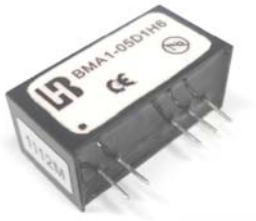
Isolated DC-DC Converters
BMA1 H6 Series -- 1Watt

Features

- Input Filter With Internal Capacitor
- Input / Output Isolation Voltage: 6K Vdc
- Extended Operating Temperature Range: -40°C to +85°C
- Low Ripple And Noise
- 100% Burn-in
- Un-Regulated type
- Net Weight:3.7g Typical
- Industry Standard Pinout
- Customer Design Available
- Safety Approval : EN60950-1



RoHS compliant

Applications

The BMA1H6 Series are specially designed to provide ultra-high levels of isolation 6000VDC in a miniature SIP package. These converters are well suitable for a variety of applications including battery operated equipment, measurement equipment, distributed power systems, Industry control systems and local power networks.

Technical Specification

All specifications are typical at nominal input, full load and 25°C unless otherwise stated.

Model Number	Input Voltage Range	Output Voltage (Vdc)	Output Current (mA)		Input Current (mA)		Efficiency.(2) (%,Typ.)
			Min. Load (1)	Full. Load	No Load(Typ)	Full Load(Max)	
BMA1-05S1H6	4.5~5.5V Nominal:5Vdc	5	20	200	30	267	79
BMA1-05SAH6		9	12	111	36	270	78
BMA1-05S2H6		12	9	84	30	263	80
BMA1-05S3H6		15	7	67	30	263	80
BMA1-05D1H6		±5	±10	±100	30	267	79
BMA1-05DAH6		±9	±6	±56	30	263	80
BMA1-05D2H6		±12	±5	±42	48	286	74
BMA1-05D3H6		±15	±4	±34	38	271	78
BMA1-12S1H6	10.8~13.2V Nominal:12Vdc	5	20	200	10	107	82
BMA1-12SAH6		9	12	111	12	107	82
BMA1-12S2H6		12	9	84	13	106	83
BMA1-12S3H6		15	7	67	16	108	81
BMA1-12D1H6		±5	±10	±100	12	110	80
BMA1-12DAH6		±9	±6	±56	13	110	80
BMA1-12D2H6		±12	±5	±42	14	110	80
BMA1-12D3H6		±15	±4	±34	12	110	80
BMA1-15S1H6	13.5~16.5V Nominal:15Vdc	5	20	200	12	93	76
BMA1-15D1H6		±5	±10	±100	10	89	79
BMA1-15D3H6		±15	±4	±34	12	89	79
BMA1-24S0H6	21.6~26.4V Nominal:24Vdc	3.3	30	303	6	58	76
BMA1-24S1H6		5	20	200	6	55	80
BMA1-24S2H6		12	9	84	8	55	80
BMA1-24S3H6		15	7	67	8	56	79
BMA1-24D1H6		±5	±10	±100	7	57	77
BMA1-24DAH6		±9	±6	±56	7	56	79
BMA1-24D2H6		±12	±5	±42	7	57	77

Input Specifications		
Input voltage	5V nominal input	4.5-5.5Vdc
	12V nominal input	10.8-13.2Vdc
	15 V nominal input	13.5-16.5Vdc
	24V nominal input	21.6-26.4Vdc
Input surge voltage (100ms max.)	5V input	7.5Vdc
	12V input	15Vdc
	15 V input	18Vdc
	24V input	30Vdc
Environmental Specifications		
Operating ambient temperature		-40°C to +85°C
Maximum case temperature		+95°C
Storage temperature range		-55°C to +105°C
Relative humidity		90% RH max.
Temperature coefficient		±0.02% / °C max.
Output Specifications		
Output power		1 Watts max.
Voltage accuracy	Full load and nominal Vin	±5%
Minimum load		See table
Line regulation	Per 1.0% change in input change	1.3% max
Load Regulation	10% load to full load	15%
	Balanced load (Dual Output at Same Load)	±1%
	Unbalanced load 10% to 100% full load	15%
Ripple and Noise (20MHz Bandwidth)	3.3Vout Models	50mVp-p max.
	5Vout Models	50mVp-p max.
	9Vout Models	80mVp-p max.
	12Vout models	100mVp-p max.
	15Vout models	120mVp-p max.
Short circuit protection		1 Second max
General Specifications		
Efficiency	Nominal input	See table
Isolation voltage	60 Second / 0.5 mA	6000Vdc
Isolation resistance	500Vdc	10^9 Ohms min.
Isolation capacitance	100Hz,1V	50pF typ.
Switching frequency		60kHz typ.
Reliability, calculated MTBF		2500k hours
Physical Specifications		
Case material		Plastic
Potting material	E	Epoxy encapsulated(UL94V-0)
Dimensions		0.86 × 0.44 × 0.36 Inch (21.9 × 11.2 × 9.2 mm)
Weight		3.7g typ.

Note

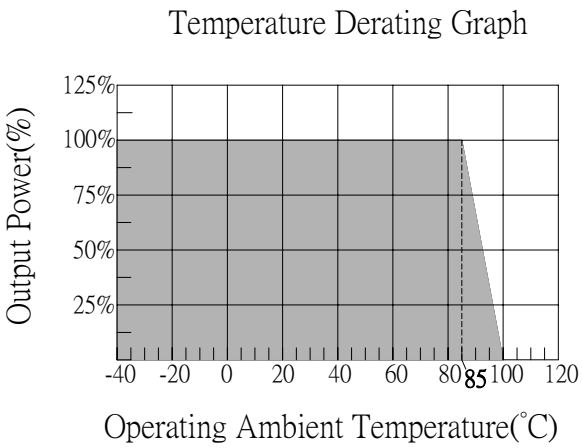
1. Io below this value will not damage these converters, however, they may not meet all listed specifications.
2. Typical value, tested at nominal input and full load.

Ordering Information

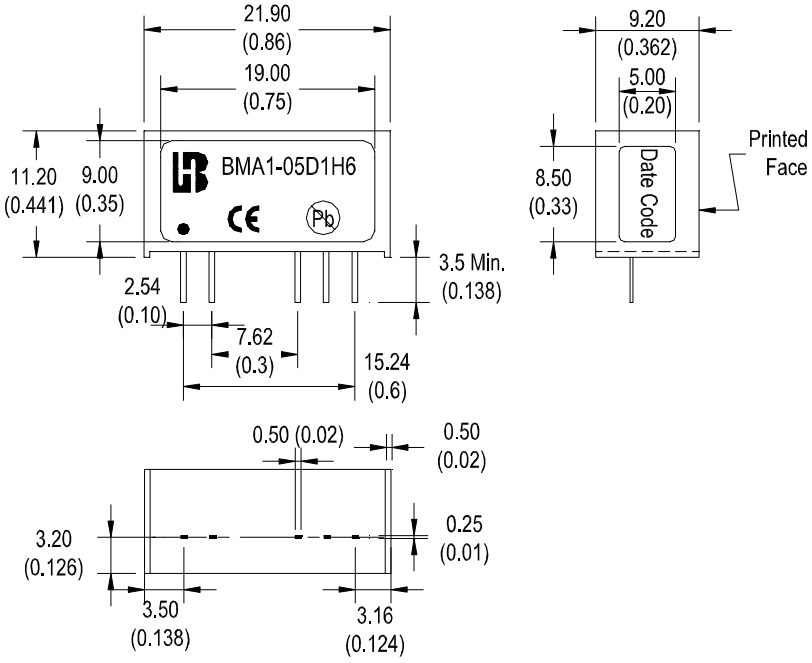
BMA1-xxD1H6

- Device Family
- "A"For SIL Package;"B"For DIL Package
- Output Power
- Input Voltage
- "S"For Single Output;"D" For Dual Output
- Output Voltage:"0"For 3.3V;"1"For 5V;"A"For 9V;"2"For 12V;"3"For 15V
- Isolation Voltage 6KVdc

Power Derating Curve



Mechanical Dimensions



Pin Assignment		
Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
5	-Vout	-Vout
6	No Pin	Common
7	+Vout	+Vout

Unit: mm [inch]
Tolerance: 0.xx±0.25[0.xx±0.01]