Internal

Features

- 20 Watt output power
- 2x1” package
- 4:1 input voltage range
- Industry standard pin-out
- 1.6 KVDC isolation
- Operating temperature range -40°C to +100°C
- High efficiency up to 89.5%
- IEC/UL/EN 60950-1 approval

Isolated DC-DC converter

RS Stock No.: 2853139s

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.

Internal

Isolated DC-DC converter

Product Description

The DC-DC converter is specially designed for industrial control system, electric power instrumentation, telecommunications.
OP temperature is full load from -40 ℃ to 80℃ and 1600Vdc isolation.
No minimum load required.

General Specifications

Type	20W Isolated DC-DC converter
Regulated/Unregulated	Regulated
Efficiency *1	Typ. 89.5%
Applications	Industrial control system, electric power instrumentation, telecommunications

Specifications

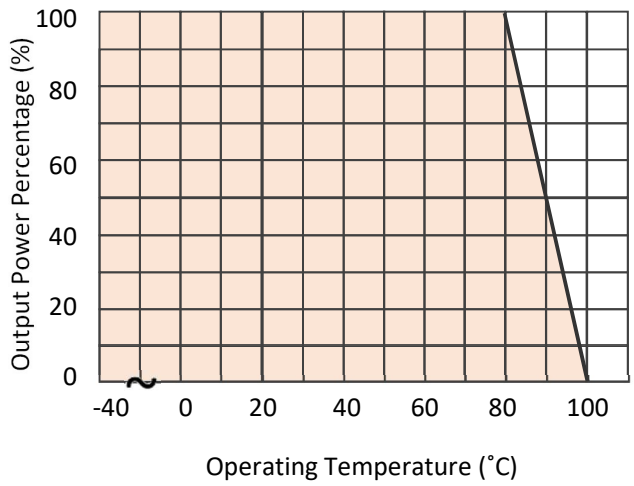
Output Voltage	12V dc
Input Voltage	9-36V dc Nom.24V dc
Output Current	1667mA
Input Curren @ no load	10mA
Input Voltage Range	Min. 9V dc/ Max. 36V dc
Under Voltage Lockout	DC-DC ON Typ. 9V dc
	DC-DC OFF Typ. 7.5V dc
Start-up Voltage	Typ. 9V dc
Start-up Time	Typ. 10mS (100% load at nominal Vin)
Remote ON/OFF	DC-DC on Open or 2.5V < Vr < 12V
	DC-DC off Short or 0V < Vr < 1.2V
Output Voltage Accuracy	Typ. ±1%
Capacitive Load *2	Max. 1650μF
Operating Frequency	Typ. 300KHz
Ripple and Noise *3	Max. 100mV pp
Transient Response Recovery Time	Typ. 250μs (25% load step change)
MTBF	Min. 1098000hours (25°C)
Line Regulation	Typ. ±0.2% (LL-HL at 100% load)
Load Regulation	Typ. ±0.5% (0%-100% load)
Cross Regulation	±5% (25%-100% load)
Minimum Load	0%
Voltage Adjustability	Typ. 10%
Isolation Voltage	Min. 1600V dc/ 1 min., Input to Output
Isolation Resistance	Min. 1000M Ω

Isolation Capacitance	Max. 1200pF
Short Circuit Protection	Continuous, automatic recovery
Over Load Protection	Typ. 180%
Over Voltage Protection	Typ. 16V dc
Safety Approvals	IEC/UL/EN 60950-1
Vibration	MIL-STD-202G
Certificate	RoHS / REACH / CE

General Specifications

Operating Temperature	-40 to 100°C
Storage Temperature	-55 to 125°C
Relative Humidity	5 to 95%RH
Temperature Coefficient	±0.02 %/°C
Max. Case Temperature	Max. 105°C

Derating



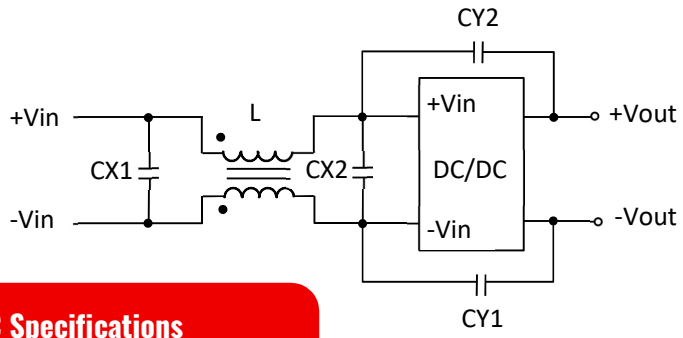
External Output Trimming

Vref	R1	R2	R3
2.5V	19.43K Ω	5.1K Ω	36.0K Ω

EMC Compliance Circuit

■ EN55032 CLASS B

L		CX1	CX2	CY1	CY2
Common Choke	1.5mH min.	4.7μF/50V	4.7μF/50V	1000pF/2KV	1000pF/2KV



EMC Specifications

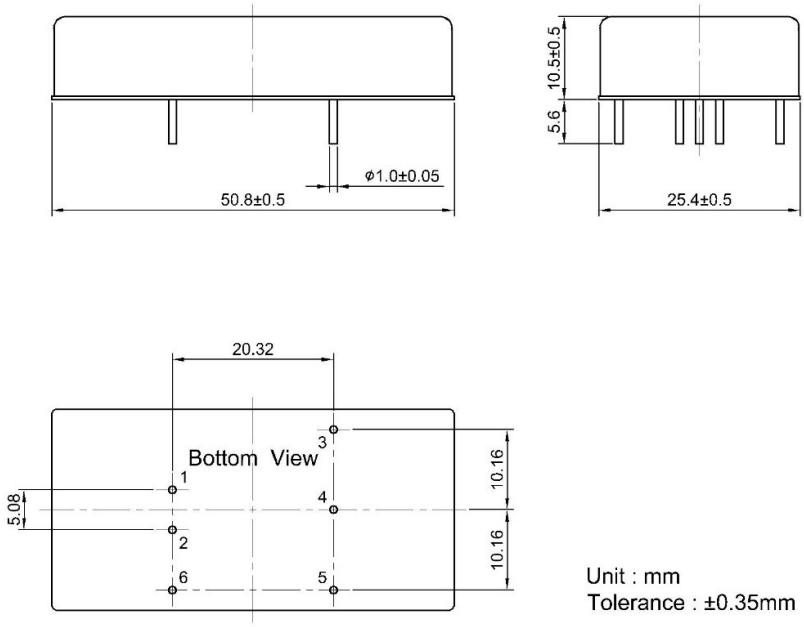
EMI *4	CLASS A/ B EN 55032
ESD	Perf. Criteria B EN 61000-4-2, Air±8kV; Contact±4kV
RS	Perf. Criteria A EN 61000-4-3, 10V/m
EFT	Perf. Criteria B EN 61000-4-4, ±2kV
Surge	Perf. Criteria A EN 61000-4-5, ±2kV
CS	Perf. Criteria A EN 61000-4-6, 10V/rms
PFMF	Perf. Criteria A EN 61000-4-8, 50Hz, 1A/m (r.m.s)

Isolated DC-DC converter

Mechanical Specifications

Case Material	Nickel plated copper
Potting Material	Silicone
Dimensions	50.80 x 25.40 x 10.50 mm
Weight	27g
Cooling	Natural convection

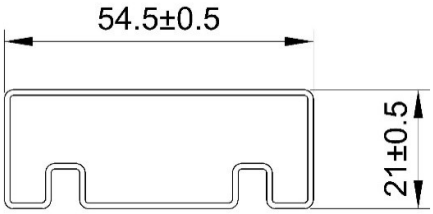
Dimension & Pinning



Unit : mm
Tolerance : ±0.35mm

Pin	Pin-Out
1	+Vin
2	-Vin
3	+Vout
4	Trim
5	-Vout
6	Remote ON/OFF

Package



UNIT:mm
1 Tube = 18 pcs
Length:520±2mm

1. *1 The efficiency is test by nominal input and max. full load @25˚C.
2. *2 The capacitive load is test by minimum input and constant resistive load.
3. *3 Ripple& noise: measured with 20MHz bandwidth and 1μF ceramic capacitor.
4. *4 EMI class A without external circuit.
5. All specifications valid at nominal input voltage, full load and 25˚C after warm-up time unless otherwise stated.