

FEATURES:

- Wide input range
- Continuous short-circuit protection, self recover
- I/O isolation voltage 3KV
- Working temperature: -40℃~+105℃
- No additional components required
- Stable performance and high reliability (MTBF≥2 million hours)
- Industry standard pin-out
- Flame-retardant case to meet UL94 V-0 requirements
- SMD package



Selection Guide

Part No.	INPUT		OUTPUT			Full Load Efficiency (%/Typ)	Capacitive Load(μF)
	Normal (Vdc)	Range (Vdc)	Voltage (Vdc)	Min current (mA)	Max current (mA)		
F0303XT-1WR3	3.3	2.97-3.63	3.3	30	303	76	2200
F0305XT-1WR3			5	20	200	78	2200
F0309XT-1WR3			9	12	111	78	1000
F0312XT-1WR3			12	9	83	80	560
F0315XT-1WR3			15	7	67	81	560
F0324XT-1WR3			24	5	42	82	220
E0303XT-1WR3			±3.3	±16	±152	75	1000
E0305XT-1WR3			±5	±10	±100	78	1000
E0309XT-1WR3			±9	±6	±56	78	470
E0312XT-1WR3			±12	±4	±42	79	220
E0315XT-1WR3			±15	±4	±34	80	220
E0324XT-1WR3			±24	±2	±21	81	100
F0503XT-1WR3	5	4.5-5.5	3.3	30	303	76	2200
F0505XT-1WR3			5	20	200	78	2200
F0509XT-1WR3			9	12	111	78	1000
F0512XT-1WR3			12	9	83	80	560
F0515XT-1WR3			15	7	67	81	560
F0524XT-1WR3			24	5	42	82	220
E0503XT-1WR3			±3.3	±16	±152	75	1000
E0505XT-1WR3			±5	±10	±100	78	1000
E0509XT-1WR3			±9	±6	±56	78	470
E0512XT-1WR3			±12	±4	±42	79	220
E0515XT-1WR3			±15	±4	±34	80	220
E0524XT-1WR3			±24	±2	±21	81	100
F1203XT-1WR3	12	10.8-13.2	3.3	30	303	76	2400
F1205XT-1WR3			5	20	200	82	2400
F1209XT-1WR3			9	12	111	83	1000

F1212XT-1WR3			12	9	84	83	560
F1215XT-1WR3			15	7	67	83	560
F1224XT-1WR3			24	43	42	85	220
E1203XT-1WR3			±3.3	±16	±152	75	1000
E1205XT-1WR3			±5	±10	±100	78	1000
E1209XT-1WR3			±9	±6	±56	78	470
E1212XT-1WR3			±12	±4	±42	79	220
E1215XT-1WR3			±15	±4	±34	80	220
E1224XT-1WR3			±24	±2	±21	81	100
F1503XT-1WR3	15	13.5-16.5	3.3	30	303	76	2200
F1505XT-1WR3			5	20	200	78	2200
F1509XT-1WR3			9	12	111	78	1000
F1512XT-1WR3			12	9	83	80	560
F1515XT-1WR3			15	7	67	81	560
F1524XT-1WR3			24	5	42	82	220
E1503XT-1WR3			±3.3	±16	±152	75	1000
E1505XT-1WR3			±5	±10	±100	78	1000
E1509XT-1WR3			±9	±6	±56	78	470
E1512XT-1WR3			±12	±4	±42	79	220
E1515XT-1WR3			±15	±4	±34	80	220
E1524XT-1WR3			±24	±2	±21	81	100
F2403XT-1WR3	24	21.6-26.4	3.3	30	303	76	2200
F2405XT-1WR3			5	20	200	78	2200
F2409XT-1WR3			9	12	111	78	1000
F2412XT-1WR3			12	9	83	80	560
F2415XT-1WR3			15	7	67	81	560
F2424XT-1WR3			24	5	42	82	220
E2403XT-1WR3			±3.3	±16	±152	75	1000
E2405XT-1WR3			±5	±10	±100	78	1000
E2409XT-1WR3			±9	±6	±56	78	470
E2412XT-1WR3			±12	±4	±42	79	220
E2415XT-1WR3			±15	±4	±34	80	220
E2424XT-1WR3			±24	±2	±21	81	100

customized accepted ,pls contact sales for details

Input Specifications

Input Filter	Capacitive Filter		
Ctrl	NONE		
	NONE		
Hot Plug	Unavailable		

Output Specifications

Item	Min	Typ	Max	Test Conditions
Voltage Accuracy	-	-	-	

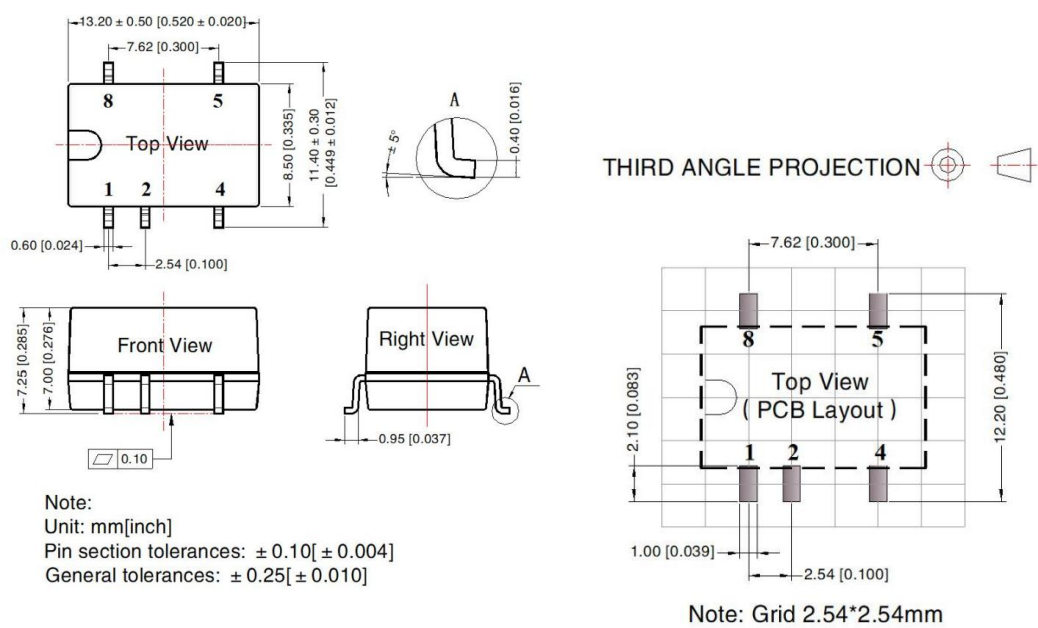
Line Regulation		-	-	±1.2%	Input voltage ±10%
Load Regulation	3.3Vout	-	15%	18%	10% to 100% full load
	5Vout	-	8%	13%	
	9Vout	-	7%	9%	
	12Vout	-	6%	8%	
	15Vout	-	5%	8%	
	24Vout	-	5%	7%	
Ripple&Noise		-	50mVp-p	75mVp-p	20MHz Bandwidth, full load
Short Circuit Protection		Continue,self recover			

General Specifications

Switching Frequency	250KHz(Typ)	100% full load, nominal input voltage
Short-Circuit Protection	Continuous, self-recovery	
Case Temperature Rise	25℃ (Typ)	
Temperature Coefficient	0.02%/℃	100% full load
Pin Soldering Resistance Temperature	300℃	Soldering spot is 1.5mm away from case for 10 seconds
Isolation (Input-Output)	3KVDC	Input-output electric strength test for 1 minute with a leakage current
Insulation Resistance (Input-Output)	1000MΩ	Input-output resistance 500Vdc
Operating Temperature	-40~+105℃	
Storage Temperature	-55~+125℃	
Storage Humidity	<95%RH	Non-condensing
Cooling Method	Free air convection	
Case Material	Black plastic; flame-retardant and heat-resistant (UL94 V-0)	
Weight	1.3g (Typ)	

**Unless specified, otherwise all other parameters are tested under the following conditions: nominal input voltage, pure resistive load, 25℃ room temperature environment.

Dimensions and Recommended Layout



Pins

Pin	Mark		
1	GND		
2	Vin		
4	0V		
5	+Vo		
8	NC		

Recommended Circuit



Recommended input and output capacitor values

Vin	Cin	Vout	Cout	
3.3/5VDC	4.7uF/10V	3.3/5±3.3/±5VDC	10uF/10V	
12VDC	2.2uF/25V	12/9/±9/±12VDC	2.2uF/25V	
15VDC	1uF/25V	15/±15VDC	1uF/25V	
24VDC	1uF/50V	24/±24VDC	0.47uF/25V	
-	-	-	-	

Noted

1. Input current: Ensure that the output current of the power supply meets the instantaneous starting current of the power module (that is, twice the average input current of the power module).
2. Output load requirements: Avoid no-load use. When the actual power consumption of the load is less than 10% of the rated output power of the module or no load occurs, connect an external resistance to the output end (the sum of the external resistance and the load power is

greater than or equal to 10% of the rated load) or select a module with a smaller rated power.

3. The external capacitance of the output end should not be too large; otherwise, the module may be overcurrent or poorly started. For details, see the external capacitance recommendation table.

4. External LC filter circuit can be connected for occasions with high ripple noise requirements.

*The final interpretation right of the product belongs to ECCO ELECTRONICS.