SUPERWORLD ELECTRONICS

STE Series – 1W Single Output Surface Mount DC-DC Converter

RoHS Compliant

FEATURES

- Industry standard SMD package
- Ultra-high efficiencies to 87%
- Single 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

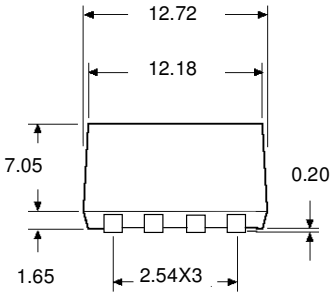
The STE Series is a reliable high performance solution for a wide range of applications. The STE is fully encapsulated in a non-flammable plastic case (meeting UL 94V-0) and is designed to meet EN60950 and UL1950 safety standards. The devices are fully compatible with CECC00802 to 280 deg. C

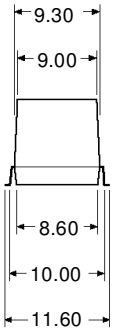
STE PRODUCT RANGE

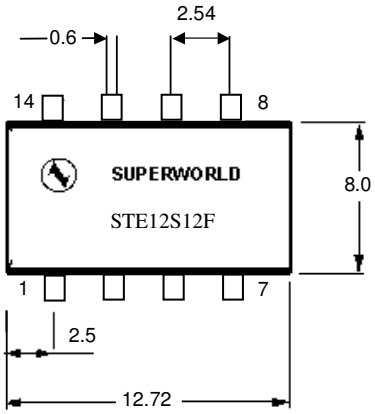
Model	Vin (nom) (Vdc)	Vout (Vdc)	Iout (mA)	Iin (rated load) (mA)	Eff. (%)
STE03S03F	3.3	3.3	280	354	79
STE03S05F	3.3	5	200	374	81
STE03S09F	3.3	9	112	373	82
STE03S12F	3.3	12	82	359	83
STE03S15F	3.3	15	68	372	83
STE05S03F	5	3.3	280	228	81
STE05S05F	5	5	200	241	83
STE05S09F	5	9	112	240	84
STE05S12F	5	12	82	232	85
STE05S15F	5	15	68	237	86
STE09S03F	9	3.3	280	127	81
STE09S05F	9	5	200	131	85
STE09S09F	9	9	112	132	85
STE09S12F	9	12	82	127	86
STE09S15F	9	15	68	132	86
STE12S03F	12	3.3	280	93	83
STE12S05F	12	5	200	97	86
STE12S09F	12	9	112	98	86
STE12S12F	12	12	82	94	87
STE12S15F	12	15	68	98	87
STE15S03F	15	3.3	280	75	82
STE15S05F	15	5	200	43	86
STE15S09F	15	9	112	57	86
STE15S12F	15	12	82	63	87
STE15S15F	15	15	68	78	87

MECHANICAL SPECIFICATIONS

Pin	Function
1	GND
3	+Vin
5	NC
7	0V
8	+Vout
10	NC
12	NC
14	NC







All measurements are in mm
Tolerances = ± 0.25mm

STE 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 Voltage (1 sec max.)	3.3 Vin models			7.5	Vdc
	5 Vin models			7.5	
	9 Vin models			12.5	
	12 Vin models			18	
	15 Vin models			21	
Reverse Voltage Protection				0.3	A

STE 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	3.3Vout & 5Vout		10	14	%
(10% load to rated load)	9,12 & 15 Vout		6	9	%
Ripple & Noise	BW = DC to 20MHz		45	90	mVp-p
	All models				
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

STE 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				1.8	g

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

CONTACT INFORMATION

Superworld Electronics (S) Pte Ltd
16 New Industrial Road
#06-01 to 08 Hudson TechnoCentre
Singapore 536204
Tel : (65) 6298 2866
Fax : (65) 6298 8900
Email : sales@superworld.com.sg