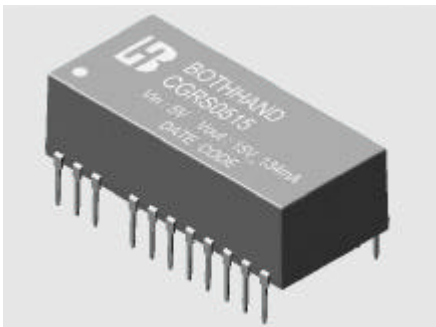


1. Features :

<ul style="list-style-type: none"> ■ 24 Pin DIL Package 	
<ul style="list-style-type: none"> ■ Regulated Output & Low Ripple and Noise 	
<ul style="list-style-type: none"> ■ Input / Output Isolation 1K Vdc 	
<ul style="list-style-type: none"> ■ 100 % Burn-In 	
<ul style="list-style-type: none"> ■ Input Filter with Internal Capacitor 	
<ul style="list-style-type: none"> ■ Custom Design Available 	

2. Absolute maximum ratings :

(Exceeding these values may damage the module. *These are not continuous operating ratings*)

Parameter	Condition	Min.	Typ.	Max.	Unit
Input Absolute Voltage Range	5V Input Model	-0.7	5	7.5	Vdc
	12V Input Model	-0.7	12	15	
	24V Input Model	-0.7	24	30	
Output Short circuit duration	Nominal Input Range	---	---	1	Second
Operating temperature *	Output Full Load	-40	---	+85	
Storage temperature		-55	---	+105	

* To be measured at case plate temperature.

3. Nominal Input / Output Electrical Specifications :

(Specifications typical at Ta = +25 , nominal input voltage, rated output current unless otherwise noted)

Parameter	Condition	Min.	Typ.	Max.	Unit
Input Voltage Range	5V Input Model	4.5	5	5.5	Vdc
	12V Input Model	10.8	12	13.2	
	24V Input Model	21.6	24	26.4	
Line Regulation	Output full Load	---	---	± 0.5	%
Load Regulation	Single Output Model	---	---	± 0.5	
	Dual Output Model			± 2	
Output Voltage Accuracy	Nominal Input	---	± 1.0	± 2.0	
Output Voltage Balance	Dual Output at same Load	---	---	± 1.0	
Switching Frequency	Nominal Input	---	125	---	KHz
Temperature Coefficient		---	± 0.01	± 0.02	% /
Isolation Voltage	60 Seconds / 0.5 mA	1000	---	---	Vdc
Isolation Resistance	500 Vdc	1000	---	---	M
Isolation Capacitance	1 KHz / 250 mV rms	---	60	---	pF

4. Single Output Selection Guide :

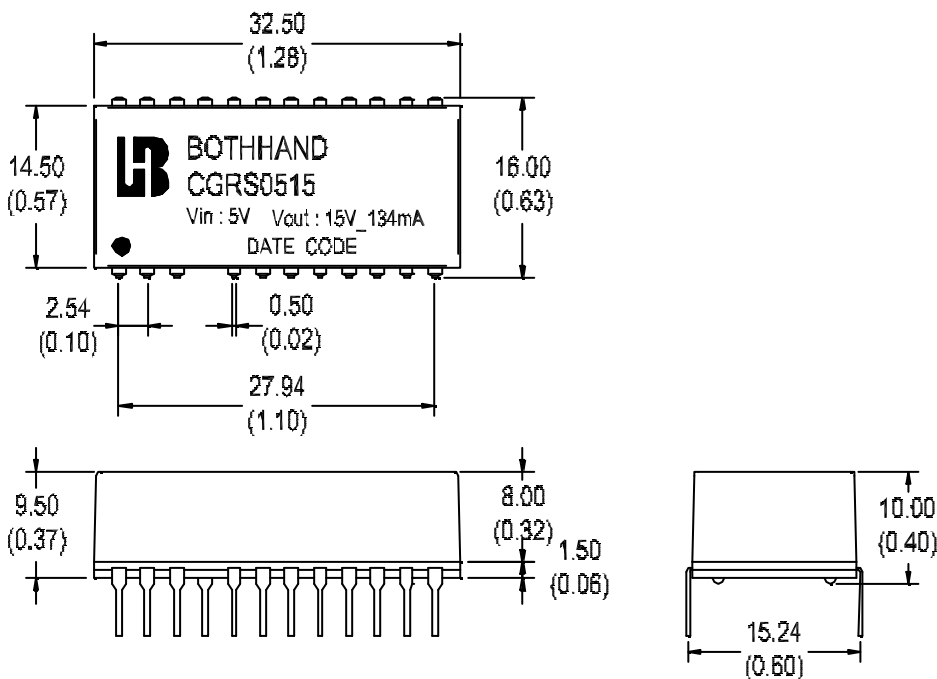
(Specifications typical at Ta = +25 , Nominal input voltage, Rated output current unless otherwise noted)

Bothhand Model No.	Input Voltage (Vdc)	Output Voltage (Vdc)	Output Current (mA) Max	Input Current @ No Load (mA) Typ.	Input Current @ Max. Load (mA) Typ.	Output Ripple (mV) Max.	Load Regulation (%) Max.	Efficiency (%) Typ.
CGRS0505	5	5.0	400	45	615	60	±0.5	65
CGRS0509		9.0	222	43	615	80	±0.5	65
CGRS0512		12.0	167	43	607	100	±0.5	66
CGRS0515		15.0	134	43	609	120	±0.5	66
CGRS1205	12	5.0	400	24	245	60	±0.5	68
CGRS1212		12.0	167	23	242	100	±0.5	69
CGRS1215		15.0	134	23	239	120	±0.5	70
CGRS2405	24	5.0	400	8	123	60	±0.5	68
CGRS2415		15	134	8	120	120	±0.5	70
CGRSxxyy								

Notes :

- Standard output voltage is 3.3V, 5V, 9V, 12V, 15V, **CGRSxxyy** is for Customer Design.
- Load regulation is for output current change from 20 % to 100 % Max. Load.

Mechanical Dimension : (Single O/P)



Units : mm (inch)

Tolerance : .xx ± 0.25 (± 0.01)

Pin	1K Vdc - Single		Pin
1	+Vin	+Vin	24
2	N.C.	N.C.	23
3			22
4			21
5			20
6	N.C.	N.C.	19
7			18
8			17
9			16
10	Vo (-)	Vo (-)	15
11	Vo (+)	Vo (+)	14
12	-Vin	-Vin	13

Note : " --- " means Omitted

5. Dual Output Selection Guide :

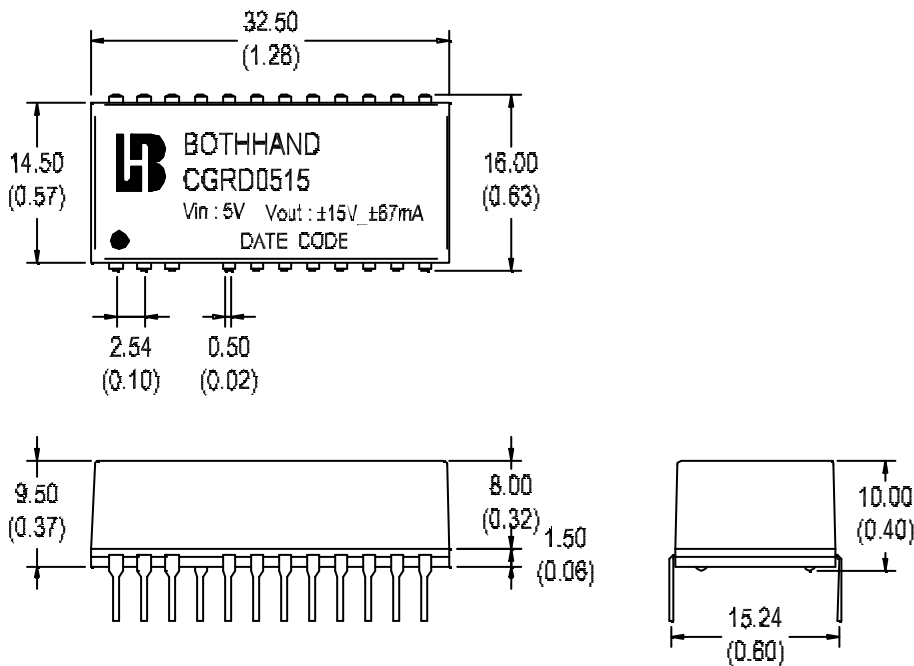
(Specifications typical at Ta = +25 , Nominal input voltage, Rated output current unless otherwise noted)

Bothhand Model No.	Input Voltage (Vdc)	Output Voltage (Vdc)	Output Current (mA) Max	Input Current @ No Load (mA) Typ.	Input Current @ Max. Load (mA) Typ.	Output Ripple (mV) Max.	Load Regulation (%) Max.	Efficiency (%) Typ.
CGRD0505	5	± 5.0	± 200	45	615	60	± 2	65
CGRD0509		± 9.0	± 111	43	605	80	± 2	66
CGRD0512		± 12.0	± 84	43	611	100	± 2	66
CGRD0515		± 15.0	± 67	43	609	120	± 2	66
CGRD1205	12	± 5.0	± 200	24	245	60	± 2	68
CGRD1212		± 12.0	± 84	23	240	100	± 2	70
CGRD1215		± 15.0	± 67	23	233	120	± 2	72
CGRD2405	24	± 5.0	± 200	8	128	60	± 2	65
CGRD2415		± 15.0	± 67	8	120	120	± 2	70
CGRDxxyy								

Notes :

- Standard output voltage is ±5V, ±12V, ±15V, **CGRDxxyy** is for Customer Design.
- Load regulation is for Each output current change from 20 % to 100 % Max. Load.

Mechanical Dimension : (Dual O/P)



Units : mm (inch)

Tolerance : .xx ± 0.25 (± 0.01)

Pin	1K Vdc - Dual		Pin
1	+Vin	+Vin	24
2	Vo (-)	Vo (-)	23
3	Common	Common	22
4	---	N.C.	21
5	N.C.		20
6			19
7			18
8			17
9			16
10		Common	Common
11	Vo (+)	Vo (+)	14
12	-Vin	-Vin	13

Note : " --- " means Omitted