x 0.40 inches	50.80 x 25.40 x 10.50 mm	
MTBF		> 800 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)		

## Safety Specifications

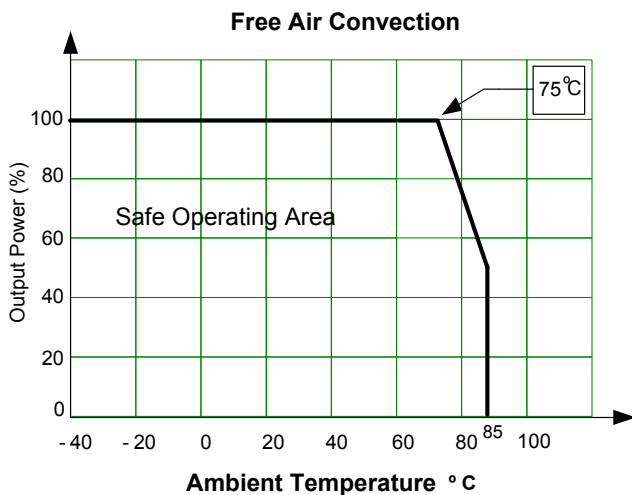
Parameters	
Agency approvals	CE
Standards	EN 55022, EN 55024 class B

## Pin Out Specifications

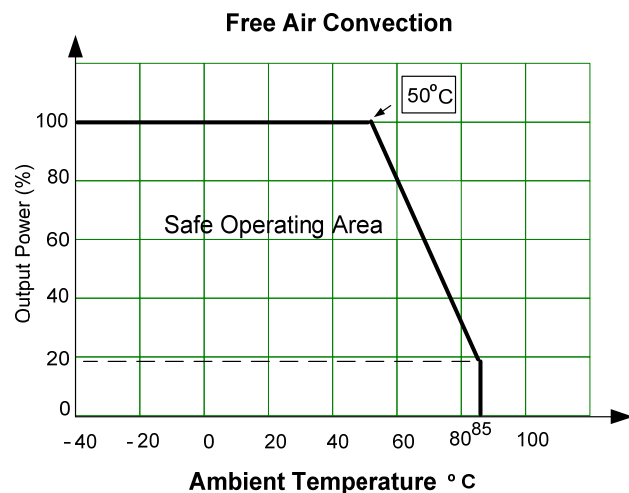
Pin	Single	Dual
1	On/Off Control	On/Off Control
2	-V Input	-V Input
3	+V Input	+V Input
4	-V Output	-V Output
5	No pin	Common
6	+V Output	+V Output

## Derating

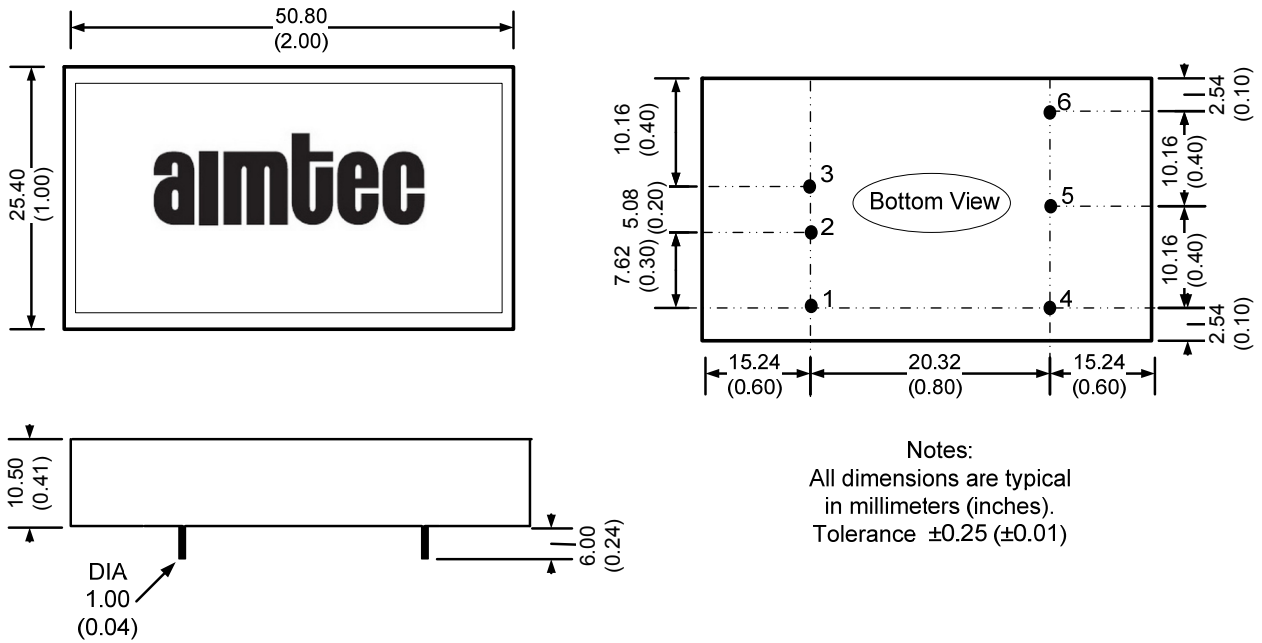
### 1500 vdc Isolation



### 3000VDC Isolation



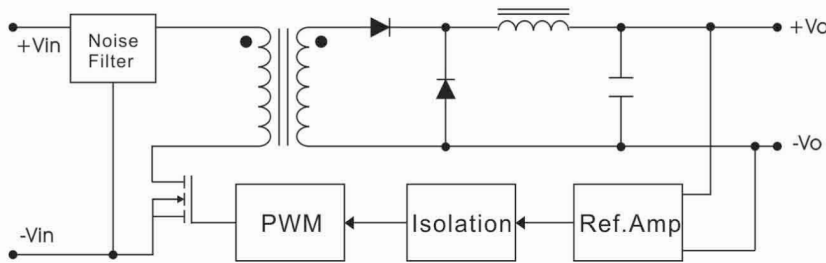
**Dimensions**



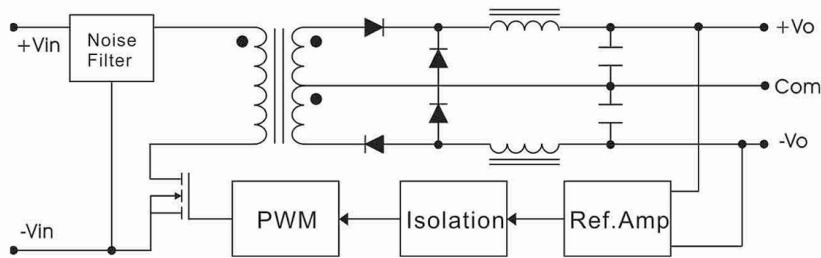
Notes:  
All dimensions are typical  
in millimeters (inches).  
Tolerance  $\pm 0.25$  ( $\pm 0.01$ )

**Block diagram**

**Single Output**

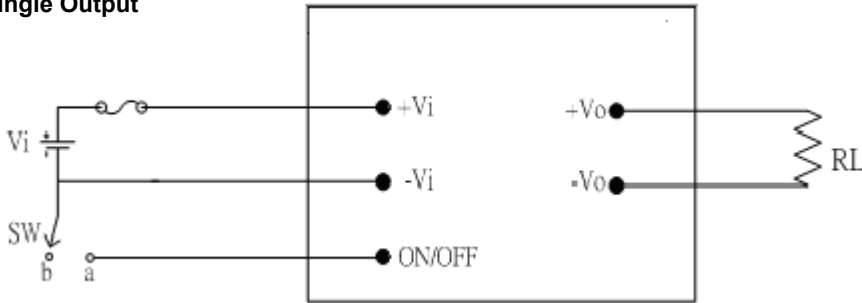


**Dual Output**

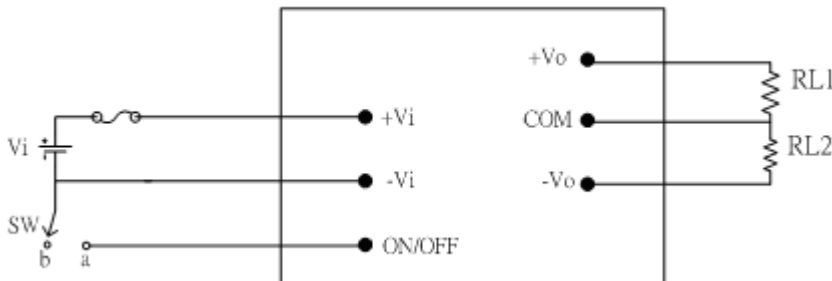


**Control ON/OFF pin connection example:**

**Single Output**



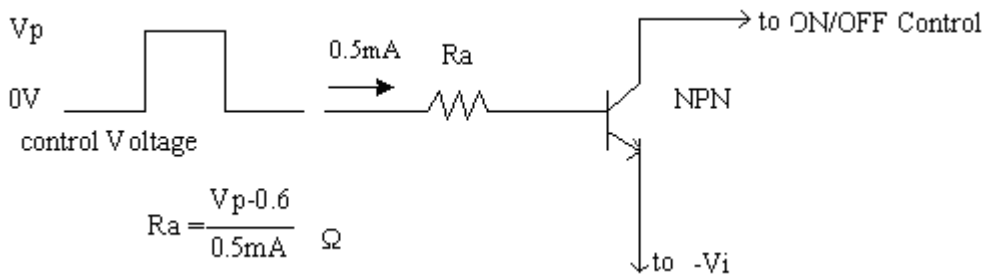
**Dual Output**



The converter output can be disabled by moving SW to position “a”. When SW is in position “b”, the converter operates normally. The SW can be replaced by a NPN transistor with connection as follows:

**Note: The control voltage is referenced to negative input (-Vi)**

**Digital Control Circuit:**



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