Understanding Basic Concept of Electrical and Electronic Systems

Asadullah Shah

IIUM PRESS
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

UNDERSTANDING BASIC CONCEPT OF ELECTRICAL AND ELECTRONIC SYSTEMS

Editors

Asadullah Shah

IIUM Press

Published by:
IIUM Press
International Islamic University of Malaysia
First Edition, 2011

Perpustakaan Negara Malaysia Cataloguing-in-Publication Data

Bibliography p.
Includes Index
ISBN

ISBN: 978-967-418-116-1

Member of Majlis Penerbitan Ilmiah Malaysia – MAPIM
(Malaysian Scholarly Publishing Council)

Printed by:
IIUM PRINTING SDN. BHD.
No. 1, Jalan Industri Batu Caves 1/3
Taman Perindustrian Batu Caves
Batu Caves Centre Point
68100 Batu Caves
Selangor Darul Ehsan

CONTENTS

20. CLASS – B POWER AMPLIFIER

Asadullah Shah and Muniba Shaikh
Department of Computer Science, Kulliyyah of Information and Communication Technology,
International Islamic University of Malaysia,
Malaysia

20.0 Abstract:

Unlike the Class A amplifier that uses a single transistor for its output stage, the Class B Amplifier uses two complimentary transistors (an NPN and a PNP) for each half of the output waveform. One transistor conducts for the positive half of the waveform and another conducts for the negative half of the waveform. This means that each transistor spends half of its time in the active region and half its time in the Cut-off region thereby amplifying only 50% of the input signal. Class B operation has no DC bias voltage instead the transistor only conducts when the input signal is greater than the base-emitter voltage and for silicon devices is about 0.7v. Therefore, at zero input there is zero output. This then results in only half the input signal being presented at the amplifiers output giving a greater efficiency.

20.1 Apparatus Required:

S.No	Equipment	Range/ Details	Quantity
1.	Power Supply	(0-30)V	1
2.	CRO	(0-20) MHz	1