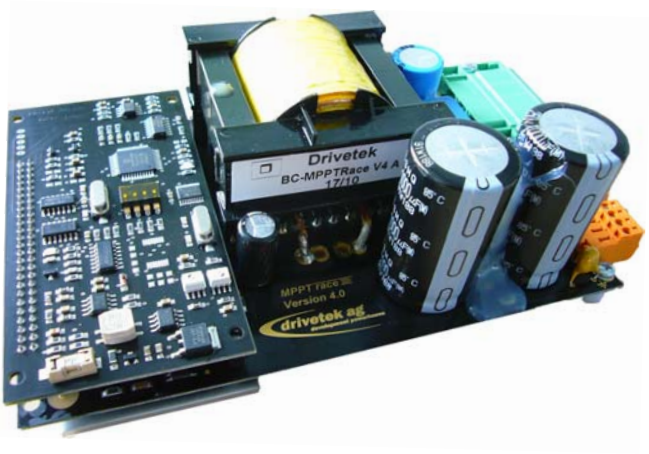
MPPT-Race V 4.0

drivetek ag
development powerhouse

Technical Specification

50 - 1250 W DC/DC-Boost Maximum Power Point Tracker



Features:

- High Conversion Efficiency up to 99%
- Seeks and Tracks MPP with closed loop algorithm
- Wide I/O Range
- High Reliability and Durability due to Low Thermal Stress
- Separate Control and Power Part
- Data Transmission via CAN Bus
- Input and Output Protection
- End of charge current control
- Fully customized design according to customer specifications

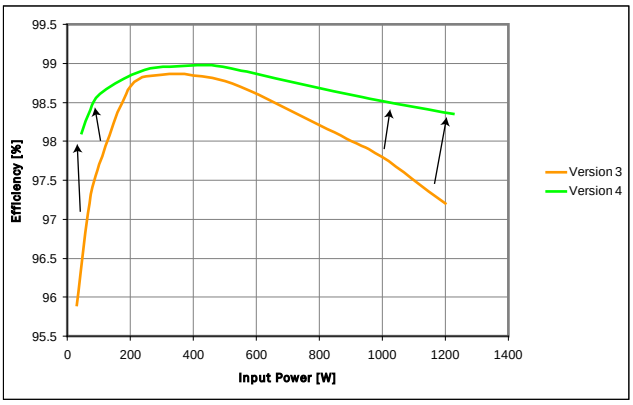
The 4th generation of drivetek's well-proven MPPT-Race. The absence of almost any switching losses makes this converter ideal for solar cars and any solar power application which needs extremely high efficiency over a wide power range. Current and voltage limits are customized to increase accuracy of MPPT algorithm. High efficiency allows an operation temperature range up to +70 °C

Characteristics [1]

Parameter	*Unit*	*Minimum*	*Typical*	*Maximum*
Input Power Continous	W	5		800
Input Power Peak [3]	W			1250
Input Current	A_{DC}			9
Peak Efficiency [2]	%		99	
Input Voltage Range	V_{DC}	36		144
Output voltage Range [4]	V_{DC}	40		200
Output Shutdown Voltage [7]	V_{DC}			236
Output to Input Voltage Ratio [6]	-	1.05		4
Length	mm		170	
Width	mm		100	
Height	mm		80	
Weight	g		650	
Operating Temperature	°C	0		70
CAN Interface Specification				
Supply Voltage	V_{DC}	6		18
Supply Current Recessive [5]	mA	15		50
Supply Current Dominant [5]	mA	60		100
Transmission Rate	kB/s		125	
Bus Length	m			500
Standards	-		ISO 11898	

[1] At 25°C ambient temperature
[2] At 400W input power, 140V input and 160V output voltage
[3] During maximum 5min. per hour
[4] Output voltage must be higher than input (boost topology)
[5] TX=V_{INH}, U_{CAN}=5.5V, RL=60Ω
[6] Use a transmission ratio close to 1.05 for best efficiency
[7] Maximum output voltage in case of a sudden load drop

Efficiency Uin= 140V Uout= 160V



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