

BOARD MOUNTED ISOLATED DC/DC CONVERTER 1500 Vdc ISOLATION

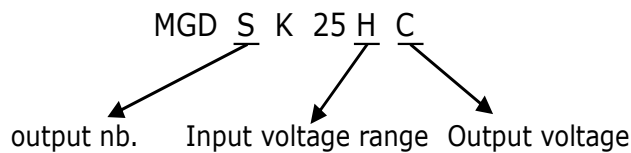
Description

The MGDK25 series features a Quality Cost Effective range of 25W board mounted isolated dc/dc converters. With multiple selection of wide input voltage ranges, the MGDK25 is proposed with a **single, double, symmetrical or triple output channel**. The converter embeds an output overload protection, and comes encapsulated in a low profile fully potted **2"x2"x0.5"** metallic case.

Fields of Application

General purpose application
Transportation
Telecom
Rnewable Energy

Part-numbering



S = single	H = 9-36	B = 3.3
B = double	O = 18-75	C = 5
T = Triple		E = 12
		F = 15



Selection Guide

Part Number	Output Voltage (Vdc)	Output Power (Watt)	Output Current (Adc)	Part Number	Output Voltage (Vdc)	Output Power (Watt)	Output Current (Adc)
MGDSK25HB	3.3	19.8	6	MGDSK25OB	3.3	19.8	6
MGDSK25HC	5	25	5	MGDSK25OC	5	25	5
MGDSK25HE	12	25	2.1	MGDSK25OE	12	25	2.1
MGDSK25HF	15	25	1.67	MGDSK25OF	15	25	1.67
MGDBK25HE	+/-12	25	+/-1.05	MGDBK25OCB	+5 +3,3	22.5	2.5/ 3
MGDBK25HF	+/-15	25	+/-0.83	MGDBK25OE	+/-12	25	+/-1.05
MGDTK25HCE	+5 +/-12	25	2.5 +/-0.5	MGDBK25OF	+/-15	25	+/-0.83
MGDTK25HCF	+5 +/-15	25	2.5 +/-0.4	MGDTK25OCE	+5 +/-12	25	2.5 +/-0.5

for more information go to <https://www.gaia-converter.com>

MGDK25 25W POWER

1-ELECTRICAL SPECIFICATIONS

Data are valid at +25°C, unless otherwise specified

Specification

Parameter	Conditions	Limit	Units	H input	O input
INPUT					
Nominal Input Voltage (Ui nom)	Full temperature range	Nominal	Vdc	20	48
Transient Input Voltage	Full temperature range	Maximum	Vdc/s	40/-	80/0.1
Start-up input voltage Turn on -turn off	Full temperature range	Min.	Vdc	8.5	15
Start-up time	Full temperature range	Maximum	ms	30	
Power efficiency	Ui Nominal 75% load	Typical	%	87	
Input current in short circuit mode (Average)	Ui nominal (hic-up mode)	Maximum	mA	40	45
OUTPUT					
Specific Output Voltage MGDT25HCE MGDT25HCF MGDT25OCE	Ui min. To Ui max	Typical	Vdc	5 +/-11.5 5 +/-14.6	5 +/-11.8
Set Point accuracy	Ui nom @75% load	Maximum	%	+/-2.5	
Output regulation (Line)	25% to full load	Maximum	%	+/- 1.5	
Output regulation (Load)	Ui min. To Ui max 25% to full load 0% to 25% load	Maximum Typical	%	+/- 2.5 +20 to +/-2.5	
Minimum 10% load is recommended, operation with no load during more than 1s may partially damage the converter output.					
Output ripple voltage B output (3V3) C output (5V) E output (12V) F output (15V)	Ui min. To Ui max	Maximum	mVpp	100 100 200 200	
Admissible capacitor B output (3V3) C output (5V) E output (12V) F output (15V)	Ui min. Full load (per output)	Maximum	µF	1500 1500 330 330	
MISCELLANEOUS					
Switching Frequency		Typical	KhZ	250	
Isolation Strength (Input output)	Regular model /Y option		Vdc	1500 3000	
EMC Compliance	With input capacitor With input filter			EN555032 class A EN555032 class B	

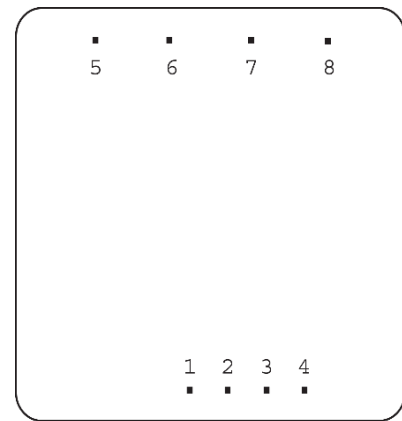
MGDK25 25W POWER

2-THERMAL & MECHANICAL SPECIFICATIONS

Parameter	Conditions	Limit	Units	Parameter
Case temperature range		Mini.Max.	°C	-40 to 95
Storage temperature range	Not operating	Mini.Max.	°C	110
Case Material	Regular model			Metallic black anodized coated
Pin Material				Copper plated with pure matte tin over nickel underplate
Case to Air thermal resistance		Typical	°C/W	7

Connections

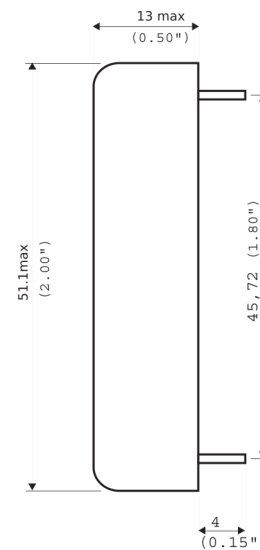
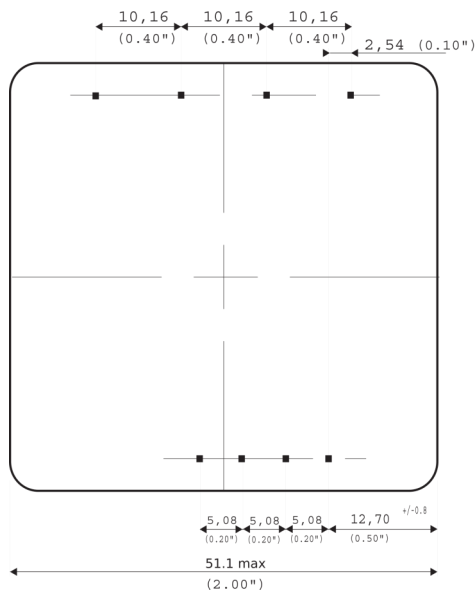
Pin#	MGDSK25 (Single)	MGDBK25 (Symetrical)	MGDBK25 (Double)	MGDTK25 (Triple)
1	+Input (Vi)	+Input (Vi)	+Input (Vi)	+Input (Vi)
2	-Input (Gi)	-Input (Gi)	-Input (Gi)	-Input (Gi)
3	case	case	case	case
4	Not connected	Not connected	Not connected	Not connected
5	Do not connect	Output+ (Vo)	Output+ (Vo1)	Output2+ (+V2)
6	Output (Vo)	Common (Go)	Common (Go)	Common (Go)
7	Common (Go)	Output- (-Vo)	Output+ (Vo2)	Output2+ (+V2)
8	Do not connect	Do not connect	Do not connect	Output2- (-V2)



Bottom view

Dimensions MGDK25

Dimensions are given in mm (inches) . Tolerance : +/-0.25mm (0.01") unless otherwise specified weight : < 80gr (2.8oz) max.

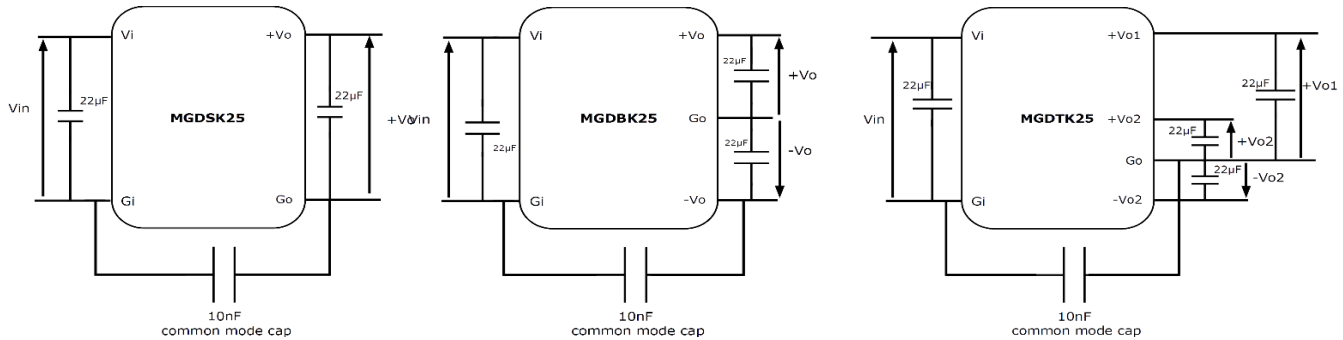


Pin dimensions : \square 0,91

MGDK25 25W POWER

3-APPLICATION

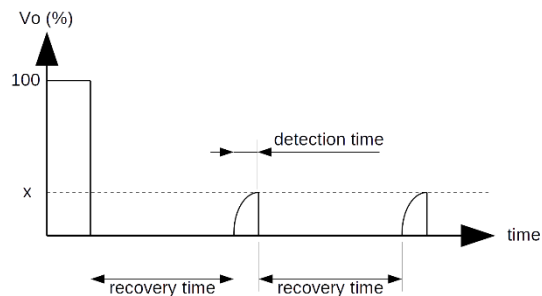
Typical connections



Input and output capacitor values are given as suggestions

OCP Function

The converter series incorporates an over current protection circuit. When the output current reaches a value above typically 200% of its full-rated current, the converter falls into hiccup mode by testing periodically if an overload is applied. The module restarts automatically to normal operation when overcurrent is removed.



International Headquarters	North American Headquarters
GAIA Converter - France	GAIA Converter Canada, Inc
18 rue caroline Aigle	4038 Le Corbusier Blvd
33186 LE HAILLAN - FRANCE	LAVAL, QUEBEC - CANADA H7L 5R2
Tel. : + (33)-5-57-92-12-80	Tel. : (514)-333-3169
Fax : + (33)-5-57-92-12-89	Fax : (514)-333-4519

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