

AC / DC converter

BP5034D15

The BP5034D15 is an AC / DC converter which can be used to supply +15, 80mA DC output from a commercial power supply (100V AC). Using this module, enables simple, easy drive of microcomputers, DC motors, heaters, LEDs, and other electronic components without using a transformer. It also allows set PCBs to be kept compact and lightweight, with extremely few attachments.

●Applications

Power supply circuit for vacuum cleaners, washing machines, refrigerators, electric rice cookers and crock pots, and other small household appliances, as well as power supply circuit for gas, fire and smoke alarms, DC motors, sensors, and other similar devices

●Features

- 1) Elimination of a transformer enables compact, lightweight power supply boards.
- 2) Wide input voltage range. (80 to 138V for AC voltage conversion)
- 3) DC power supplies can be easily configured, with few attachments.

●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit	Remarks
Power supply voltage	V _{IN}	195	V	DC
Operating temperature range	T _{opr}	-20→80	°C	-
Storage temperature range	T _{stg}	-25→85	°C	-

●Electrical characteristics (Unless otherwise noted, Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input voltage	V _{IN}	113	141	195	V	
Output voltage	V _O	14	15	16	V	V _{IN} =141V, I _O =50mA
Output current	I _O	0	-	80	mA	V _{IN} =141V *1
Line regulation	V _r	-	0.02	0.15	V	V _{IN} =113~195V, I _O =50mA
Load regulation	V _l	-	0.05	0.15	V	I _O =0~50mA, V _{IN} =141V
Output ripple voltage	V _P	-	0.05	0.15	V _{PP}	V _{IN} =141V, I _O =50mA *2
Conversion efficiency	η	60	70	-	%	V _{IN} =141V, I _O =80mA

*1 Maximum output current varies depending on ambient temperature; please refer to derating curve.

*2 Spike noise is not included in output ripple voltage.

Power Module

●Application example

Example showing DC motor control

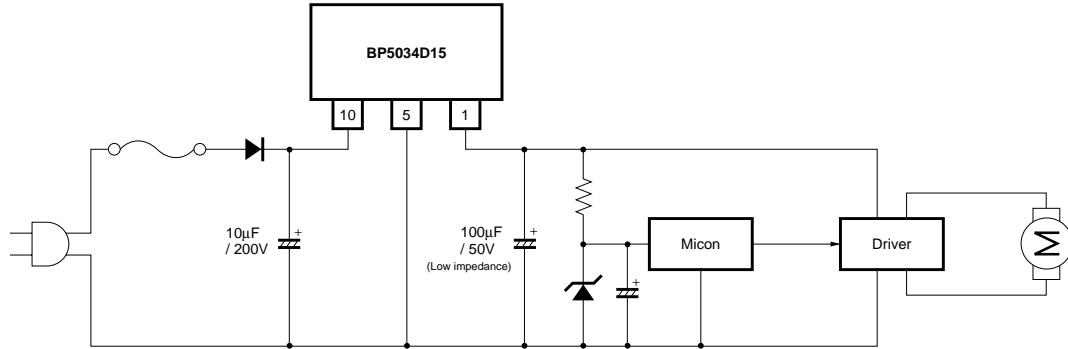


Fig.1

●Electrical characteristic curves

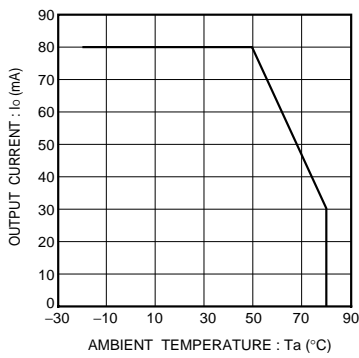


Fig.2 Derating curve

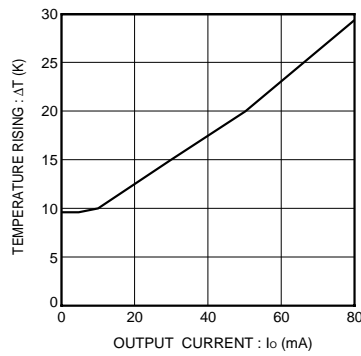


Fig.3 Surface temperature rise

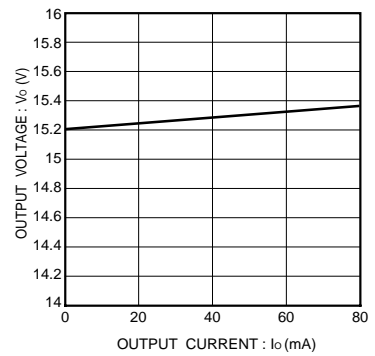


Fig.4 Output characteristic

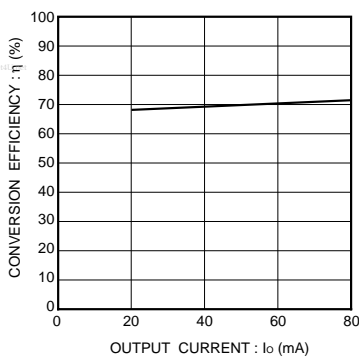


Fig.5 Conversion efficiency

Power Module

● External dimensions (Units : mm)

