



SUPERWORLD ELECTRONICS

STV Series – 1W 3kVdc Isolated Dual Output Surface Mount DC-DC Converter



RoHS Compliant



FEATURES

- Industry standard SMD package
- Dual High Isolated Outputs 3kVdc
- Operating Temp Range -40°C to 85°C
- Internal Input and Output Filtering
- CECC00802 Re-flow (280 deg. C max.)
- 2 Year Warranty

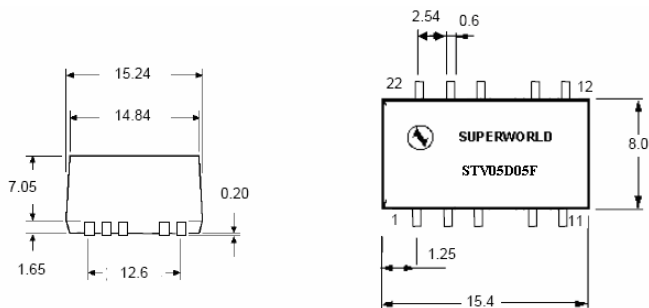
DESCRIPTION

The STV 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 STV is fully encapsulated in a non-flammable plastic case (meeting UL 94V-0) and is designed to meet EN60950 and UL1950 safety standards. The devices are fully compatible with CECC00802 to 280 deg. C

STV PRODUCT RANGE

Model	Vin (nom) (Vdc)	Vout (Vdc)	Iout (mA)	Iin (rated load) (mA)	Eff. (%)
STV03D03F	3.3	± 3.3	± 140	354	79
STV03D05F	3.3	± 5	± 100	374	81
STV03D09F	3.3	± 9	± 56	373	82
STV03D12F	3.3	± 12	± 41	359	83
STV03D15F	3.3	± 15	± 34	372	83
STV05D03F	5	± 3.3	± 140	228	81
STV05D05F	5	± 5	± 100	241	83
STV05D09F	5	± 9	± 56	240	84
STV05D12F	5	± 12	± 41	232	85
STV05D15F	5	± 15	± 34	237	86
STV09D03F	9	± 3.3	± 140	127	81
STV09D05F	9	± 5	± 100	131	85
STV09D09F	9	± 9	± 56	132	85
STV09D12F	9	± 12	± 41	127	86
STV09D15F	9	± 15	± 34	132	86
STV12D03F	12	± 3.3	± 140	93	83
STV12D05F	12	± 5	± 100	97	86
STV12D09F	12	± 9	± 56	98	86
STV12D12F	12	± 12	± 41	94	87
STV12D15F	12	± 15	± 34	98	87
STV15D03F	15	± 3.3	± 140	75	82
STV15D05F	15	± 5	± 56	43	86
STV15D09F	15	± 9	± 41	57	86
STV15D12F	15	± 12	± 34	63	87
STV15D15F	15	± 15	± 34	78	87

MECHANICAL SPECIFICATIONS



All measurements are in mm
Tolerances = ± 0.25mm

Pin	Function
1	GND
3	+Vin
5	NC
9	0V
11	-Vout
12	NC
14	+Vout
18	NC
20	NC
22	NC

STV 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

STV 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		5	10	%
	9,12 & 15 Vout		3	10	%
Ripple & Noise	BW = DC to 20MHz All models		45	90	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

STV GENERAL CHARACTERISTICS					
PARAMETER	CONDITIONS	MIN	TYPICAL	MAX	UNITS
Temperature	Specification	-40		85	°C
	Storage	-55		125	°C
Isolation	Isolation Test Voltage	3000			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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