

Features

- 150 Watt output power
- Half brick package
- 8:1 input voltage range
- Industry standard pin-out
- 3 KVDC isolation
- Operating temperature range -40°C to +105°C
- High efficiency up to 89.5%
- UL62368/ IEC62368/ IEC60950/ EN62368 approval

Isolated DC-DC converter

RS Stock No.: 2853156



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 industrial control, electric power, battery management system, automation power application, datacom application.
OP temperature is from -40 °C to 105°C and 3000Vdc isolation.
No minimum load required.

General Specifications

Type	150W Isolated DC-DC converter
Regulated/Unregulated	Regulated
Efficiency *1	Typ. 89.5%
Applications	Industrial control, electric power, battery management system, automation power application, datacom application

Specifications

Output Voltage	12V dc
Input Voltage	9-75V dc Nom.48V dc
Output Current	12500mA
Input Curren @ no load	Max. 35mA
Input Voltage Range	Min. 9V dc/ Max. 75V dc
Input Surge Voltage	Max. 100V dc (0.1s max.)
Under Voltage Lockout	Typ. 8V dc (0%-100% load)
Start-up Voltage	Typ. 9V dc
Start-up Time	Min. 200ms/ Max. 400ms (100% load at nominal Vin)
Remote ON/OFF	DC-DC on Open or $3V < V_r < 12V$
	DC-DC off Short or $0V < V_r < 1.2V$
Output Voltage Accuracy	Max. $\pm 1\%$
Capacitive Load *2	Max. 5000 μ F
Operating Frequency	Typ. 200KHz (100% load at nominal Vin)
Ripple and Noise *3	Max. 120mV pp
Transient Response Recovery Time	Typ. 500 μ s (75%-100% load)
MTBF	Min. 1000000hours (25°C)
Line Regulation	Max. $\pm 0.2\%$ (LL-HL at 100% load)
Load Regulation	Max. $\pm 0.5\%$ (0%-100% load)
Minimum Load	0%
Voltage Adjustability	$\pm 10\%$
Isolation Voltage	Min. 3000V dc/ 1 min., Input to Output
Isolation Resistance	Min. 1000M Ω

Isolated DC-DC converter



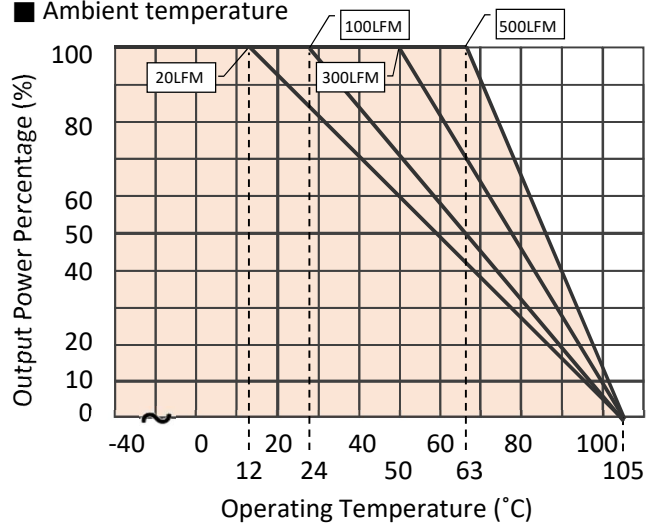
Isolation Capacitance	Max. 3500pF
Short Circuit Protection	Continuous, automatic recovery
Over Load Protection	Typ. 150%
Over Voltage Protection	Min. 13.4V dc/ Max. 18.0V dc
Over Temperature Protection	Max. 115°C
Safety Approvals	UL62368/ IEC62368/ IEC60950/ EN62368/ EN50155
Vibration	MIL-STD-202G
Certificate	RoHS / REACH

General Specifications

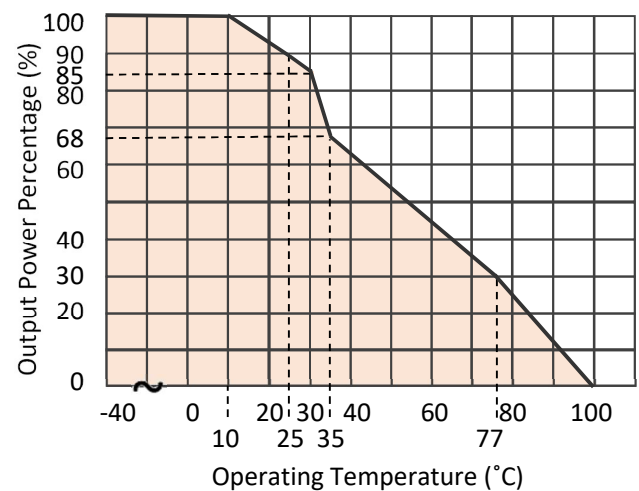
Operating Temperature	-40 to 105°C
Storage Temperature	-55 to 125°C
Relative Humidity	5 to 95%RH
Temperature Coefficient	Max. 0.005 %/°C
Baseplate Temperature	Max. 110°C

Derating

■ Ambient temperature



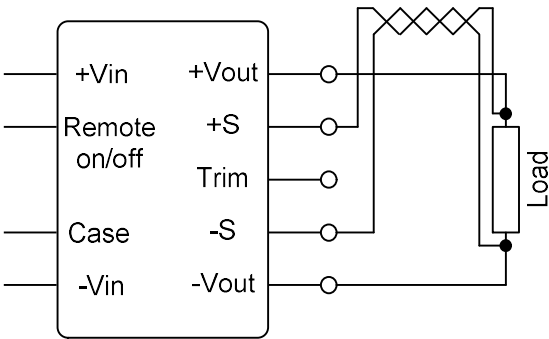
■ The derating curve was measured with heat sink.



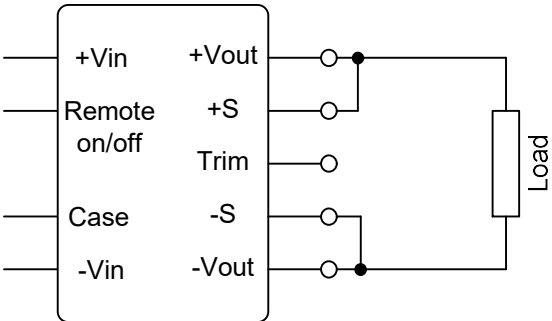
External Output Trimming

Vref	R1	R2	R3
2.50V	38.0K Ω	10.0K Ω	68.0K Ω

Remote ON/OFF control



(a) With Remote Sense

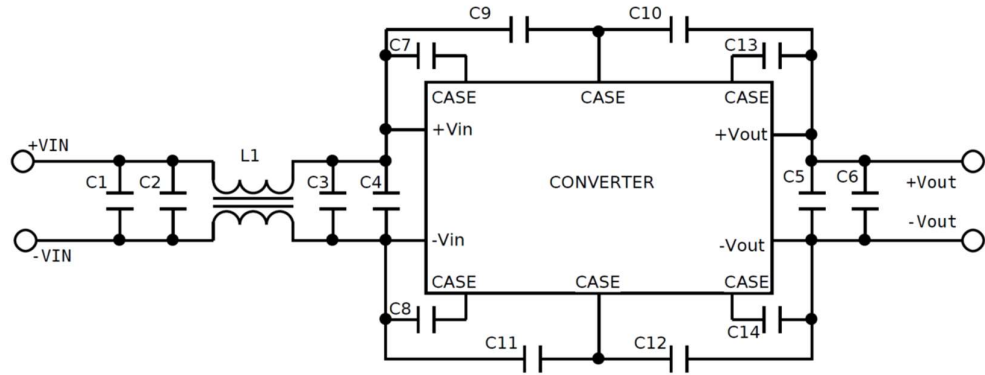


(b) Without Remote Sense

EMC Compliance Circuit

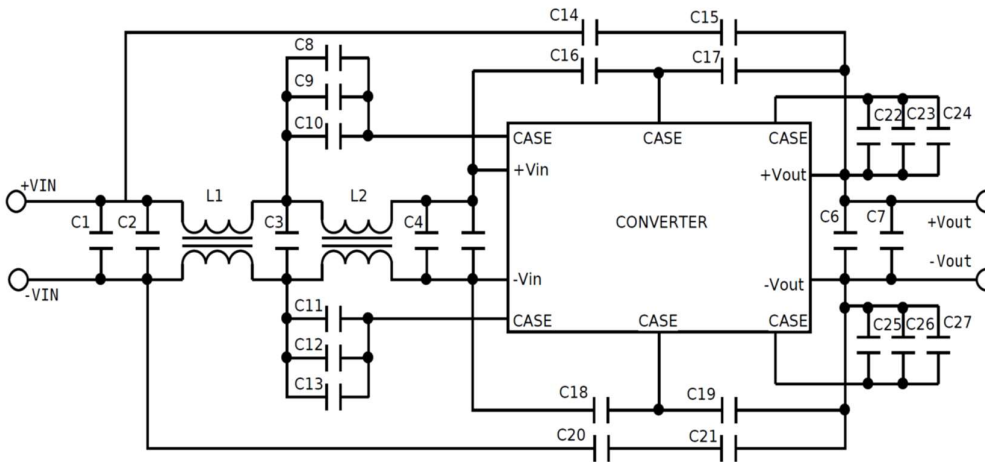
■ EN55022 CLASS A

Isolated DC-DC converter



C1	C2	L1	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14
220μF	2.2μF	2.2mH	220μF	2.2μF	4.7μF	4.7μF	1000pF	1000pF	2200pF	2200pF	2200pF	2200pF	1000pF	1000pF

■ EN55022 CLASS B



C1	C2	L1	L2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13
220μF	2.2μF	2.2mH	2.2mH	2.2μF	220μF	2.2μF	4.7μF	4.7μF	4700pF	NONE	NONE	4700pF	NONE	NONE
C14	C15	C16	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	
10pF	10pF	2200pF	2200pF	2200pF	2200pF	10pF	10pF	4700pF	NONE	NONE	4700pF	NONE	NONE	

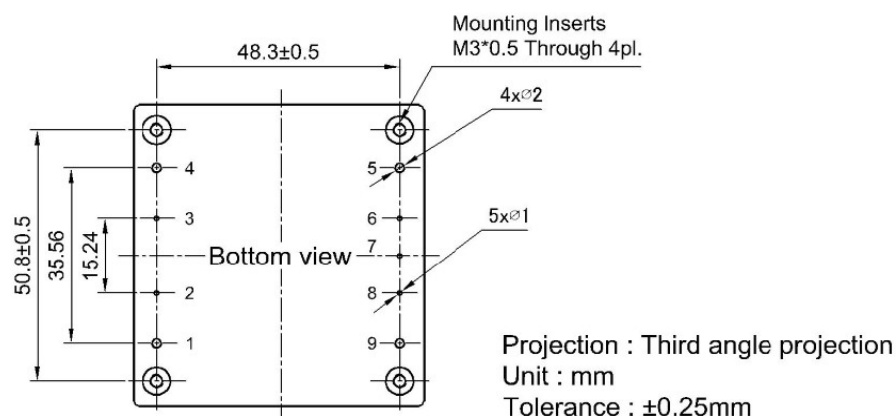
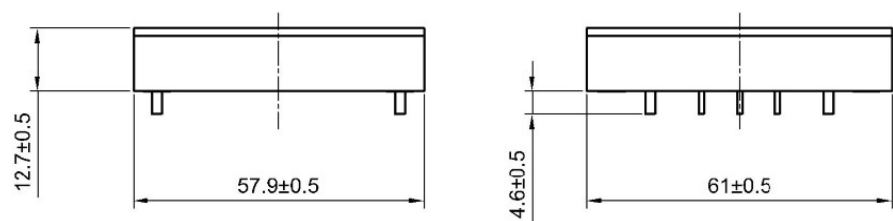
EMC Specifications

EMI	Class A/B with external filter EN 55022
ESD	Criteria A EN 61000-4-2, Air±8kV; Contact±6kV
RS	Criteria A EN 61000-4-3, 10V/m
EFT [™]	Criteria A EN 61000-4-4, ±2kV
Surge [™]	Criteria A EN 61000-4-5, ±2kV
CS	Criteria A EN 61000-4-6, 10V/rms
PFMF	Criteria A EN 61000-4-8, 10A/m

Mechanical Specifications

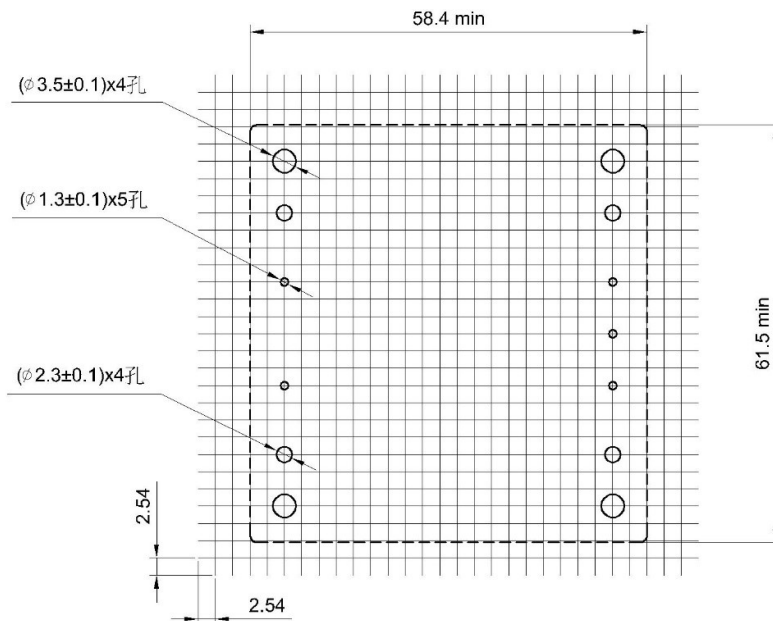
Case Material	Aluminum Baseplate with Plastic Case
Potting Material	Silicone
Dimensions	57.90 x 61.00 x 12.70 mm
Weight	109g
Cooling	Natural convection

Dimension & Pinning



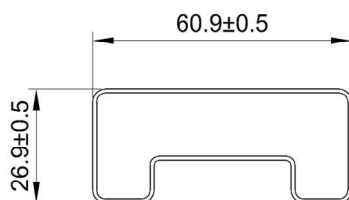
Pin	Pin-Out
1	+Vin
2	CTRL
3	Case
4	-Vin
5	-Vout
6	-Sense
7	Trim
8	+Sense
9	+Vout

■ Recommend Footprint



Footprint (Top view)

Package



UNIT:mm
1 Tube = 7 pcs
Length:520±2mm

- *¹ The efficiency is test by nominal input and max. full load @25°C.
- *² The capacitive load is tested by 9Vdc input and constant resistive load.
- *³ Ripple & Noise measured with 20MHz bandwidth and 4.7μF+4.7μF ceramic.
- *⁴ External input capacitor required 680μF/100V.
- All specifications valid at nominal input voltage, full load and 25°C after warm-up time unless otherwise stated.