

Features

- 15 Watt output power
- 1x1" package
- 4:1 input voltage range
- Industry standard pin-out
- 1.6 KVDC isolation
- Operating temperature range -40°C to +105°C
- High efficiency up to 88.5%
- UL62368-1/ EN62368-1/ IEC62368-1 approval

Isolated DC-DC converter

RS Stock No.: 2853151



RS PRO is the own brand of RS. The RS PRO Seal of Approval is your assurance of professional quality, a guarantee that every part is rigorously tested, inspected, and audited against demanding standards. Making RS PRO the Smart Choice for our customers.

Product Description

The DC-DC converter is specially designed for regulated and low ripple noise is required, industry control application, tele-communication application, energy battery power application. OP temperature is full load from -40 °C to 80°C and 1600Vdc isolation. No minimum load required.

General Specifications

Type	15W Isolated DC-DC converter
Regulated/Unregulated	Regulated
Efficiency *1	Typ. 88%
Applications	Industry control application, tele-communication application, energy battery power application

Specifications

Output Voltage	12V dc
Input Voltage	9-36V dc Nom.24V dc
Output Current	1250 mA
Input Curren @ no load	7mA
Input Voltage Range	Min. 9V dc/ Max. 36V dc
Input Surge Voltage	Max. 50V dc (100ms max.)
Under Voltage Lockout	Typ. 7.5V dc
Start-up Voltage	Max. 9V dc
Start-up Time	Max. 25mS/ Typ. 20mS (100% load at nominal Vin)
Remote ON/OFF	DC-DC on Open or $3.5V < V_r < 15V$
	DC-DC off Short or $0V < V_r < 1.2V$
	Typ. 2mA Input current (remote off mode)
Output Voltage Accuracy	Max. $\pm 1\%$
Capacitive Load *2	Max. 1200 μ F
Operating Frequency	Typ. 350KHz
Ripple and Noise *3	Max. 60mV pp
MTBF	Typ. 1000000hours (25°C)
Line Regulation	Max. 0.2% (LL-HL at 100% load)
Load Regulation	Max. 0.5% (10%-100% load)
Cross Regulation	Max. $\pm 5\%$
Minimum Load	0%
Trim Range	Max. $\pm 10\%$
Isolation Voltage	Min. 1600V dc/ 1 min., Input to Output

Isolated DC-DC converter

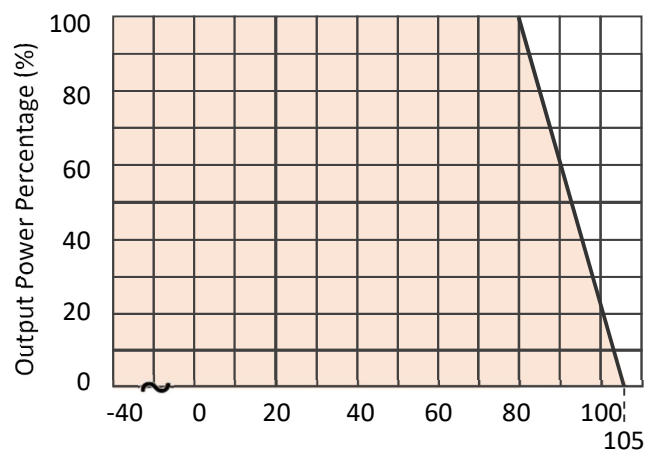


Isolation Resistance	Min. 1000M Ω
Isolation Capacitance	Typ. 1200pF
Short Circuit Protection	Continuous, automatic recovery
Over Load Protection	Typ. 170% (Hiccup mode)
Safety Approvals	UL62368-1/ EN62368-1/ IEC62368-1
Vibration	MIL-STD-202G
Certificate	RoHS / REACH / CE

General Specifications

Operating Temperature *	-40 to 105°C
Storage Temperature	-55 to 125°C
Max. Case Temperature	Max. 110°C

Derating



Operating Temperature (°C)

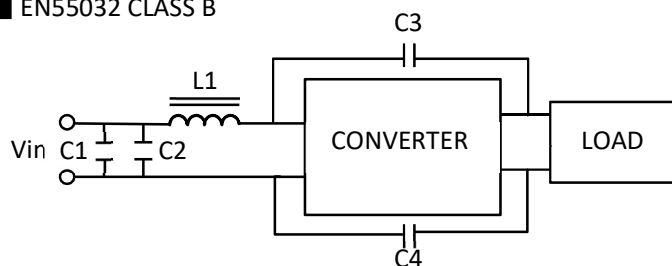
Ambient temperature with natural convection

External Output Trimming

Vref	R1	R2	R3
2.50V	38.1K Ω	10.0K Ω	48.7K Ω

EMC Compliance Circuit

■ EN55032 CLASS B



C1	C2	L1	C3	C4
2.2 μ F	2.2 μ F	4.7 μ H	1500pF	1500pF

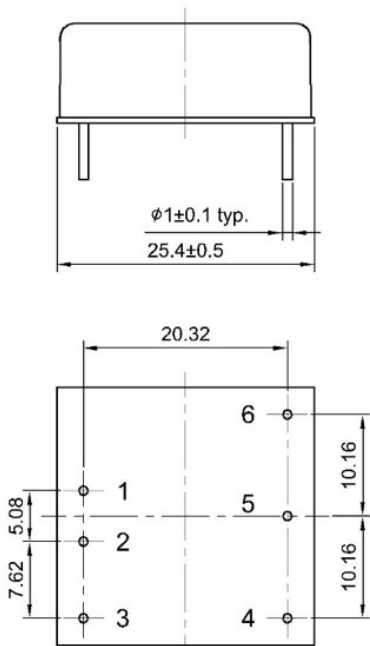
EMC Specifications

EMI ^{*4}	CLASS A/ B EN 55032
ESD	Perf. Criteria A EN 61000-4-2, Air $\pm$ 8kV; Contact $\pm$ 6kV
RS ^{*5}	Criteria A EN 61000-4-3
EFT ^{*5}	Criteria A EN 61000-4-4, $\pm$ 2kV
Surge ^{*5}	Criteria A EN 61000-4-5, $\pm$ 2kV
CS ^{*5}	Criteria A EN 61000-4-6
PFMF	Criteria A EN 61000-4-8

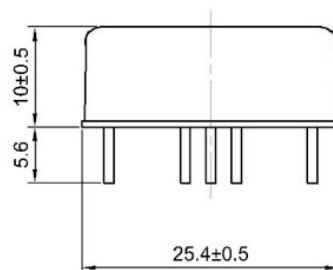
Mechanical Specifications

Case Material	Nickel plated metal with FR-4 base
Potting Material	Silicone
Dimensions	25.40 x 25.40 x 10.00 mm
Weight	17g
Cooling	Free air convection

Dimension & Pinning

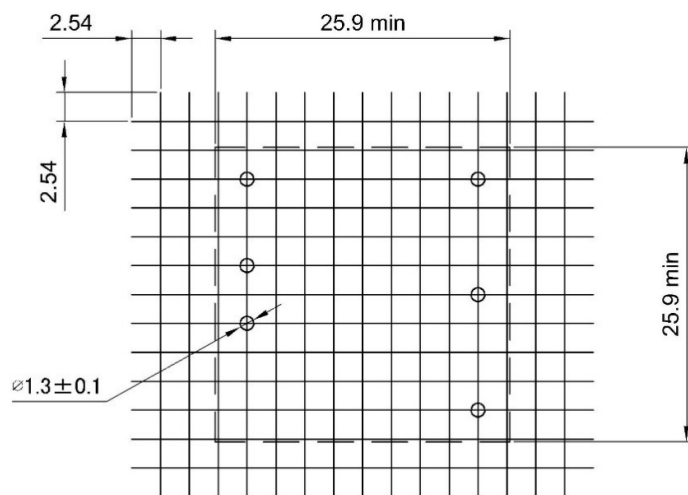


Bottom view

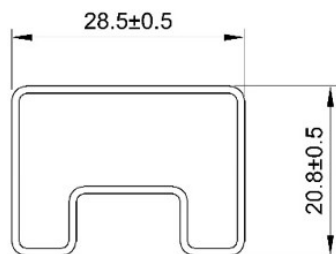
Tolerance : ± 0.25 mm

Pin	Pin-Out
1	+Vin
2	-Vin
3	CTRL
4	-Vout
5	Trim
6	+Vout

Recommend Footprint



Footprint (Top view)

Package

UNIT:mm
1 Tube = 8 pcs
Length:260±2mm

1. ^{*1}The efficiency is test by nominal input and full load at 25°C.
2. ^{*2}The capacitive load is test by minimum input and constant resistive load.
3. ^{*3}Ripple& noise: 20MHZ BW at Vin range 0%-100% load with a 1μF MLCC.
4. ^{*4}EMI class A without external circuit, and class B suggestion circuit, please check suggestion circuit.
5. ^{*5}Test with E-CAP 220μF/100V at input terminal.
6. All specifications valid at nominal input voltage, full load and 25°C after warm-up time unless otherwise stated.