

EC7C

S E R I E S

40 WATT DC-DC CONVERTERS



Features

- 40W Isolated Output
- 2" x 2" Six-Sided Shield Metal Case
- Regulated Outputs
- Efficiency to 92%
- Fixed 350KHz Switching Frequency
- Continuous Short Circuit Protection
- External Output Trimming Function

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	SIZE
			MIN.	MAX.	NO LOAD	FULL LOAD		
EC7C-12S25	9-18 VDC	2.5 VDC	0mA	1000mA	200 mA	2367 mA	88	2" x 2"
EC7C-12S33		3.3 VDC	0mA	1000mA	200 mA	3090 mA	89	
EC7C-12S05		5 VDC	0mA	800mA	200 mA	3745 mA	89	
EC7C-12S12		12 VDC	0mA	333mA	200 mA	3703 mA	90	
EC7C-12S15		15 VDC	0mA	266mA	200 mA	3702 mA	90	
EC7C-12D12		±12 VDC	90mA	±1800mA	100 mA	4045 mA	89	
EC7C-12D15		±15 VDC	70mA	±1400mA	100 mA	3889 mA	90	
EC7C-12D3305		3.3V/5.0V	0mA	10A/7.5A	100 mA	3812 mA	87*	
EC7C-12I3312		3.3/±12 V	0.6A/±40mA	6A/±0.4A	200 mA	2784 mA	88	
EC7C-12I3315		3.3/±15 V	0.6A/±30mA	6A/±0.3A	200 mA	2727 mA	88	
EC7C-12I0512	5.0/±12 V	0.6A/±40mA	6A/±0.4A	200 mA	3750 mA	88		
EC7C-12I0515	5.0/±15 V	0.6A/±30mA	6A/±0.3A	200 mA	3611 mA	90		
EC7C-24S25	18-36 VDC	2.5 VDC	0mA	1000mA	100 mA	1184 mA	88	2" x 2"
EC7C-24S33		3.3 VDC	0mA	1000mA	100 mA	1545 mA	89	
EC7C-24S05		5 VDC	0mA	800mA	110 mA	1831 mA	91	
EC7C-24S12		12 VDC	0mA	333mA	100 mA	1811 mA	92	
EC7C-24S15		15 VDC	0mA	266mA	100 mA	1810 mA	92	
EC7C-24D12		±12 VDC	90mA	±1800mA	100 mA	1978 mA	91	
EC7C-24D15		±15 VDC	70mA	±1400mA	100 mA	1902 mA	92	
EC7C-24D3305		3.3V/5.0V	0mA	10A/7.5A	50 mA	1853 mA	89.5*	
EC7C-24I3312		3.3/±12 V	0.6A/±40mA	6A/±0.4A	100 mA	1361 mA	90	
EC7C-24I3315		3.3/±15 V	0.6A/±30mA	6A/±0.3A	100 mA	1333 mA	90	
EC7C-24I0512	5.0/±12 V	0.6A/±40mA	6A/±0.4A	100 mA	1833 mA	90		
EC7C-24I0515	5.0/±15 V	0.6A/±30mA	6A/±0.3A	100 mA	1806 mA	90		
EC7C-48S25	36-75 VDC	2.5 VDC	0mA	1000mA	50 mA	585 mA	89	2" x 2"
EC7C-48S33		3.3 VDC	0mA	1000mA	50 mA	764 mA	90	
EC7C-48S05		5 VDC	0mA	800mA	60 mA	926 mA	90	
EC7C-48S12		12 VDC	0mA	333mA	60 mA	916 mA	91	
EC7C-48S15		15 VDC	0mA	266mA	60 mA	906 mA	92	
EC7C-48D12		±12 VDC	90mA	±1800mA	50 mA	1000 mA	90	
EC7C-48D15		±15 VDC	70mA	±1400mA	50 mA	962 mA	91	
EC7C-48D3305		3.3V/5.0V	0mA	10A/7.5A	50 mA	927 mA	89.5*	
EC7C-48I3312		3.3/±12 V	0.6A/±40mA	6A/±0.4A	50 mA	688 mA	89	
EC7C-48I3315		3.3/±15 V	0.6A/±30mA	6A/±0.3A	50 mA	690 mA	87	
EC7C-48I0512	5.0/±12 V	0.6A/±40mA	6A/±0.4A	50 mA	938 mA	88		
EC7C-48I0515	5.0/±15 V	0.6A/±30mA	6A/±0.3A	50 mA	903 mA	90		

NOTE: 1. Nominal Input Voltage: 12, 24, 48 VDC.
2. The total power of EC7C-12D3305, EC7C-24D3305 and EC7C-48D3305 should not exceed 40W.
3. The efficiency is measured with rated load current (3.3V/6A, 5V/4A).

Specifications

INPUT SPECIFICATIONS:

Input Voltage Range.....	12V.....	9-18V
.....	24V.....	18-36V
.....	48V.....	36-75V
Under Voltage lockout.....	12Vin Power Up.....	8.8V
.....	12Vin Power Down.....	8.0V
.....	24Vin Power Up.....	17V
.....	24Vin Power Down.....	16V
.....	48Vin Power Up.....	34V
.....	48Vin Power Down.....	32V
Positive/Negative Logic Remote ON/OFF (see note 5 & 6)	.....	PI Type

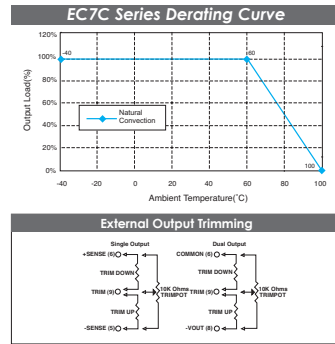
OUTPUT SPECIFICATIONS:

Voltage Accuracy.....	Single/Dual.....	±1.5% max.
.....	Dual Positive.....	3.3V±1.5% max, 5V±2% max.
.....	Main.....	±1.5% max, Auxiliary.....
.....	.....	±2.0% max.
Voltage Balance (Dual).....	.....	±2.0% max.
Transient Response:75%-100% Step Load Change (Main Output)	.....	<300us
Error Band.....	Main.....	±1.0% max, Auxiliary.....
.....	.....	±3.0% max.
Output Voltage Adjustment Range.....	Single/Dual Vos10%, Dual Positive ±5%	.....
Ripple & Noise, 20MHz BW (Measured with 0.1uF MLCC)	2.5V & 3.3V & 5V.....	20mVRMS, 50mV pk-pk, max.
.....	12V & 15V.....	75mV pk-pk, max.
.....	Dual ±12V.....	120mV pk-pk, max, ±15V.....
.....	.....	150mV pk-pk, max.
.....	Dual Positive +3.3V / +5V.....	100mVpk-pk, max.
Temperature Coefficient.....	.....	±1.0% max.
Line Regulation.....	Single/Dual.....	±0.5% max.
.....	Dual Positive.....	±1.0% max.
.....	Main.....	±1.0% max, Auxiliary.....
.....	.....	±4.0% max.
Load Regulation.....	Single.....	±0.5% max.
.....	Dual.....	±1.0% max.
Dual Positive.....	.....	3.3V ±1.5% max, 5V±4% max.
.....	Main.....	±1.0% max, Auxiliary.....
.....	.....	±4.0% max.
Cross Regulation.....	.....	+3.3V±1.0% max, +5V±4.0% max.
Over Voltage Protection (Zener Diode Clamp).....	2.5V.....	3.6VDC Typ.
.....	3.3V.....	3.9VDC Typ., 5V.....
.....	.....	6.2VDC Typ.
.....	.....	12V.....
.....	.....	15VDC Typ., 15V.....
.....	.....	18VDC Typ.
Output Current Limit, % Nominal Output.....	.....	110%-140%
Output Short Circuit Protection.....	.....	Continuous (Hiccup Mode)

GENERAL SPECIFICATIONS:

Efficiency.....	.....	See Table
Isolation Voltage.....	input/output.....	1500VDC max.
Isolation Resistance.....	.....	10 ¹⁰ Ohm min.
Switching Frequency.....	.....	350kHz, Typical
Operating Ambient Temperature.....	.....	-40°C to +85°C
Derating, Above 40°C.....	.....	Linearly to Zero Power at 100°C
Case Temperature.....	.....	100°C max.
Storage Temperature.....	.....	-55°C to +125°C
Thermal Shutdown, Case Temperature.....	.....	110°C Typ.
Dimensions.....	.....	2.00 x 2.00 x 0.40 inches (50.8 x 50.8 x 10.2mm)
Case Material.....	.....	Black Coated Copper with Non-Conductive Base
Weight.....	.....	65g

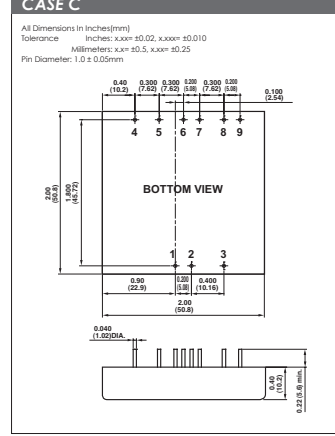
- NOTE:**
1. Measured from High Line to Low Line(Dual positive of rated load).
 2. Measured from Full Load to 10% Load.
 3. Measured from Max. Load to Zero Load, other output at Zero Load.
 4. Measured from Max. Load to 10% Load, other output at 10% Load.
 5. Logic Compatibility..... CMOS or Open Collector TTL, not to Vin
Module ON..... <3.5Vdc to 75Vdc or Open Circuit
Module Off..... <1.8Vdc.
6. Suffix "N" to the Model Number with Negative Logic Remote ON/OFF
Module ON..... <1.8Vdc.
Module Off..... <3.5Vdc to 75Vdc or Open Circuit
7. If +Sense is not being used, the +Sense should be connected to +Vout and likewise the -Sense should be connected to -Vout.
8. Maximum case temperature under any operating condition should not exceed 100°C.



PIN CONNECTION

Pin	Single	Dual	Dual Positive	Triple
1	+Vin	+Vin	+Vin	+Vin
2	-Vin	-Vin	-Vin	-Vin
3	ON / OFF	ON / OFF	ON / OFF	ON / OFF
4	NC	NO Pin	+3.3Vout	+Aux. Out
5	-Sense	+Vout	Com(3.3V RTN)	Common
6	+Sense	Common	Trim	-Aux. Out
7	+Vout	Common	NC	+Vout
8	-Vout	-Vout	+5Vout	-Vout (Common)
9	Trim	Trim	Com(5V RTN)	NC

*NC: No Connection With Pin



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