

SOFT SWITCHED POWER FACTOR CORRECTOR USING A MICROCONTROLLER

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By

MD. Imran (1RE08EE029)

Narsipur Sudeep Anantha Prasad (1RE08EE033)

Raghu Raman S (1RE08EE037)

CARRIED OUT AT

REVA INSTITUTE OF TECHNOLOGY AND MANAGEMENT

UNDER THE GUIDANCE OF

Dr.B.P.Divakar

Professor, Department of Electrical & Electronics
Engineering, REVA ITM, Bangalore.



REVA INSTITUTE OF TECHNOLOGY AND MANAGEMENT

Kattigenahalli, JalaHobli, Yelahanka, Bangalore – 560064

1. ABSTRACT

This report provides an overview of the evolution in DC – DC converters, applications and their advantages over conventional linear regulators. Different topologies of these converters namely buck, boost, buck – boost, cuk and sepic converters are discussed with respect to their output voltages' magnitudes and polarity. The root cause for low power factor and the different methods employed to improve power factor in DC – DC converters are explained. The concept of Soft – Switching, its advantages over conventional PWM switching and its application in DC – DC converters are explained. A novel average current mode controlled, fully soft switched extended – period quasi – resonant power factor corrector using a microcontroller is presented.