

Lista 6 – Simplificando Circuitos

1 – Simplifique utilizando o mapa de Karnaugh

A	B	C	S
0	0	0	1
0	0	1	1
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	1
1	1	0	0
1	1	1	1

Transpondo para o diagrama de 3 variáveis e reconhecendo os agrupamentos, temos:

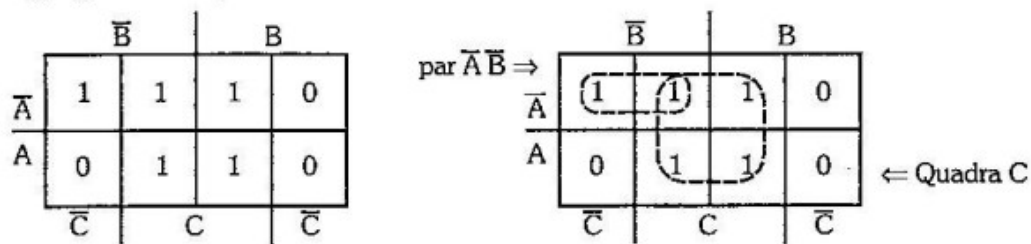
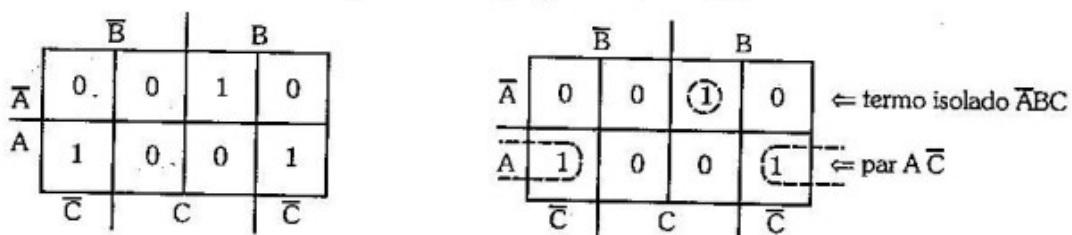


Figura 3.41

A expressão minimizada será: $S = C + \bar{A}\bar{B}$

2 - Simplifique utilizando o mapa de Karnaugh

A	B	C	S
0	0	0	0
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	1
1	0	1	0
1	1	0	1
1	1	1	0



3 – Simplifique usando o mapa de Karnaugh

A	B	C	D	S
0	0	0	0	1
0	0	0	1	0
0	0	1	0	1
0	0	1	1	0
0	1	0	0	1
0	1	0	1	1
0	1	1	0	1
0	1	1	1	1
1	0	0	0	1
1	0	0	1	0
1	0	1	0	1
1	0	1	1	0
1	1	0	0	1
1	1	0	1	0
1	1	1	0	1
1	1	1	1	1

	$\bar{C}$	C			
	1	0	0	1	$\bar{B}$
$\bar{A}$	1	1	1	1	
A	1	0	1	1	B
	1	0	0	1	$\bar{B}$
	$\bar{D}$	D	$\bar{D}$		

Figura 3.43

Agrupando o diagrama, temos:

	$\bar{C}$	C				
	1	0	0	1	$\bar{B}$	$\Leftarrow$ oitava $\bar{D}$
$\bar{A}$	1	1	1	1		
A	1	0	1	1	B	$\Leftarrow$ quadras: $\bar{A}B$ e BC
	1	0	0	1	$\bar{B}$	
	$\bar{D}$	D	$\bar{D}$			

Figura 3.44

A expressão minimizada será: $S = \bar{A}B + BC + \bar{D}$.