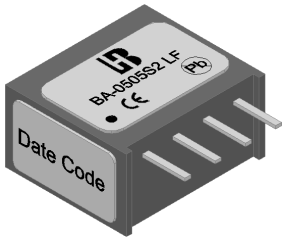
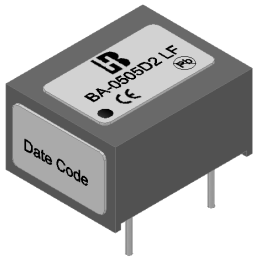
BA-2 LF - Series

2 Watt Isolated DC-DC Converter

1 . *Features*

- 4 Pin SIL / 8 Pin SIL Package
- Low Ripple And Noise
- Input / Output Isolation：1K Vdc
- 100% Burn-In
- Input Filter With Internal Capacitor
- Custom Design Available
- Net Weight：1.4 g / 1.8 g Typical
- RoHS Converter Certified By SGS





2 . *Model Selection Guide*

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

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.
1) 2 W Single Output SIL Package Style 1 KV Isolation								
BA-053R3S2 LF	5	3.3	600	40	533	50	± 12	75
BA-0505S2 LF		5	400	40	533	60	± 10	75
BA-0509S2 LF		9	222	40	533	80	± 8	75
BA-0512S2 LF		12	167	35	520	100	± 8	77
BA-0515S2 LF		15	134	35	520	120	± 8	77
BA-123R3S2 LF	12	3.3	600	18	222	50	± 12	75
BA-1205S2 LF		5	400	18	222	60	± 10	75
BA-1209S2 LF		9	222	16	217	80	± 8	77
BA-1212S2 LF		12	167	16	217	100	± 8	77
BA-1215S2 LF		15	134	16	217	120	± 8	77
BA-243R3S2 LF	24	3.3	600	5	111	50	± 12	75
BA-2405S2 LF		5	400	5	111	60	± 10	75
BA-2409S2 LF		9	222	5	110	80	± 8	76
BA-2412S2 LF		12	167	5	110	100	± 8	76
BA-2415S2 LF		15	134	5	110	120	± 8	76
2) 2 W Single Output DIL Package Style 1 KV Isolation								
BA-0505D2 LF	5	5	400	40	533	60	± 10	75
BA-0509D2 LF		9	222	40	533	80	± 8	75
BA-0512D2 LF		12	167	35	520	100	± 8	77
BA-0515D2 LF		15	134	35	520	120	± 8	77

BA-1205D2 LF	12	5	400	22	222	60	± 10	75
BA-1209D2 LF		9	222	20	217	80	± 8	77
BA-1212D2 LF		12	167	20	217	100	± 8	77
BA-1215D2 LF		15	134	20	217	120	± 8	77
BA-2405D2 LF	24	5	400	7	111	60	± 10	75
BA-2409D2 LF		9	222	6	110	80	± 8	76
BA-2412D2 LF		12	167	6	110	100	± 8	76
BA-2415D2 LF		15	134	6	110	120	± 8	76

Notes: Load regulation is for output current change from 20% to 100% Max. Load.

3 . *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	
Max. Output Power		---	---	2	W
Output Short Circuit Duration		---	---	1.0	Second
Operation Temperature (Ambient Temperature)	Output Full Load	- 40	---	+ 85	℃
Operation Temperature (Case Surface Temperature)		-40	---	+95	
Storage Temperature		-55	---	+105	

4 . *Nominal Input/Output Electrical Specifications*

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

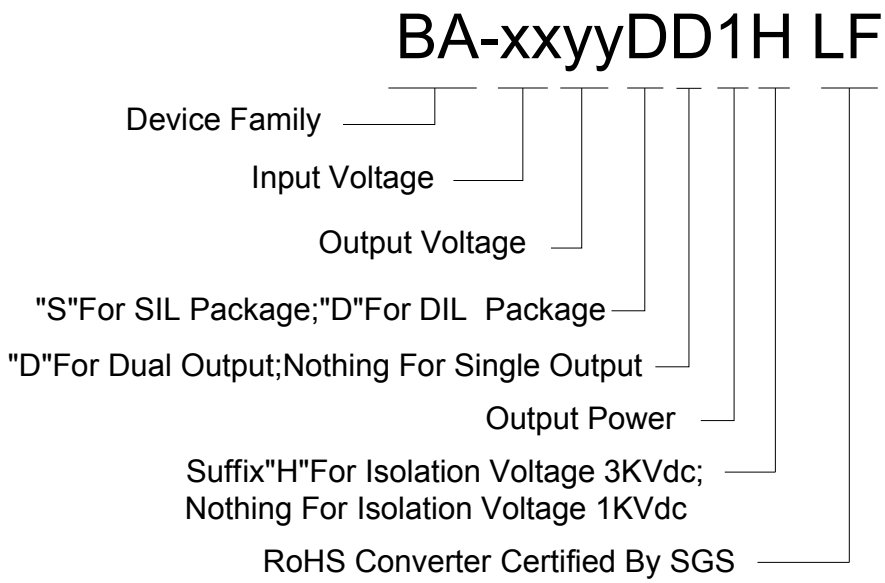
Parameter	Condition	Min.	Typ.	Max.	Unit
Input Voltage Range	5V Input Model	4.5	5	5.5	Vdc
	12V Input Model	10.8	12	13.2	
	24V Input Model	21.6	24	26.4	
Line Regulation (Per1.0% change in input change)		---	---	1.3	%
Output Voltage Accuracy	Nominal Input	---	---	± 5.0	
Voltage Balance (Dual Outputs)		---	---	± 1.0	
Switching Frequency		---	80	---	KHz
Temperature Coefficient		---	± 0.01	± 0.02	%/ ℃
Isolation Voltage	60 Second/0.5mA	1000	---	---	Vdc

Isolation Resistance	500Vdc	1000	---	---	MΩ
Isolation Capacitance	1KHz / 250mV rms	---	40	---	pF
Capacitive Load	2 Watt	---	---	330	μF

5 . General Specification

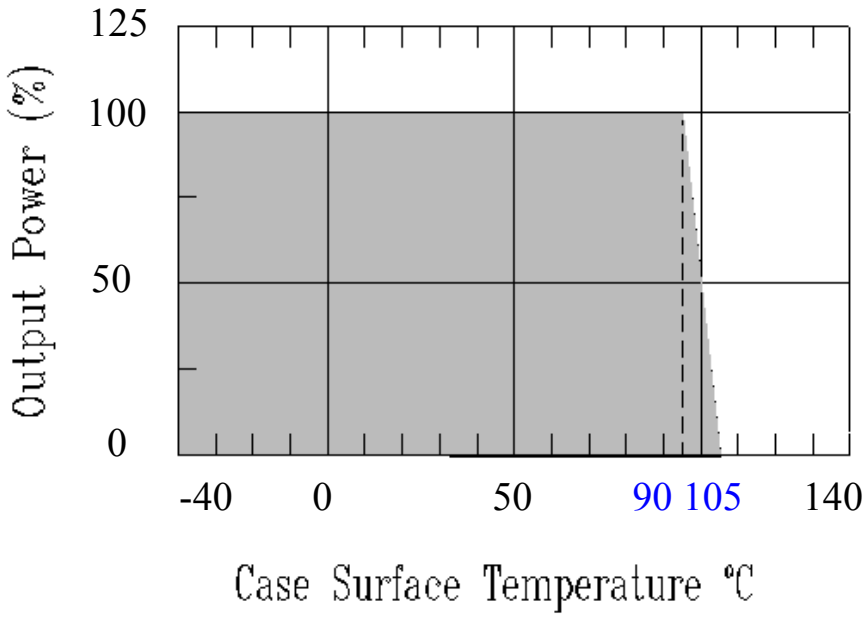
Parameter	Specification	Condition
Isolation Voltage	1000 Vdc	Test Duration 60 Seconds / 0.5 mA
Isolation Resistance	1000 MΩ Min.	@ 500 Vdc
Humidity	Up To 90 %	---
Cooling	Free Air Convection	---
Case Type	Plastic	---

6 . Ordering Information



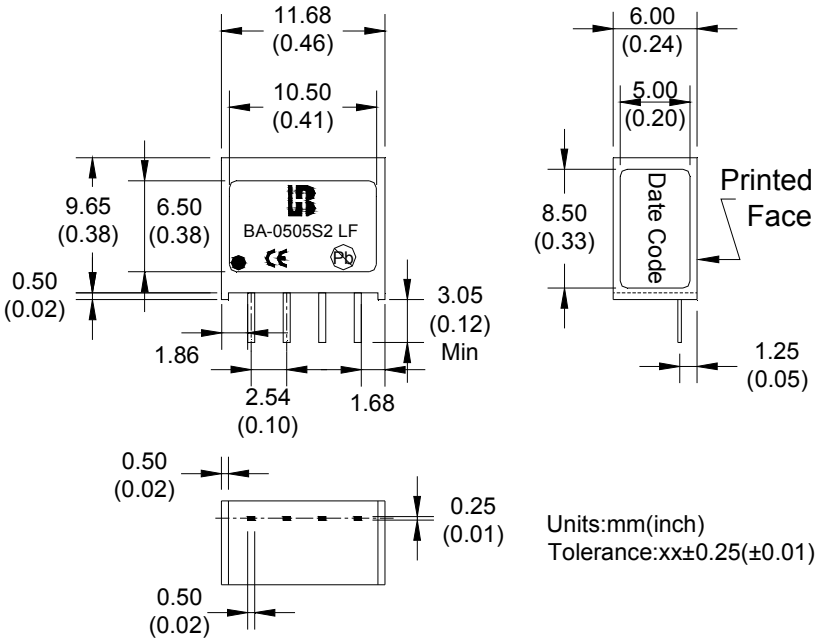
7 . Power Derating Curve

Temperature derating graph



8 . Mechanical Dimension

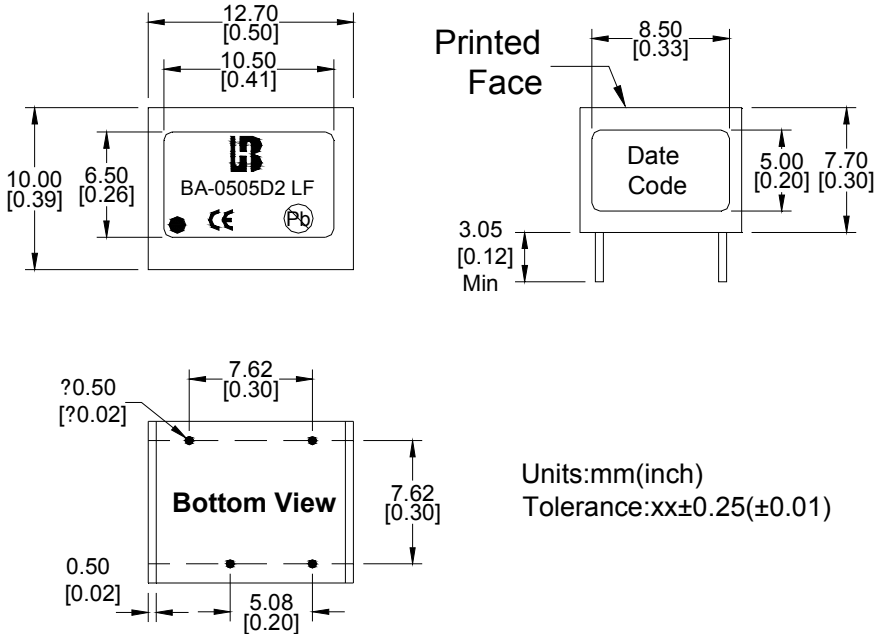
Single Output SIL Package Style



Units:mm(inch)
Tolerance:xx±0.25(±0.01)

Pin	1K Vdc - Single
1	-Vin
2	+Vin
3	-Vo
4	+Vo

Single Output DIL Package Style

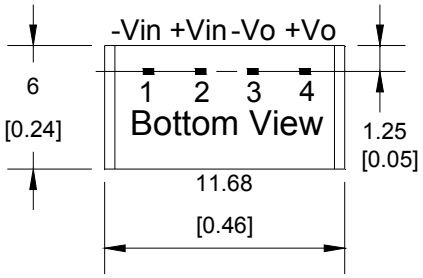


Pin	1K Vdc - Single		Pin
1	-Vin	No Pin	8
2	No Pin	-Vo	7
3		No Pin	6
4	+Vin	+Vo	5

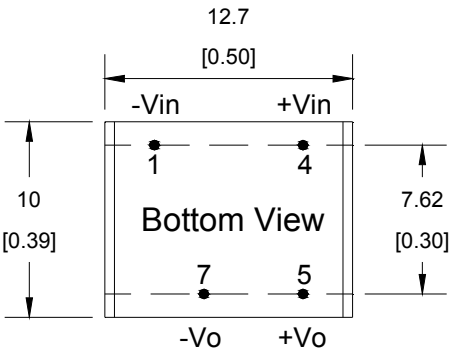
Units:mm(inch)
Tolerance:xx±0.25(±0.01)

9. *Recommended Footprint Details*

SIL Package Style



DIL Package Style



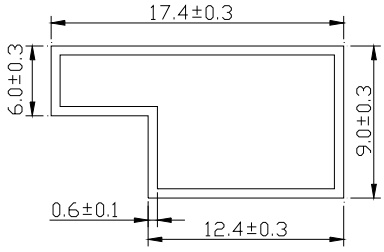
Units : mm (inch)
Tolerance : .xx ± 0.25 (± 0.01)

10. *Package*

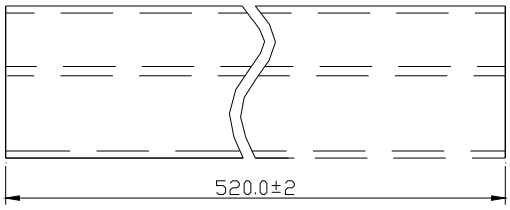
BA-2 LF - Series

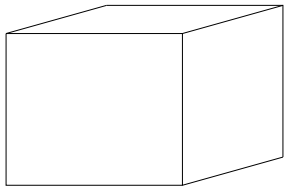
2 Watt Isolated DC-DC Converter

SIL Package Style

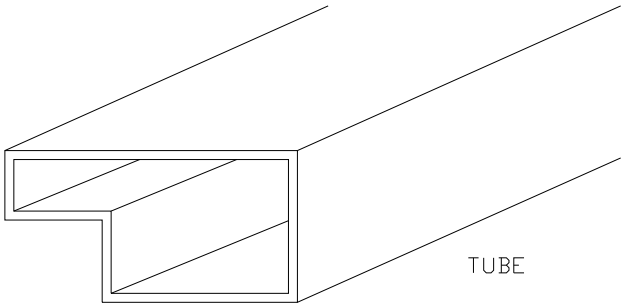


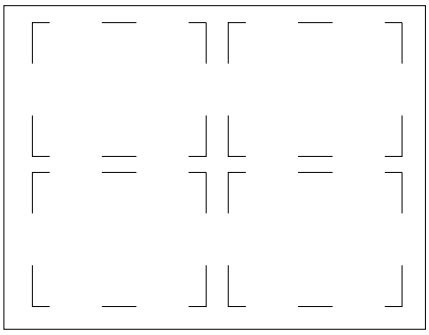
TUBE MECHANICAL DIMENSION





INNER CARTON:565*115*117

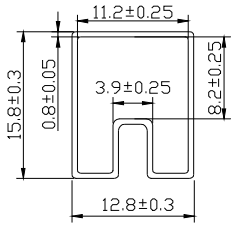




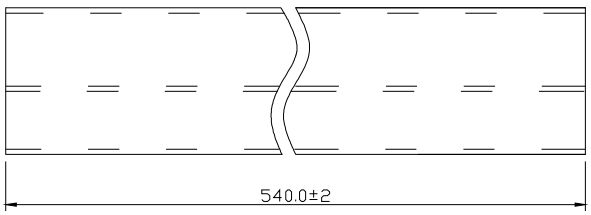
EXPORT CARTON:580*255*265

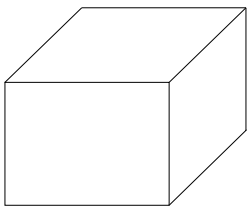
1. TUBE=41PCS
2. INNER CARTON=50 TUBE=50*41=2050PCS
3. EXPORT CARTON=4 INNER CARTON=4*2050=8200PCS

DIL Package Style

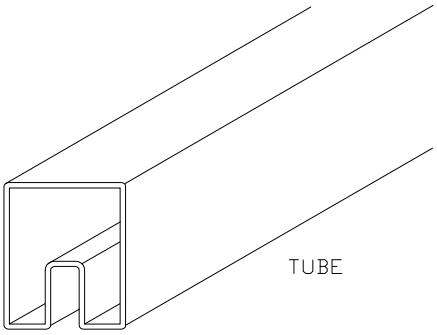


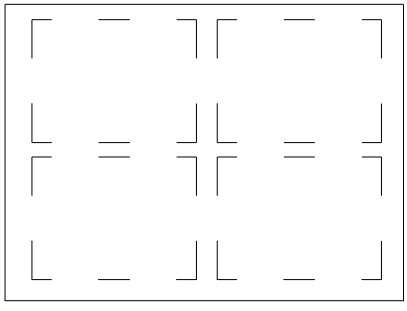
TUBE MECHANICAL DIMENSION





INNER CARTON:575*170*87





EXPORT CARTON:583*380*210

1. TUBE=40PCS
2. INNER CARTON=50TUBE=50*40=2000PCS
3. EXPORT CARTON=4 INNER CARTON=4*2000=8000PCS