

3.3V/ 300mA Output

Step-down DC/DC Converter(Non-isolated)

BP5224-33

● Absolute Maximum Ratings

Parameter	Symbol	Limits	Unit
Input voltage	V_i	24	V
Operating temperature	T_{opr}	-20 to +80	°C
Storage temperature	T_{stg}	-25 to +105	°C
Maximum surface temperature	T_{cmax}	105	°C
Maximum output current	I_{opeak}	300	mA

● Electrical Characteristics

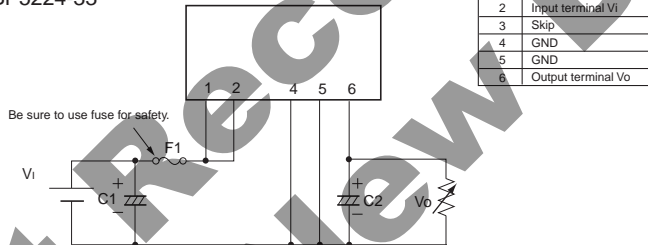
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input voltage	V_i	7.0	16.0	18.0	V	DC
Output voltage	V_o	3.14	3.3	3.46	V	
Output current	I_o	-	-	300	mA	*1
Line regulation	V_r	-	0.03	0.10	V	$V_i=7$ to 18V
Load regulation	V_l	-	0.07	0.15	V	$I_o=0$ to 300mA
Output ripple voltage	V_p	-	0.06	0.15	Vp-p	*2
Power conversion efficiency	η	68	71	-	%	

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

*2 The output ripple voltage may vary depending on the capacitance, environment, and location of peripheral components. Especially, right attention has to be paid to aluminum electrolytic capacitor, because ESR changes greatly at the time of the low temperature and output ripple voltages increase.

● Application Circuit

BP5224-33

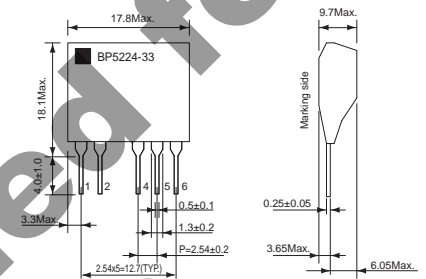


Please verify operation and characteristics in the customer's circuit before actual usage.
Ensure that the load current does not exceed the maximum rating.

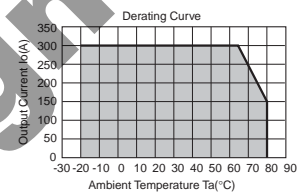
External Component Specifications

- F1: FUSE** Be sure to use a fuse for safety.
- C1: Input capacitor** Rated voltage : More than 50V
Capacitance : more than 100 μ F, low impedance type
Rated ripple current : More than 0.2Arms
- C2: Output capacitor** Rated voltage : More than 10V
Capacitance : 220 to 680 μ F, low impedance type
Rated ripple current : More than 0.2Arms
Evaluate under actual operating conditions since it affects the output ripple voltage.

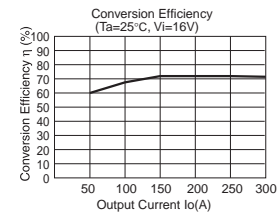
● Dimensions (Unit : mm)



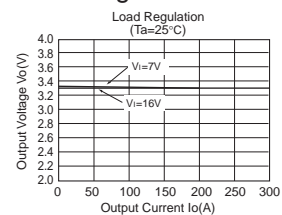
● Derating Curve



● Conversion Efficiency



● Load Regulation



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