TABELA VERDADE DOS 7 SEGMENTOS

(Cátodo Comum)

		ENTRADAS				SAÍDAS						
	BCD	A	B	C	D	a	b	c	d	e	f	g
0	0000	0	0	0	0	1	1	1	1	1	1	0
1	0001	0	0	0	1	0	1	1	0	0	0	0
2	0010	0	0	1	0	1	1	0	1	1	0	1
3	0011	0	0	1	1	1	1	1	1	0	0	1
4	0100	0	1	0	0	0	1	1	0	0	1	1
5	0101	0	1	0	1	1	0	1	1	0	1	1
6	0110	0	1	1	0	1	0	1	1	1	1	1
7	0111	0	1	1	1	1	1	1	0	0	0	0
8	1000	1	0	0	0	1	1	1	1	1	1	1
9	1001	1	0	0	1	1	1	1	1	0	1	1

Mapas de Karnaugh

(a)

	¬C	¬C	C	C	
¬A	1	0	1	1	¬B
¬A	0	1	1	1	B
A	X	X	X	X	B
A	1	1	X	X	¬B
	¬D	D	D	¬D	

S(a) = A+C+(B.D)+(¬B.¬D)

(b)

	¬C	¬C	C	C	
¬A	1	1	1	1	¬B
¬A	1	0	1	0	B
A	X	X	X	X	B
A	1	1	X	X	¬B
	¬D	D	D	¬D	

S(b) = A+¬B+(¬C.¬D)+(C.D)

(c)

	¬C	¬C	C	C	
¬A	1	1	1	0	¬B
¬A	1	1	1	1	B
A	X	X	X	X	B
A	1	1	X	X	¬B
	¬D	D	D	¬D	

S(c) = B+¬C+D

(d)

	¬C	¬C	C	C	
¬A	1	0	1	1	¬B
¬A	0	1	0	1	B
A	X	X	X	X	B
A	1	1	X	X	¬B
	¬D	D	D	¬D	

S(d) = A + (¬B.¬D)+(C.¬D)+(B.¬C.D)+(¬B.C.D)

(e)

	¬C	¬C	C	C	
¬A	1	0	0	1	¬B
¬A	0	0	0	1	B
A	X	X	X	X	B
A	1	0	X	X	¬B
	¬D	D	D	¬D	

$$S(e) = (¬B.¬D)+(C.¬D)$$

(f)

	¬C	¬C	C	C	
¬A	1	0	0	0	¬B
¬A	1	1	0	1	B
A	X	X	X	X	B
A	1	1	X	X	¬B
	¬D	D	D	¬D	

$$S(f) =(A)+(¬C.¬D)+(¬C.B)+(B.C.¬D)$$

(g)

	¬C	¬C	C	C	
¬A	0	0	1	1	¬B
¬A	1	1	0	1	B
A	X	X	X	X	B
A	1	1	X	X	¬B
	¬D	D	D	¬D	

$$S(g) = (C.¬D)+(A)+(B.¬C)+(¬B.C)$$