

DC to DC Converter Tables

Diego Trapero

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1 Non-Isolated DC to DC Converters

What	Buck	Boost	Buck-Boost
Circuit Diagram			
ON Circuit			
OFF Circuit			
V_o CCM	$V_o = DV_i$	$V_o = \frac{1}{1-D} V_i$	$V_o = \frac{D}{1-D} V_i$
D CCM	$D = \frac{V_o}{V_i}$	$D = 1 - \frac{V_i}{V_o}$	
V_o DCM		$V_o = V_i \frac{1 + \sqrt{1 + \frac{4D^2}{k}}}{2}$	$V_o = \frac{D}{\sqrt{k}} V_i$
D DCM	$D = \frac{V_o}{V_i} \sqrt{\frac{k}{1 - \frac{V_o}{V_i}}}$		
v_L			

i_L			
i_o			
v_S			
i_S			
v_D			

i_D			
i_C			

2 Isolated DC to DC Converters

What	Forward	Flyback
Circuit Diagram		
ON Circuit		
OFF Circuit		
v_L		
v_o		

v_{LM}		
?		
?		