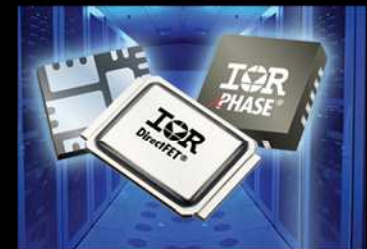


myPower online Design Center Power Factor Correction Design Tool

Prepared by Helen Ding
Sr. Application Engineer



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**Power Factor Correction
Design Tool
Featuring IR1152, IR1153, IR1155**

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APPLICATIONS

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Main Page of PFC Design Tool



Select the featured IC to enter the design tool



Please note: as the [IR1150](#) is "Not for New Designs", this configuration/simulation tool has been decommissioned. A summary of IR's active line of PFCs are below. Clicking a part number will take you to the configuration / simulation tool for that IC.

IC	frequency (kHz)	OVP (V)	Brown-out Protection
IR1152	66	$1.06 * V_{out}$	YES
IR1153	22.2	programmable	YES
IR1155	48-200	programmable	NO

IR115x PFC Design Tool



Step 1: Enter Operating Conditions

Input		Output	
Min Input Voltage: 15 V	Switching frequency: 100 kHz	Output Power: 300 W	
Max Input Voltage: 264 V	Hold-up Time: 20 ms	Output Voltage: 385 V	
Input AC frequency: 60 Hz	Ochoke Ripple Current: 20 %	Output Voltage (min): 286 V	
Startup Time: 50 ms		Output Cap Tolerance: 20 %	
Target Efficiency: 92 %		OVP Threshold: 425 V	

Step 2:

CALCULATE
ANALYZE

Other Options:
RESET
HELP
LIST
SAVE DESIGN
DATASHEET

Step 3: Check Calculation Result

Electrical Calculations:		Component Values:			
		Component	Ref Des	Std Value	Calc Value
Max Input Power	326 W	High Freq Input Cap	Cin	270 nF	0.24 uF
Input RMS Current	3.84 A	Boost Choke Value	Lbst	820 uH	762 uH
Input Peak Current	5.43 A	Output Capacitor	Cout	270 uF	226 uF
Input Average Current	3.45 A	Output Voltage Rset	Rfb3	13.3 kOhm	13.1 kOhm
Input Pk Voltage (min)	120 V	Output OVP Rset	Rovp3	12.7 kOhm	12.7 kOhm
Duty Cycle - low line	0.69	Current Sense Res	Rs		0.074 Ohm
Ripple Current	1.09 A	Zero Capacitor	Cz	470 nF	449 nF
Peak Inductor Current	5.97 A	Gain Resistor	Rgm	7.15 kOhm	6.99 kOhm
V Current Sense	0.46 V	Pole Capacitor	Cp	1.3 nF	1.37 nF
Peak Current Limit	10.41 A	Current Sense Filter Capacitor	Csf	1 nF	1.00 nF
Input Pk Ovpd Current	6.27 A	Current Sense Filter Resistor	Rsf	100 Ohm	100 Ohm
Power Dissipation:		Timing Capacitor	Cf	1 nF	0.93 nF
Power Dissipation Rfb	72.3 mW	Rfb1, Rfb2, Rovp1 and Rovp2 are 499 kOhms each			
Power Diss Rovp	72.3 mW				
Power Rs	1.09 W				

- Enter Input & Output Operating Conditions
- Click on CALCULATE
- See results Here
- ANALYZE / PDF report gives details of the design!

Click the HELP to see application note

Hover text shows up when put mouse cursor over the input section of a parameter. Help information indicates the input range of that parameter.

