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Internal

Features

- 60 Watt output power
- 2x1” 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 91%
- EN62368-1/ IEC62368-1/ EN50155/ EN55032&35 approval

Isolated DC-DC converter

RS Stock No.: 2853145



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.

Isolated DC-DC converter

Product Description

The DC-DC converter is specially designed for industry control application, telecom/ datacom application, save space solution, industrial application, railway application.
OP temperature is full load from -40 ℃ to 55℃ and 1600Vdc isolation.
No minimum load required.

General Specifications

Type	60W Isolated DC-DC converter
Regulated/Unregulated	Regulated
Efficiency *1	Typ. 91%
Applications	Industry control application, telecom/ datacom application, save space solution, industrial application, railway application

Specifications

Output Voltage	5V dc
Input Voltage	9-36V dc Nom.24V dc
Output Current	12000 mA
Input Curren @ no load	15mA
Input Voltage Range	Min. 9V dc/ Max. 36V dc
Input Surge Voltage	Max. 50V dc
Under Voltage Lockout	Typ. 8V dc (0%-100% load)
Start-up Voltage	Max. 9V dc (0%-100% load)
Start-up Time	Max. 50mS (100% load at nominal Vin)
Remote ON/OFF	DC-DC on Open or 3V < Vr < 12V
	DC-DC off Short or 0V < Vr < 1.2V
Output Voltage Accuracy	Typ. ±1%
Capacitive Load *2	Max. 28000μF
Operating Frequency	Typ. 250KHz (100% load at nominal Vin)
Ripple and Noise *3	Max. 100mV pp
Transient Response Recovery Time	Typ. 500 μ s (75%-100% load step change)
MTBF	Typ. 205000hours (25°C)
Line Regulation	Typ. ±0.2% (LL-HL at 100% load)
Load Regulation	Typ. ±0.5% (0%-100% load)
Cross Regulation	Typ. ±5% (25%-100% load)
Minimum Load	0%
Voltage Adjustability	±10%

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Isolated DC-DC converter

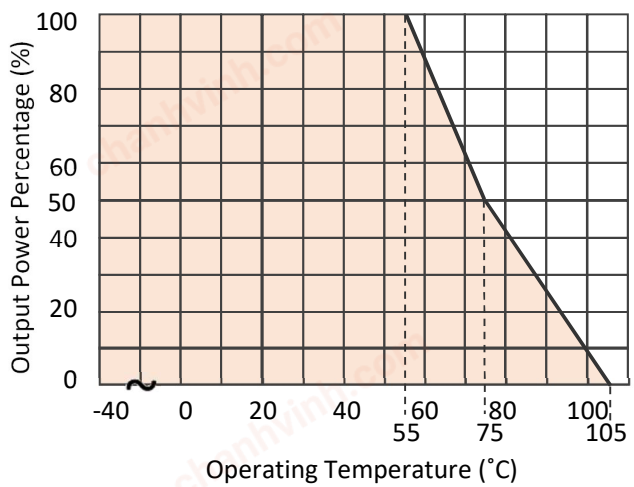
Isolation Voltage	Min. 1600V dc/ 1 min., Input to Output
Isolation Resistance	Min. 1000M Ω
Isolation Capacitance	Typ. 1500pF
Short Circuit Protection	Continuous, automatic recovery
Over Load Protection	Typ. 175%
Over Voltage Protection	Min. 5.6V dc / Max. 8.0V dc
Over Temperature Protection	Max. 115°C
Safety Approvals	EN62368-1/ IEC62368-1/ EN50155/ EN55032&35
Vibration	MIL-STD-202G
Certificate	RoHS / REACH / CE

General Specifications

Operating Temperature *4	-40 to 105°C
Storage Temperature	-55 to 125°C
Relative Humidity	5 to 95%RH
Temperature Coefficient	±0.005 %/°C
Max. Case Temperature	Max. 110°C

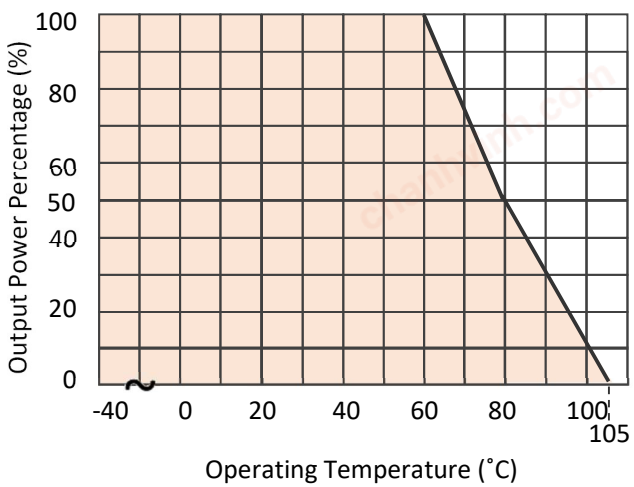
Derating

■ Without test board



The derating curve was measured at nominal Vin in chamber with nature convection.

■ With test board



The derating curve was measured with nominal line. Mounted test board.

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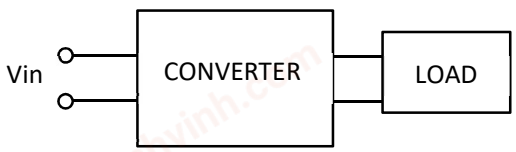
External Output Trimming

Vref	R1	R2	R3
2.50V	10.0K Ω	10.0K Ω	35.7K Ω

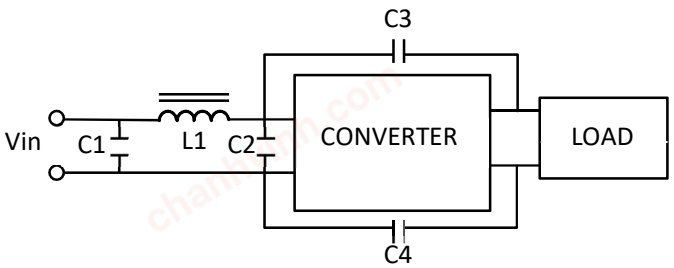
EMC Compliance Circuit

■ EN55032 CLASS A

■ EN55032 CLASS B



C1	L1	C2	C3	C4
10μF	1.5μH	10μF	2200pF	2200pF



EMC Specifications

EMI *4	CLASS A/ B EN 55032
ESD	Criteria A EN 61000-4-2, Air±8kV; Contact±6kV
EFT *5	Criteria A EN 61000-4-4, ±2kV
Surge *5	Criteria A EN 61000-4-5, ±2kV
CS	Criteria A EN 61000-4-6, 10V/rms

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Internal

Internal

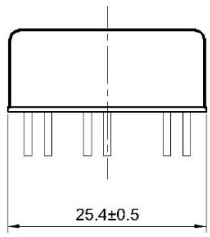
PFMF	Criteria A EN 61000-4-8, 10A/m

Mechanical Specifications

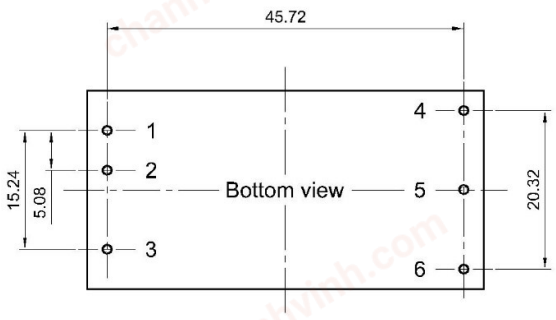
Case Material	Metal case
Potting Material	Silicone
Dimensions	50.80 x 25.40 x 10.50 mm
Weight	37.6g
Cooling	Natural convection

Dimension & Pinning





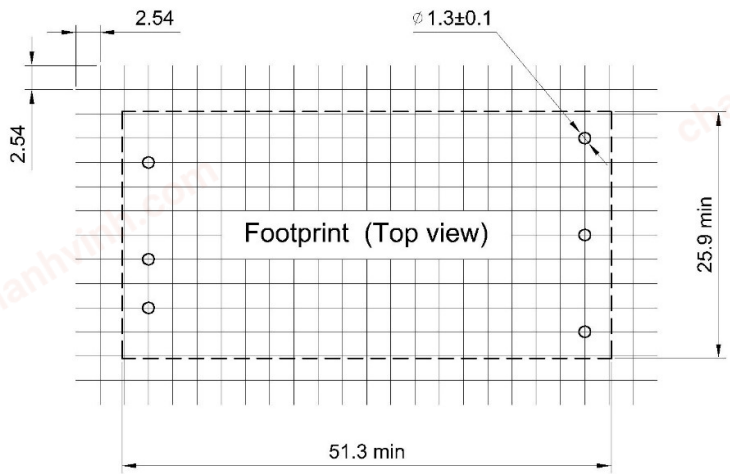
Pin	Pin-Out
1	+Vin
2	-Vin
3	Ctrl
4	+Vout
5	-Vout
6	Trim



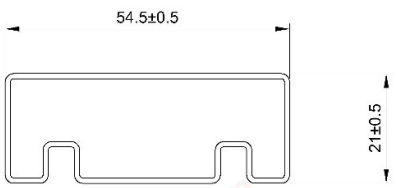
■ Recommend Footprint

Unit : mm
PIN Tol : ±0.1
Tolerance : ±0.35

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Package



UNIT:mm
1 Tube = 18 pcs
Length:520±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/50V X7R MLCC.
4. *4 EMI class A without external circuit, and class B suggestion circuit, please check suggestion circuit.
5. *5 External input capacitor required 680μF/100V.
6. All specifications valid at nominal input voltage, full load and 25˚C after warm-up time unless otherwise stated.