



# EC6E SERIES

## 20 - 30WATT 4:1 INPUT RANGE

### DC-DC CONVERTERS

## FEATURES

- \* 30W Isolated Output
- \* 4:1 Input Range
- \* Six-Sided Shield Metal Case
- \* Remote ON/OFF Control
- \* Efficiency to 84%
- \* Fixed 200KHz Switching Frequency
- \* Regulated Outputs



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		% EFF.	SIZE
				NO LOAD	FULL LOAD		
EC6E01	9-36VDC	5VDC	5000 mA	20 mA	1350 mA	77	2.56"x3"
EC6E02	9-36VDC	12VDC	2500 mA	20 mA	1560 mA	80	2.56"x3"
EC6E03	9-36VDC	15VDC	2000 mA	20 mA	1560 mA	80	2.56"x3"
EC6E04	9-36VDC	±12VDC	±1250 mA	25 mA	1560 mA	80	2.56"x3"
EC6E05	9-36VDC	±15VDC	±1000 mA	25 mA	1560 mA	80	2.56"x3"
EC6E06	9-36VDC	5/±12VDC	3000/±625 mA	25 mA	1650 mA	76	2.56"x3"
EC6E07	9-36VDC	5/±15VDC	3000/±500 mA	25 mA	1650 mA	76	2.56"x3"
EC6E08	9-36VDC	+5/+12/-5VDC	3000/600/1000 mA	25 mA	1450 mA	78	2.56"x3"
EC6E11	18-72VDC	5VDC	5000 mA	15 mA	670 mA	78	2.56"x3"
EC6E12	18-72VDC	12VDC	2500 mA	15 mA	770 mA	81	2.56"x3"
EC6E13	18-72VDC	15VDC	2000 mA	15 mA	770 mA	81	2.56"x3"
EC6E14	18-72VDC	±12VDC	±1250 mA	20 mA	750 mA	84	2.56"x3"
EC6E15	18-72VDC	±15VDC	±1000 mA	20 mA	750 mA	84	2.56"x3"
EC6E16	18-72VDC	5/±12VDC	3000/±625 mA	20 mA	790 mA	79	2.56"x3"
EC6E17	18-72VDC	5/±15VDC	3000/±500 mA	20 mA	790 mA	80	2.56"x3"
EC6E18	18-72VDC	+5/+12/-5VDC	3000/600/1000 mA	20 mA	725 mA	78	2.56"x3"

NOTE: 1. Nominal Input Voltage 24 or 48VDC

# SPECIFICATIONS

All Specifications Typical At Nominal Line, Full Load, and 25°C Unless Otherwise Noted

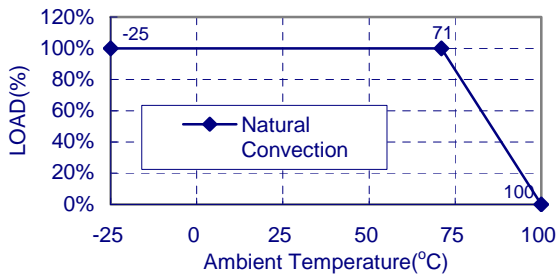
## INPUT SPECIFICATIONS:

Input Voltage Range	24V	9 – 36V
	48V	18 – 72V
Input Filter		Pi Type

## OUTPUT SPECIFICATIONS:

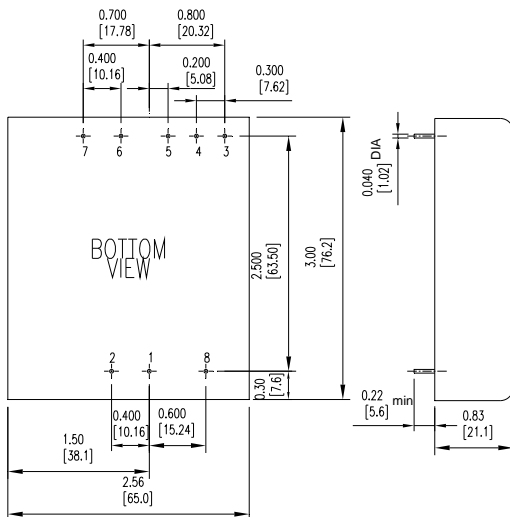
Voltage Accuracy	
Single Output	±1.0% max.
Dual +Output	±1.0% max.
Dual – Output	±3.0% max.
Triple 5V	±1.0% max.
12V/15V	±5.0% max.
-5V	±2.0% max.
Voltage Balance (Dual)	
	±1.0% max.
Transient Response	
Single 25% Step Load Change	<500us
Dual FL-1/2L±1% Error Band	<500us
External Trim Adj. Range	±10%
Ripple and Noise, 20MHz BW	10mV RMS max. 75mV p-p max.
Temperature Coefficient	±0.02%/°C
Short Circuit Protection	Continuous
Line Regulation Single/Dual (note 1)	±0.2% max.
Triple	±1.0% max.
Load Regulation Single/Dual (note 2)	±1.0% max.
Triple	±5.0% max.

Typical Derating curve for Natural Convection



## Case E Dimensions:

All Dimensions In Inches(mm)  
Tolerances Inches: X.XX= ±0.04, X.XXX= ±0.010  
Millimeters: X.X= ±1.0, X.XX= ±0.25



PIN CONNECTION			
Pin	Single Output	Dual Output	Triple Output
1.	+Input	+Input	+Input
2.	-Input	-Input	-Input
3.	+Sense	+Output	+Output
4.	Output Trim	Common	Common
5.	-Sense	-Output	-Output
6.	+Output	No Pin	+5V Output
7.	-Output	No Pin	No Pin
8.	Remote On/Off Control		

## GENERAL SPECIFICATIONS:

Efficiency	See Table
Isolation Voltage	500 VDC min.
Isolation Resistance	10 <sup>9</sup> ohms
Switching Frequency	200KHz typ.
Operating Ambient Temperature Range	-25°C to +71°C
De-rating, Above 71°C	Linearly to Zero power at 100°C
Case Temperature (note 3)	100°C max.
Cooling	Natural Convection
Storage Temperature Range	-55°C to +105°C
EMI/RFI	Six-Sided Continuous Shield
Dimensions	2.56×3.00×0.83 inches (65.0×76.2×21.1mm)
Case Material	Black Coated Copper With Non-Conductive Base
Weight	175g

## NOTE:

1. Measured From High Line to Low Line
2. Measured From Full Load to 1/4 Full Load
3. Maximum case temperature under any operating condition should not be exceeded 100°C

TRIPLE OUTPUT LOADING TABLE (1)			
Output (Pin No.)	Voltage	Amperes	
		Min. (2)	Nom.
6	+5	0.25	3.0
3 & 5	+12 & -12	0.10	0.625
3 & 5	+15 & -15	0.10	0.500
3 & 5	+12 & -5	0.10/0.10	0.60/1.0

## NOTE:

1. Maximum total power from all outputs is limited to 30 watts but no output should be allowed to exceed its maximum current
2. Minimum current on each output is required to maintain specified regulation

Remote On/Off Control	
Logic Compatibility	CMOS or Open Collector TTL
Ec-On	>+5.5 VDC or Open Circuit
Ec-Off	<1.8 VDC
Shutdown Idle Current	10mA
Control Common	Referenced to Input Minus

## EXTERNAL OUTPUT TRIM

Output may optionally be externally trimmed (±10%) with a fixed resistor or an external trimpot as shown

