

BOARD MOUNTED ISOLATED DC/DC CONVERTER 1500 Vdc ISOLATION

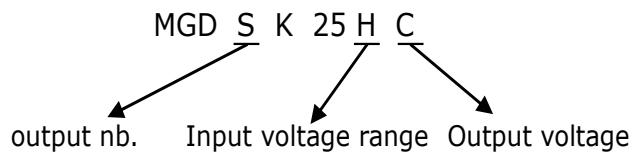
Description

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	

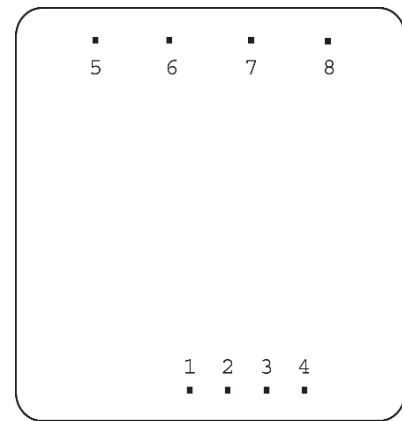
MGDK25 25W POWER

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

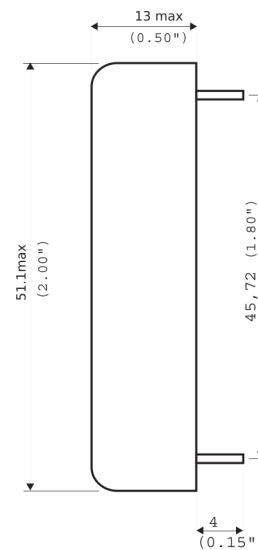
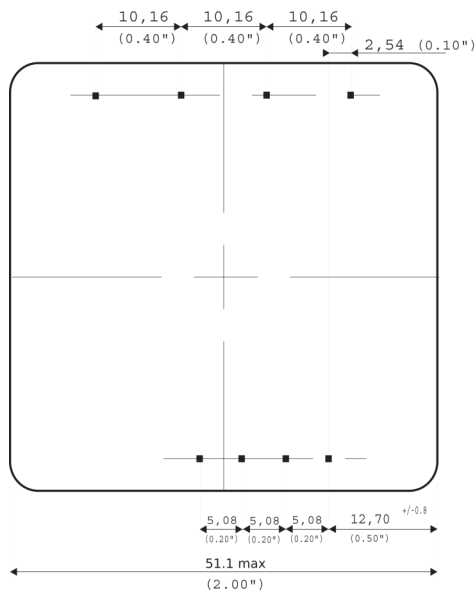
Pin#	MGDSK25 (Single)	MGDBK25 (Symmetrical)	MGDTK25 (Triple)
1	+Input (Vi)	+Input (Vi)	+Input (Vi)
2	-Input (Gi)	-Input (Gi)	-Input (Gi)
3	case	case	case
4	Not connected	Not connected	Not connected
5	Do not connect	Output+ (Vo)	Output2+ (+V2)
6	Output (Vo)	Common (Go)	Output1+ (Vo1)
7	Common (Go)	Output- (-Vo)	Common (Go)
8	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.

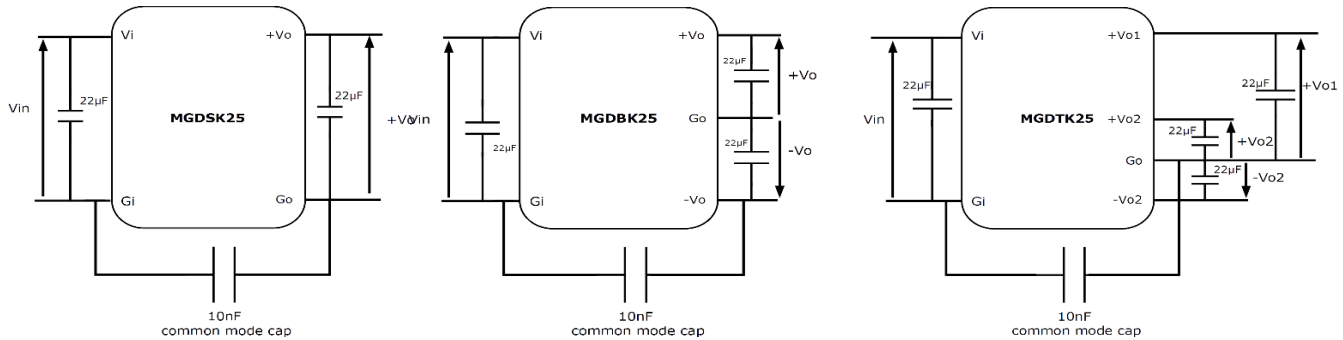


Pin dimensions : \square 0,91

MGDK25 25W POWER

3-APPLICATION

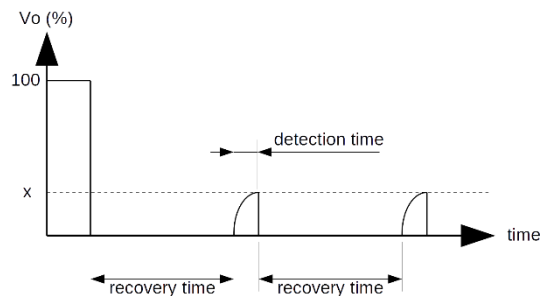
Typical connections



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 it's 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.



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