



# SUPERWORLD ELECTRONICS

## STA Series – 1W Dual Output Surface Mount DC-DC Converter



RoHS Compliant



### FEATURES

- Industry standard SMD package
- Dual 1kVdc Isolated Outputs
- Operating Temp Range -40°C to 85°C
- Internal Input and Output Filtering
- CECC00802 Re-flow (280 deg. C max.)
- 2 Year Warranty

### DESCRIPTION

The STA Series is a reliable high performance solution for a wide range of applications. With fully isolated dual outputs, several grounding and polarity configurations are available to the user.

The STA is fully encapsulated in a non-flammable plastic case (meeting UL 94V-0). The devices are fully compatible with CECC00802 to 280 deg. C

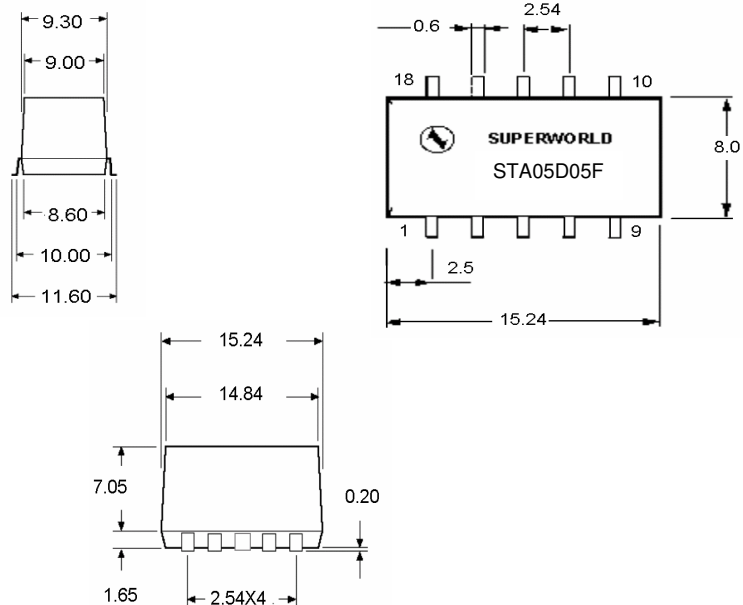
### STA PRODUCT RANGE

Model	Vin (nom) (Vdc)	Vout (Vdc)	Iout (mA)	Iin (rated load) (mA)	Eff. (%)
STA03D03F	3.3	± 3.3	± 140	354	79
STA03D05F	3.3	± 5	± 100	374	81
STA03D09F	3.3	± 9	± 56	373	82
STA03D12F	3.3	± 12	± 41	359	83
STA03D15F	3.3	± 15	± 34	372	83
STA05D03F	5	± 3.3	± 140	228	81
STA05D05F	5	± 5	± 100	241	83
STA05D09F	5	± 9	± 56	240	84
STA05D12F	5	± 12	± 41	232	85
STA05D15F	5	± 15	± 34	237	86
STA09D03F	9	± 3.3	± 140	127	81
STA09D05F	9	± 5	± 100	131	85
STA09D09F	9	± 9	± 56	132	85
STA09D12F	9	± 12	± 41	127	86
STA09D15F	9	± 15	± 34	132	86
STA12D03F	12	± 3.3	± 140	93	83
STA12D05F	12	± 5	± 100	97	86
STA12D09F	12	± 9	± 56	98	86
STA12D12F	12	± 12	± 41	94	87
STA12D15F	12	± 15	± 34	98	87
STA15D03F	15	± 3.3	± 140	75	82
STA15D05F	15	± 5	± 56	43	86
STA15D09F	15	± 9	± 41	57	86
STA15D12F	15	± 12	± 34	63	87
STA15D15F	15	± 15	± 34	78	87

### MECHANICAL SPECIFICATIONS

Pin	Function
1	GND
3	+Vin
5	NC
7	0V
9	-Vout
10	NC
12	+Vout
14	NC
16	NC
18	NC

All measurements are in mm  
Tolerances = ± 0.25mm



STA INPUT SPECIFICATIONS					
PARAMETER	CONDITIONS	MIN	TYPICAL	MAX	UNITS
Input Current (No Load)	All models		20		mA
Voltage Range	3.3 Vin models	2.97	3.3	3.63	Vdc
	5 Vin models	4.5	5	5.5	
	9 Vin models	8.1	9	9.9	
	12 Vin models	10.8	12	13.2	
	15 Vin models	13.5	15	16.5	
Transient Input Voltage (1 sec max.)	3.3 & 5 Vin models			7.5	Vdc
	9 Vin models			12.5	
	12 Vin models			18	
	15 Vin models			21	
Reverse Voltage Protection				0.3	A

STA OUTPUT SPECIFICATIONS					
PARAMETER	CONDITIONS	MIN	TYPICAL	MAX	UNITS
Rated Power	All models			1.0	W
Voltage Setpoint Accuracy				± 3	%
Line Regulation	1% change in Vin		1.0	1.2	%
Load Regulation (10% load to rated load)	3.3Vout & 5Vout		10	15	%
	9,12 & 15 Vout		6	10	%
Ripple & Noise	BW = DC to 20MHz All models		40	100	mVp-p
Surge Voltage (1 sec max.)	3.3 Vout models			4.9	Vdc
	5 Vout models			7	
	9 Vout models			11.5	
	12 Vout models			15	
	15 Vout models			18	
Temperature Coefficient				± 0.02	%/ °C
Capacitive Load				10	μF
Short Circuit Protection				1	second

STA GENERAL CHARACTERISTICS					
PARAMETER	CONDITIONS	MIN	TYPICAL	MAX	UNITS
Temperature	Specification	-40		85	°C
	Storage	-55		125	°C
Isolation	Isolation Test Voltage	1000			Vdc
	Resistance	10			GΩ
	Capacitance		25	100	pF
	Leakage Current		2	8.5	μArms
Switching Frequency			120		kHz
MTTF (Ta = 25 °C)	MIL-HDBK-217E		450000		hrs
Weight				2.4	g

Refer to Low Power Application Note 1 for additional Performance Curves & Data

## CONTACT INFORMATION

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