



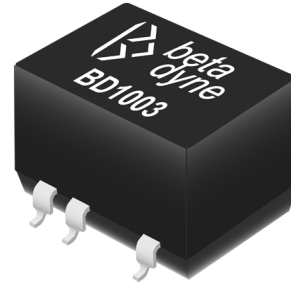
BD1003

1W SINGLE DC/DC CONVERTER

PRELIMINARY 03-DEC-2004

Functional Description

The BD1003 unregulated 1W single DC/DC converter has an input voltage range of $27V_{IN}$ to $41V_{IN}$ and an output voltage of $5.5V_{OUT}$ @ $27V_{IN}$. The converter features industry standard pinout in an SMD package with a minimum isolation voltage of 1000Vdc, typical efficiency of 84% and operating temperature range from $-40^{\circ}C$ to $+85^{\circ}C$.



Electrical Specifications: Unregulated

INPUT SPECIFICATIONS

Measured at $25^{\circ}C$ with the condition of V_{IN} = Nominal and Full Load. Specifications subject to change without notice.

PARAMETER	CONDITION / NOTE	MIN	TYP	MAX	UNIT
Input Voltage Range		27		41	Vdc
Input Filter	Capacitor				

OUTPUT SPECIFICATIONS

PARAMETER	CONDITION / NOTE	MIN	TYP	MAX	UNIT
Output Voltage	$V_{IN} = 27V_{dc}$, $I_O = 150mA$		5.5		Vdc
Output Current			50	150	mA
Input/Output Voltage Ratio Accuracy				± 5	%
Ripple & Noise	20MHz BW			100	mV _{pp}
Line Regulation	Minimum V_{IN} to maximum V_{IN}		1.2%		per 1% of V_{IN}
Load Regulation	10% FL to FL		5	15	%
Short Circuit Protection			1		sec

GENERAL SPECIFICATIONS

PARAMETER	CONDITION / NOTE	MIN	TYP	MAX	UNIT
Efficiency @ FL		70	84		%
Isolation Voltage, Input to Output		1000			Vdc
Isolation Resistance			10		G Ω
Isolation Capacitance			45		pF
Operating Frequency		50			kHz

ENVIRONMENTAL SPECIFICATIONS

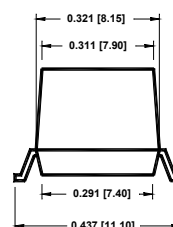
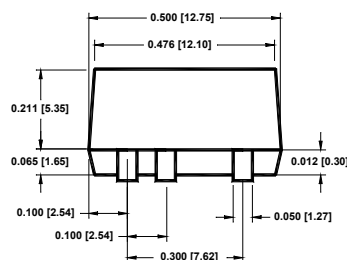
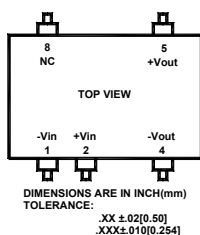
PARAMETER	CONDITION / NOTE	MIN	TYP	MAX	UNIT
Operating Temperature Range	Ambient	-40		+85	$^{\circ}C$
Storage Temperature Range		-55		+125	$^{\circ}C$

PHYSICAL CHARACTERISTICS

PARAMETER	CONDITION / NOTE	MIN	TYP	MAX	UNIT
Dimensions (L×W×H)	0.50×0.32×0.28 in. (12.75×8.15×7.00mm)				
Weight	0.053 oz. (1.5g)				

Mechanical Specifications

Reflow Temp = $280^{\circ}C$ (10 sec.)



Pin	Function
1	-V _{IN} (GND)
2	+V _{IN}
4	-V _{OUT}
5	+V _{OUT}
8	NC