

# EC5E

S E R I E S

## 25-30 WATT DC-DC CONVERTERS



### Features

- 20-30W Isolated Output
- Six-Sided Shield Metal Case
- Regulated Outputs
- Efficiency to 84%
- Fixed 200KHz Switching Frequency
- Remote On/Off Control

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		% EFF.	SIZE
				NO LOAD	FULL LOAD		
EC5E01	9-18 VDC	5 VDC	5000 mA	30 mA	2700 mA	77	2.56" x 3"
EC5E02		12 VDC	2500 mA	30 mA	3150 mA	79	
EC5E03		15 VDC	2000 mA	30 mA	3150 mA	79	
EC5E04		±12 VDC	±1250 mA	35 mA	3100 mA	81	
EC5E05		±15 VDC	±1000 mA	35 mA	3100 mA	81	
EC5E06		5/±12 VDC	3000/±625 mA	35 mA	3200 mA	78	
EC5E07		5/±15 VDC	3000/±500 mA	35 mA	3200 mA	78	
EC5E08		+5/±12/-5 VDC	3000/600/1000 mA	35 mA	2940 mA	77	
EC5E11	18-36 VDC	5 VDC	5000 mA	30 mA	1350 mA	77	2.56" x 3"
EC5E12		12 VDC	2500 mA	30 mA	1550 mA	81	
EC5E13		15 VDC	2000 mA	30 mA	1550 mA	81	
EC5E14		±12 VDC	±1250 mA	30 mA	1500 mA	84	
EC5E15		±15 VDC	±1000 mA	30 mA	1500 mA	84	
EC5E16		5/±12 VDC	3000/±625 mA	30 mA	1580 mA	79	
EC5E17		5/±15 VDC	3000/±500 mA	30 mA	1560 mA	80	
EC5E18		+5/±12/-5 VDC	3000/600/1000 mA	30 mA	1450 mA	78	
EC5E21	36-72 VDC	5 VDC	5000 mA	15 mA	670 mA	78	2.56" x 3"
EC5E22		12 VDC	2500 mA	15 mA	770 mA	81	
EC5E23		15 VDC	2000 mA	15 mA	770 mA	81	
EC5E24		±12 VDC	±1250 mA	20 mA	750 mA	84	
EC5E25		±15 VDC	±1000 mA	20 mA	750 mA	84	
EC5E26		5/±12 VDC	3000/±625 mA	20 mA	790 mA	79	
EC5E27		5/±15 VDC	3000/±500 mA	20 mA	780 mA	80	
EC5E28		+5/±12/-5 VDC	3000/600/1000 mA	20 mA	725 mA	78	

NOTE: 1. Nominal Input Voltage 12, 24 or 48 VDC

### Specifications

#### INPUT SPECIFICATIONS:

Input Voltage Range.....	12V.....	9-18V
	24V.....	18-36V
	48V.....	36-72V
Input Filter.....		Pi Type

#### OUTPUT SPECIFICATIONS:

Voltage Accuracy	
Single Output.....	±1.0% max.
Dual +Output.....	±1.0% max.
-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.....	<500µ sec.
Dual-FL-1/2L ±1% Error Band.....	<500µ sec.
External Trim Adj. Range.....	±10%.
Ripple & Noise, 20MHz BW.....	10mV RMS, max. 75mV p-p max.
Temperature Coefficient.....±0.02%/°C	
Short Circuit Protection.....Continuous	
Line Regulation <sup>1</sup> , Single/Dual.....	±0.2% max.
Triple.....	±1.0% max.
Load Regulation <sup>2</sup> , Single/Dual.....	±1.0% max.
Triple.....	±5.0% max.

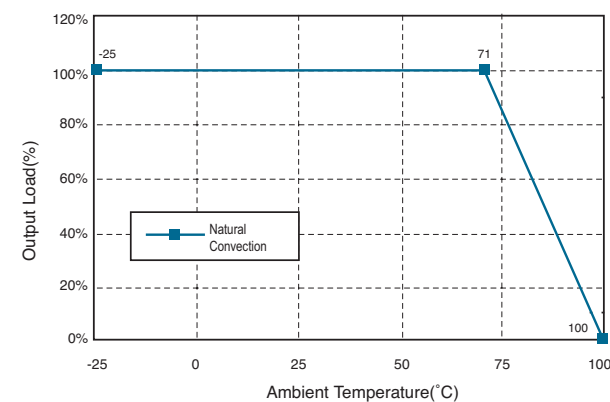
#### GENERAL SPECIFICATIONS:

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 <sup>3</sup> .....	100°C max
Cooling .....	Natural Convection
Storage Temperature Range.....	-55°C to + 105°C
EMI/RFI.....	Six-Sided Continuous Shield
Dimensions.....	2.56 x 3.00 x 0.83 inches (65.0 x 76.2 x 21.1 mm)
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 Load
3. Maximum case temperature under any operating condition should not exceed 100°C.

### EC5E Series Derating Curve

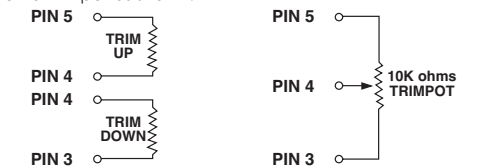


### Remote On/Off Control

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 Trimming

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



### 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		

### TRIPLE OUTPUT LOADING TABLE (1)

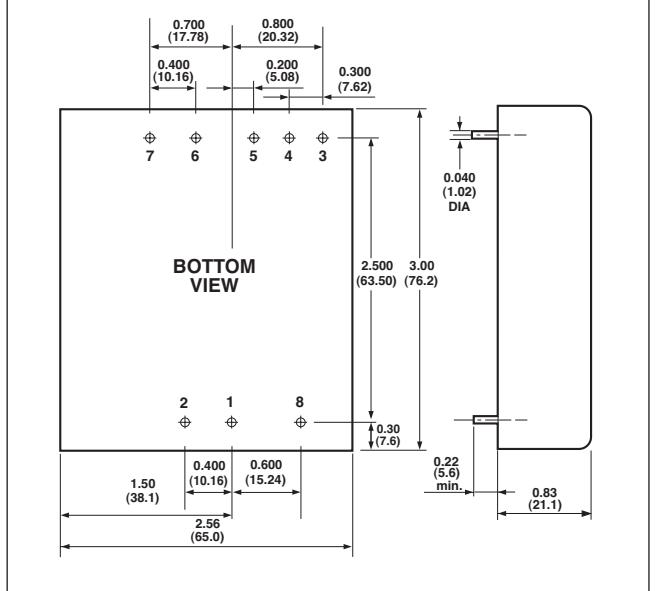
Output (Pin No.)	Voltage	Amperes	
		Min. (2)	Norm.
6	+5	0.5	3.0
3 & 5	+12 & -12	0.10	0.625
3 & 5	+15 & -15	0.10	0.500
3 & 5	+12 & -5	0.10 / 0.10	0.60/1.0

#### NOTE:

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

### CASE E

All Dimensions In Inches(mm)  
Tolerance Inches: x.xx= ±0.04, x.xxx= ±0.010  
Millimeters: x.x= ±1.0, x.xx= ±0.25



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