

特点

- * 输入输出不隔离降压变换器
- * 3.3V 和 5V 输入电压, 10A 输出电流
- * 外形尺寸: 33 × 13.5 × 8.7 mm
- * 高效率、高功率密度
- * 表面贴装出脚

Features

- * Non-isolated Buck Converter
- * 3.3V and 5V Input Voltage, 10A Output Current
- * Size: 1.30 × 0.53 × 0.34 inch
- * High Efficiency, High Power Density
- * Surface Mount Package

输入特性(Input)

注释(Notes and Conditions)

输入电压范围(Input Voltage Range)	3.0~5.5Vdc	6.5Vdc Max
	4.5~5.5Vdc	3.3Vdc 输出(3.3Vdc Output)
遥控功能(Remote On/Off Function)		
正逻辑(Positive Logic) 开启(On)	高电平或悬空 (High Level or Open Circuit)	相对于GND(Reference to GND)
关闭(Off)	低电平 (Low Level)	

输出特性(Output)

注释(Notes and Conditions)

输出电压精度(Voltage Set-Point Accuracy)	± 2%	V _{inom} and I _{onm}
源效应(Line Regulation)	± 1%V _o	V _{imin} ~V _{imax} , I _{onm}
负载效应(Load Regulation)	± 1%V _o	0~100%I _{onm} , V _{inom}
输出电压调节范围(Output Voltage Trim Range)	± 10%	相对于 0.9V 输出是 -5%~+10% (-5% to +10% for 0.9V Output)
输出过流保护点(Current Limit Threshold Range)	120%I _{onm}	
短路保护(Short-Circuit Protection)	连续可恢复 (Continuous, Automatic Recovery)	
瞬态响应(Dynamic Response)		
过冲幅度(Peak Deviation)	± 5%V _o	25%-50%-25% of I _{onm} , V _{in} =V _{inom}
恢复时间(Settling Time)	≤ 50 μs	and 50%-75%-50% of I _{onm} , V _{in} =V _{inom}

一般特性(General)

注释(Notes and Conditions)

温度系数(Temperature Coefficient)	± 0.02%/°C	
相对湿度(Relative Humidity)	≤ 95%RH, (40 ± 2)°C	
工作温度(Operating Temperature) ¹	-40°C ~ +85°C	
贮存温度(Storage Temperature)	-55°C ~ +125°C	
过温保护(Thermal Shutdown Range)	+110°C	
开关频率(Switching Frequency)	300kHz	
冷却方式(Cooling)	自然冷却(Natural Convection)	或强制风冷(or Forced Convection)
平均故障间隔时间(MTBF)	2 × 10 ⁵ h	MIL-HDBK-217
重量(Weight)	5.5g	

注: 除非另有说明, 指标一般在标称输入电压、满载和 25°C 环境温度下测得。

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

1. 参见降额曲线图(Reference to Derating Curve)

型号列表 (Models)

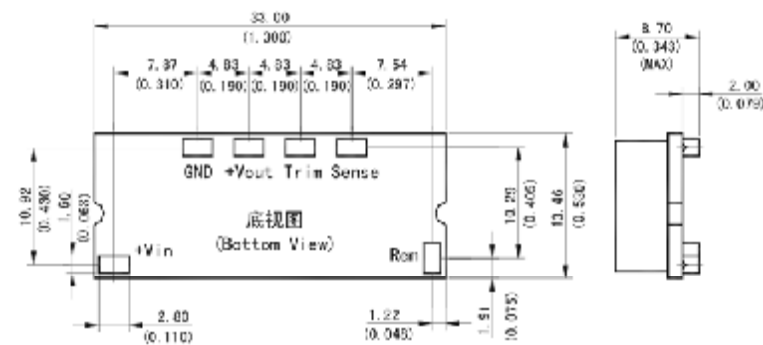
产品型号 (Model Number)	标称输入电压 (Input Voltage) Vdc	标称输出电压 (Output Voltage) Vdc	标称负载 (Output Current) A	额定输出功率 (Output Power) W	效率 (Efficiency) %	输出杂音电压峰峰值 (Ripple and Noise) mVp-p
BSM10A-3S0V9	5	0.90	10.00	9	83	50
BSM10A-3S1V0	5	1.00	10.00	10	85	50
BSM10A-3S1V2	5	1.20	10.00	12	86	50
BSM10A-3S1V5	5	1.50	10.00	15	88	50
BSM10A-3S1V8	5	1.80	10.00	18	90	50
BSM10A-3S2V0	5	2.00	10.00	20	91	50
BSM10A-3S2V5	5	2.50	10.00	25	92	50
BSM10A-3S3V3	5	3.30	10.00	33	94	50

注: 上表所列型号无 Trim 和 Sense 引脚及功能, 选择 Trim 或 Sense 功能需在原型号后加尾缀。

型号尾缀: (1)“/T”代表有 Trim 引脚及功能 (2)“/S”代表有 Sense 引脚及功能 (3)“/TS”代表有 Trim 和 Sense 引脚及功能

安装尺寸 (Mechanical Drawing)

尺寸单位是 mm(inches); All Dimensions in mm (inches)



* 公差 (Tolerances)

.XX ± 0.25 (.XXX ± 0.010)

注1: Trim 与 Sense 为可选功能 (Trim and Sense Pin, Optional)

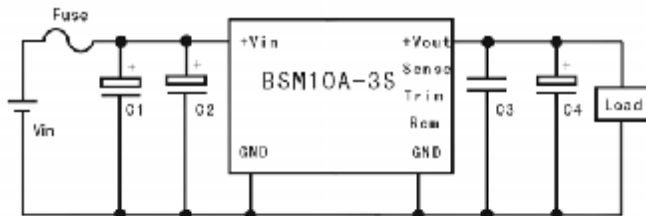
注2: 推荐焊盘尺寸

(Recommended Pad Size)

Min: 3.556 × 2.413 (0.140 × 0.095)

Max: 4.19 × 2.79 (0.165 × 0.110)

应用电路推荐 (Recommended Application Circuit)

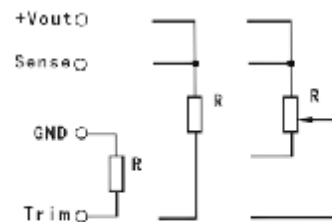


C1 C2 推荐值 (Recommended): 220 μF, ESR < 0.1Ω @ 20°C, 100kHz

C3 推荐值 (Recommended): 1 μF 陶瓷电容 (Ceramic Capacitor)

C4 推荐值 (Recommended): 容量大于 10 μF 钽电容 (Tantalum Capacitor)

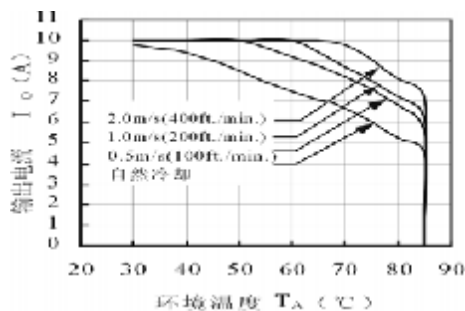
输出电压调节 (Output Voltage Trim)



上调 下调 上、下调

(Trim Up) (Trim Down) (Trim Up/Down)

Vin=3.3V 时温度降额曲线 (Temperature Derating Curve)



Vin=5V 时温度降额曲线 (Temperature Derating Curve)

