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Internal

Features

- 30 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 90%
- UL62368-1/ EN62368-1/ IEC62368-1 approval

Isolated DC-DC converter

RS Stock No.: 2853153



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Isolated DC-DC converter

Product Description

The DC-DC converter is specially designed for industry control application, stand by power application, telecom/ datacom application, save space solution.
OP temperature is full load from -40 ℃ to 65℃ and 1600Vdc isolation.
No minimum load required.

General Specifications

Type	30W Isolated DC-DC converter
Regulated/Unregulated	Regulated
Efficiency *1	Typ. 90%
Applications	Industry control application, stand by power application, telecom/ datacom application, save space solution.

Specifications

Output Voltage	12V dc
Input Voltage	9-36V dc Nom.24V dc
Output Current	2500 mA
Input Curren @ no load	10mA
Input Voltage Range	Min. 9V dc/ Max. 36V dc
Input Surge Voltage	Max. 50V dc (0.1s max.)
Under Voltage Lockout	Typ. 7.5V dc (0%-100% load)
Start-up Voltage	Typ. 9V dc (0%-100% load)
Start-up Time	Typ. 30mS (Constant resistive load, nominal input)
Remote ON/OFF	DC-DC on Open or 3.5V < Vr < 15V
	DC-DC off Short or 0V < Vr < 1.2V
	2mA Input current (remote off mode)
Output Voltage Accuracy	Max. ±1%
Capacitive Load *2	Max. 1200μF
Operating Frequency	Typ. 400KHz
Ripple and Noise *3	Max. 75mV pp
Transient Response Recovery Time	Typ. 250μs (25% load step change)
MTBF	Min. 560000hours (25°C)
Line Regulation	±0.2% (LL-HL at 100% load)
Load Regulation	±0.2% (0%-100% load)
Cross Regulation	±5% (25%-100% load)
Minimum Load	0%
Voltage Adjustability	Max. 10% (0%-100% load at Vin range)

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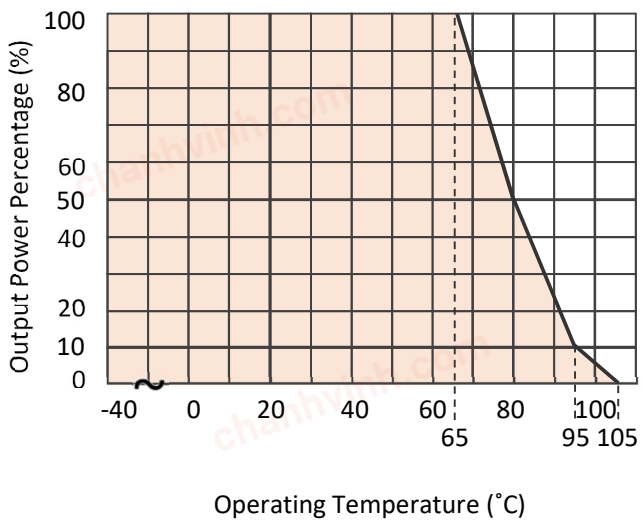
Isolated DC-DC converter

Isolation Voltage	Min. 1600V dc/ 1 min., Input to Output
Isolation Resistance	Min. 1000M Ω
Isolation Capacitance	Max. 2400pF
Short Circuit Protection	Continuous, automatic recovery
Over Load Protection	Typ. 170%
Over Voltage Protection	Typ. 15V dc
Over Temperature Protection	Typ. 115°C
Safety Approvals	UL62368-1/ EN62368-1/ IEC62368-1
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
Max. Case Temperature	Max. 110°C

Derating



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Internal

Internal

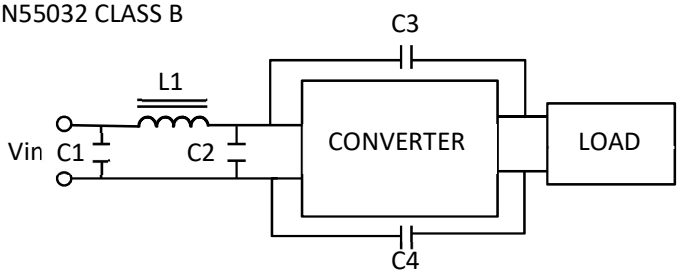
Isolated DC-DC converter

External Output Trimming

Vref	R1	R2	R3
2.50V	38.0K Ω	10.0K Ω	48.7K Ω

EMC Compliance Circuit

■ EN55032 CLASS B



C1	L1	C2	C3	C4
4.7μF	10μH	4.7μF	2200pF	2200pF

EMC Specifications

EMI *5	CLASS A/ B EN 55032
ESD	Criteria A EN 61000-4-2, Air±8kV; Contact±6kV
RS *6	Criteria A EN 61000-4-3
EFT *6	Criteria A EN 61000-4-4, ±2kV
Surge *6	Criteria A EN 61000-4-5, ±2kV
CS *6	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

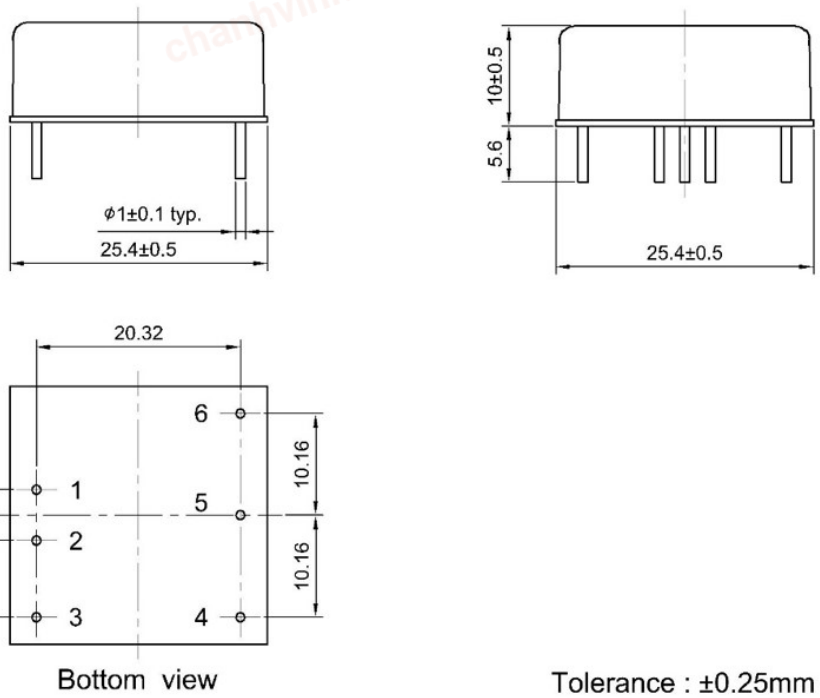
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Internal

Internal

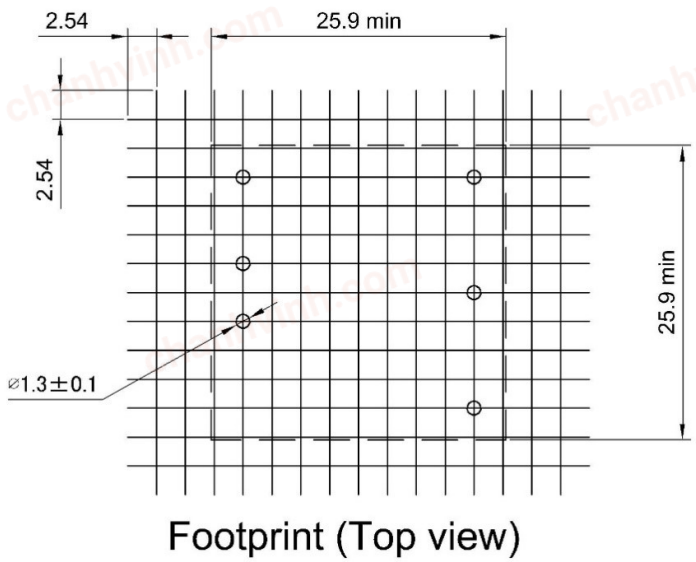
Isolated DC-DC converter

Dimension & Pinning



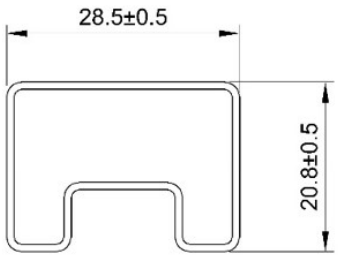
Pin	Pin-Out
1	+Vin
2	-Vin
3	CTRL
4	-Vout
5	Trim
6	+Vout

■ Recommend Footprint



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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 (contact MLCC 22 μ F). Light load ripple & noise is no more than 150mVp-p.
4. *4 Derating measured with nominal line. Mounted test board (80 x 40 mm, 3Oz double layer).
5. *5 EMI class A without external circuit, and class B suggestion circuit, please check suggestion circuit.
6. *6 Test with E-CAP 680μF/100V at input terminal.
7. All specifications valid at nominal input voltage, full load and 25˚C after warm-up time unless otherwise stated.