



## Features

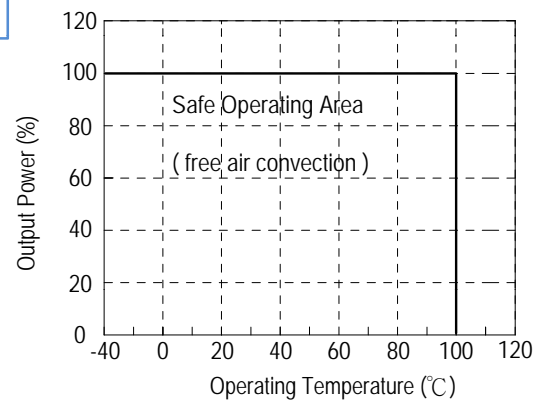
- Micro Size SIP6 Package (16.6\*6.0\*7.8mm)
- 1KVDC & 3KVDC Isolation
- High Efficiency to 89%
- Optional Short Circuit Protection (Suffix "/P")
- Operating Temperature Range -40°C to +100°C Without Derating
- Small Footprint
- No external capacitor needed

## SIP6, Single & Dual Outputs



RoHS

## Derating Graph



## Description

The **BBM1** series are miniature, excellent performance. Micro SIP6 package, high efficiency up to 89%, 1W single and dual outputs. The **BBM1** series because it's high efficiency, therefore it can operating at 100°C temperature and 100% load, fulfil most critical environment application.

## Selection Guide

Part Number	Input Voltage	Output Voltage	Output Current	Efficiency	Max. Capacitive Load
BBM1-xx3.3Sy	3.3, 5, 9, 12, 15, 24VDC	3.3VDC	303mA	75-84%	680uF
BBM1-xx05Sy	3.3, 5, 9, 12, 15, 24VDC	5VDC	200mA	78-85%	470uF
BBM1-xx09Sy	3.3, 5, 9, 12, 15, 24VDC	9VDC	111mA	82-87%	330uF
BBM1-xx12Sy	3.3, 5, 9, 12, 15, 24VDC	12VDC	84mA	82-89%	220uF
BBM1-xx15Sy	3.3, 5, 9, 12, 15, 24VDC	15VDC	66mA	82-88%	150uF
BBM1-xx24Sy	3.3, 5, 9, 12, 15, 24VDC	24VDC	42mA	82-86%	68uF
BBM1-xx3.3Dy	3.3, 5, 9, 12, 15, 24VDC	±3.3VDC	±152mA	76-85%	±330uF
BBM1-xx05Dy	3.3, 5, 9, 12, 15, 24VDC	±5VDC	±100mA	78-85%	±220uF
BBM1-xx09Dy	3.3, 5, 9, 12, 15, 24VDC	±9VDC	±56mA	80-86%	±150uF
BBM1-xx12Dy	3.3, 5, 9, 12, 15, 24VDC	±12VDC	±42mA	80-88%	±100uF
BBM1-xx15Dy	3.3, 5, 9, 12, 15, 24VDC	±15VDC	±33mA	81-87%	±68uF
BBM1-xx24Dy	3.3, 5, 9, 12, 15, 24VDC	±24VDC	±21mA	81-86%	±33uF

xx=Input Voltage(possible for other input and output voltage combinations on request)

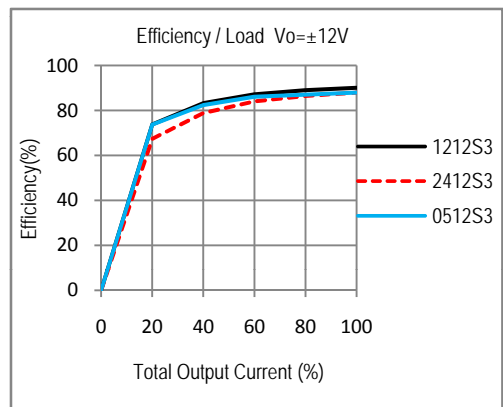
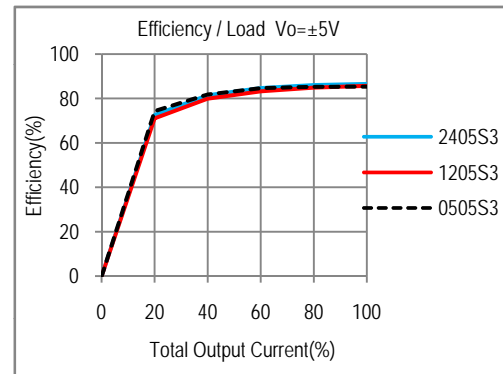
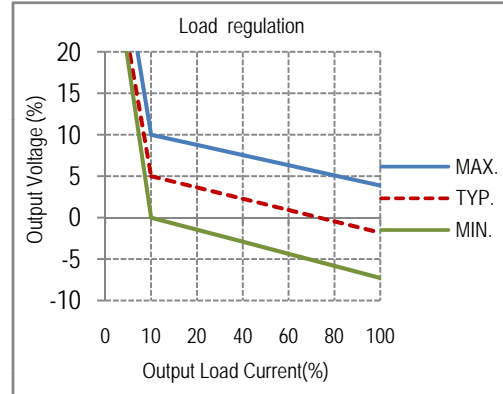
y=1=1KVDC,y=3=3KVDC, e.g. BBM1-0505S1, BBM1-0505D1, BBM1-0505S3, BBM1-0505D3

short circuit protection suffix "/P" option, e.g. BBM1-0505S1/P, BBM1-0505D1/P, BBM1-0505S3/P, BBM1-0505D3/P

**Specifications**

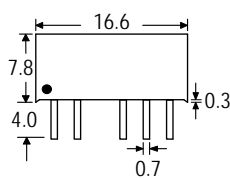
(measured at  $T_A=25^{\circ}\text{C}$  ,nominal input voltage, full load and after warm-up)

Input Voltage Range			±10%
Output Voltage Accuracy			±5%
Line Voltage Regulation			1.2%/ 1% of Vin typ.
Load Voltage Regulation ( 10% to 100% full load )	All		10% max
Output Ripple and Noise (20MHz Limited)			50mVp-p typ.,100mVp-p max.
Temperature coefficient ( Full load )			0.03 %/°C max
Operating Frequency			60kHz min. / 85kHz typ. / 110kHz max.
Efficiency at Full Load			75% min. / 89% max.
Isolation Voltage	Y=1	(tested for 1 second)	1KVDC
	Y=3	(tested for 1 second)	3KVDC
Isolation Capacitance (tested at 100kHz)			20pF min. / 75pF max.
Isolation Resistance			15GΩ min.
Short Circuit Protection	Without suffix "p"		1 Second
	Add suffix "p"		Continuous
Operating Temperature Range (free air convection)			-40°C to +100°C (see Graph)
Storage Temperature Range			-55°C to +125°C
Relative Humidity			95% RH
Case Material	UL94-V0	Non-conductive black plastic	
Polting Material	UL94-V0	Epoxy	
Package Weight			1.3g
Packing Quantity			30pcs per Tube
Lead Temperature	300°C max,1.5mm from case for 10 sec		
MTBF ( using MIL-HDBK 217F )	+25°C		5062x10 <sup>3</sup> hours
	+85°C		2043x10 <sup>3</sup> hours



**Package Style and Pinning (mm)**

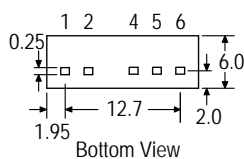
Micro Size 6 Pin SIP Package



**Pin Connections**

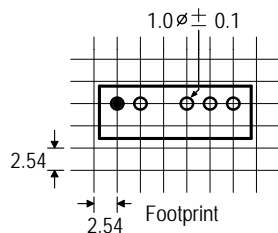
pin#	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
4	NC	-Vout
5	-Vout	COM
6	+Vout	+Vout

NC=No Connection

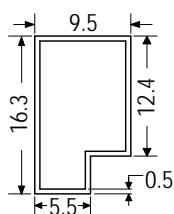


XX.X ± 0.25 mm

XX.XX ± 0.15 mm



**Tube Outline Dimensions (mm)**



Tolerance:

XX.X ± 0.5 mm

Note:

L=520 ± 2 mm

Devices per tube quantity: 30 PCS