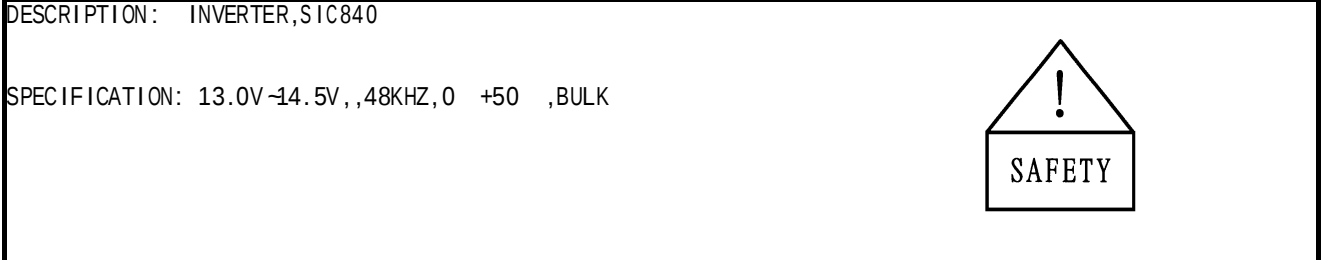


PART SPEC

DESCRIPTION: INVERTER,S1C840	
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SPECIFICATION: 13.0V~14.5V,,48KHZ,0 +50 ,BULK



SECTION : VISUAL & DISPLAY R&D

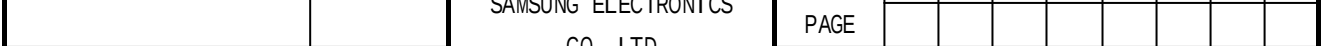
[illegible]

SHEET	1	2	3	4	5	6	7	8	9	10	11									
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[illegible]

DRAWN:	7000		DOC. NO.: BN44-00070ACB
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MYUNG-SOO NA	7202		REF. NO.:
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APPROVED:	7670	(All Rights Reserved)	SIZE: A4	PAGE: 1
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BYUNG-JU KWAK	7070	(All Rights Reserved.)	SIZE: A4	PAGE: 1
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SIZE: A4	PAGE: 1
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PART SPEC				
REV.	DATE	CONTENTS	DRAWN	APPROVED
00	2002.05.29	initial release	M.S NA	B.J. KWAK
01	2002.07.18	REVISION BY ECO NO: BN0200205F4	M.S NA	B.J. KWAK
02	2003.03.24	REVISION BY ECO NO: BN0200302B9	M.S.NA	B.J.KWAK
		SAMSUNG ELECTRONICS CO.,LTD.(All Rights Reserved.)		
DOC. NO.: BN44-00070ACB		REF. NO.:		PAGE: 2

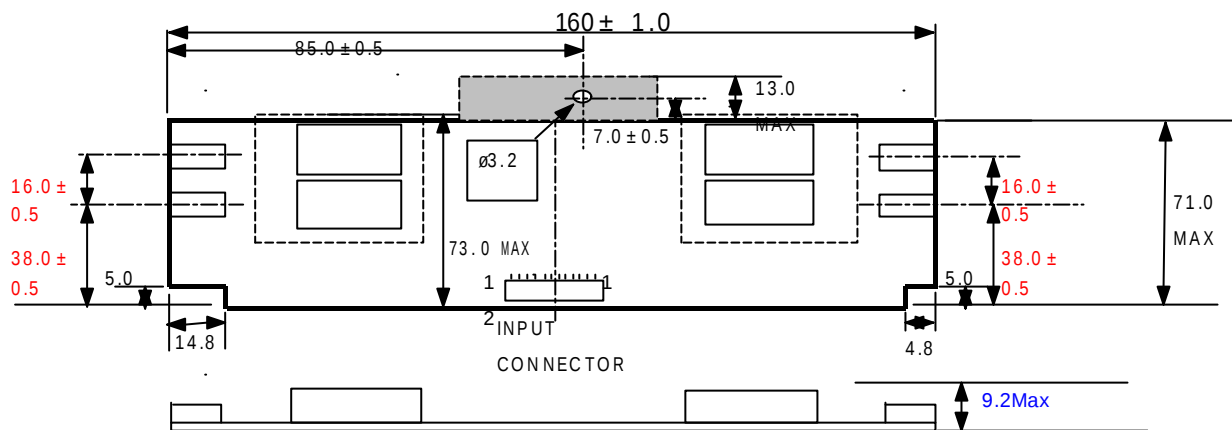
PART SPEC

1.0 SCOPE

- 1.1 THIS DOCUMENT DEFINES FOR INVERTER, SIC840,13.0~14.5V,48KHz
- 1.2 USAGE : BACK LIGHT 4 LAMP CCFL DRIVER INVERTER FOR SEC LCD
- 1.3 TYPE OF PACKAGE :
- 1.4 COATING :

2.0 RELATED DOCUMENTS

3.0 DIMENSIONS



4.0 REQUIREMENTS

4.1 MAXIMUM RATINGS

SYMBOL	PARAMETER	RATING	UNIT
V_{in1}	input voltage1	13.0~14.5	V
V_{in2}	input voltage2	5.0	V
T_{opr}	operating temperature	0 +50	
T_{stg}	storage temperature	-30 +80	
H_{op}	operating/storage humidity	90	%RH

4.2 CONTROL SIGNAL

PIN NO.	SYMBOL	STATUS	ACTION	REMARKS
CN1 #4	BKLT-ON	HIGH	LAMP(CCFL)-ON	2.4~5.25V
		LOW	LAMP(CCFL)-OFF	0.8V MAX.



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REF. NO.:

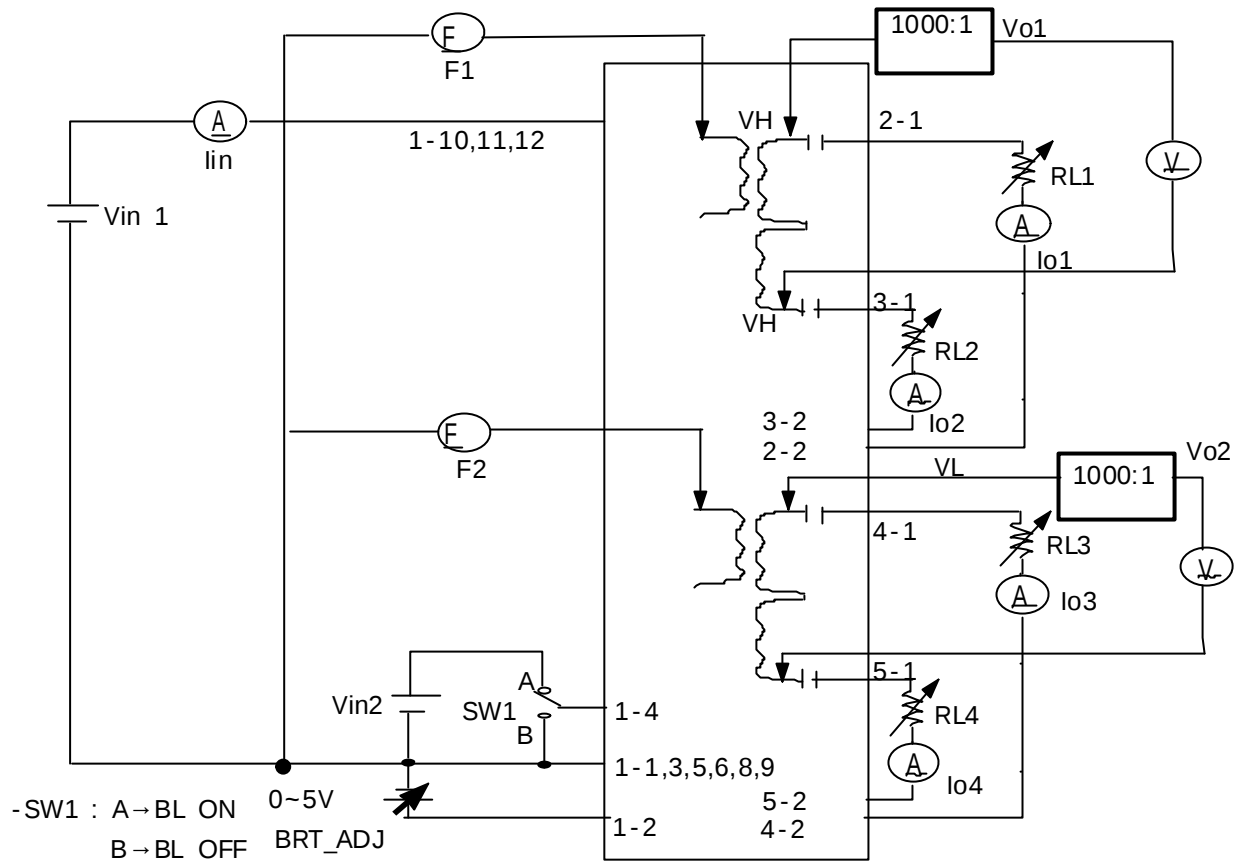
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PART SPEC

4.3 TEST CIRCUIT



4.4 INPUT/OUTPUT CHARACTERISTICS

ITEM	SYMBOL	CONDITION			SPECIFICATION			UNIT
		Vin1(V) (DC-IN)	BRT -ADJ	RL(kΩ) (Ref)	MIN	TYP	MAX	
OUTPUT CURRENT	Io1,2(max)	13.0 14.5	0V	110 ± 0.5	6.1	6.7	7.3	mArms
	Io1,2(min)	13.0 14.5	5V	110 ± 0.5	1.5	2.5	4.0	
	Io3,4(max)	13.0 14.5	0V	110 ± 0.5	6.1	6.7	7.3	
	Io3,4(min)	13.0 14.5	5V	110 ± 0.5	1.5	2.5	4.0	
INPUT CURRENT	Iin(1)	14	0V	110 ± 0.5	-	2000	2200	mADC
FREQUENCY	F(1)	14	0V	110 ± 0.5	40	48	56	KHz
FREQUENCY	F(2)	14	0V	110 ± 0.5	40	48	56	KHz
DIMMING FREQUENCY	FD	14	5V	110 ± 0.5	525	535	545	Hz

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PART SPEC

5.0 FUNCTIONAL PIN DESCRIPTION

5.1 CN1 CONNECTOR 12505WR-12WR-1200(YEONHO)

PIN NO	SYMBOL	REMARK
1	GND	GND
2	BRT_ADJ	0 ~ 5V
3,5,6,8,9	GND	GND
4	BL ON/OFF	CCFL Drive SIGNAL(Active HIGHT)
7	N.C	NO CONNECTION
10,11,12	DC- IN	DC INPUT Power(14V)

5.2 CN2 CONNECTOR:35001WR-02P(YEONHO)

PIN NO	SYMBOL	REMARK
1	HOT	HIGHT
2	COLD	LOW

5.3 CN3 CONNECTOR : 35001WR-02P(YEONHO)

PIN NO	SYMBOL	REMARK
1	HOT	HIGHT
2	COLD	LOW

5.4 CN4 CONNECTOR : 35001WR-02P(YEONHO)

PIN NO	SYMBOL	REMARK
1	HOT	HIGHT
2	COLD	LOW

5.5 CN5 CONNECTOR :35001WR-02P(YEONHO)

PIN NO	SYMBOL	REMARK
1	HOT	HIGHT
2	COLD	LOW



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PART SPEC

6.0 INTERNAL CIRCUIT DIAGRAM



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PART SPEC

7.0 PARTS LIST

SYMBOL	NAME	1st		2nd	
		TYPE NO	MAKER	TYPE NO	MAKER
U1	IC	KA324	FAIRCHILD	BA10324	ROHM
		KIA324	KEC		
U2, 3	IC	KA393	FAIRCHILD	BA10393	ROHM
		KIA393	KEC		
U4	IC	KA431CD	SEC	TL431CD	SGS
U5	IC	KA339	FAIRCHILD	LM339	N.S
		KIA339	KEC		
Q1,3,4,9,10,16,17	TR	KSR1104	FAIRCHILD	KRC104S	KEC
Q11, 18	"	KSR1104	FAIRCHILD		
Q2	"	KSR2104	FAIRCHILD	KRA104S	KEC
Q5, 12	"	KST2222A	FAIRCHILD	KTN2222AS	KEC
Q23, 24	"	KST2907A	FAIRCHILD	KTN2907AS	KEC
Q6, 13	TR	SI3457DV	VISHAY	FDC658P	FAIRCHILD
Q7, 8, 14, 15	TR	2SD2403	NEC	KTD1624C	KEC
D2, 7, 10, 12, 19, 20	DIODE	KDS184	KEC	DAN202K	ROHM
21, 22		SDS2838	AUK		
D3, 13	DIODE	B240	DIODES. INC	MBRS230	ONSEMI
		SS23	G.I.		
D5, 6, 15, 16	"	KDS181	KEC	DAP202K	ROHM
D4, 14	"	KDS226	KEC	DAN217	ROHM
		SDS7000	AUK		
C3, 4, C33	C-ELEC	CETMQ1Y221M0611AF	SEMC0		
C5, 14	C-FILM	MMX-E2A224KT	HITACHI	MML-E2A224KT	HITACHI
		MDDHF2A224KT	HITACHI		
C6, 7, 15, 16	MLCC	C4520CG3F270JT	TDK	42C270JKN	SEMC0
		4520270J302	EXPAN		
C13, 22, C51	"	CL21C102JBN	SEMC0		
C1, 8, 9, 17, 18, 23, 25, 26, 41, 42, 43, 50	"	CL21B104KBN	"		
C11, 20, C10	"	CL21F105ZAN	"		
C12, 21	"	CL21B103KBN	"		
C30, 31	"	CL21C221JBN	"		
C2	"	CL21C681JBN	"		
R27, 54, 62, 65, 94	CHIP-R	RC1608J153	"		
R2	"	RC1608J473	"		
R61, 64	"	RC1608J622	"		
R1, 3, 23, 24, 29, 49, 50, 55, 83	"	RC1608J563	"		
R10, 30, 36, 56, 95	"	RC1608J103	"		
R5	CHIP-R	RC1608J243	SEMC0		
R6, 79	"	RC1608J684	"		
R19, 20, 45, 46	"	RC2012J202	"		
R11-14, 37-40	"	RC3216J511	"		
R8, 31, 34, 57	"	RC2012J472	"		
R4, 9, 35, 85	"	RC1608J393	"		
R21, 22, 47, 48, 63, 66	"	RC1608J364	"		
R81, 82	"	RC1608J165	"		

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PART SPEC

SYMBOL	NAME	1st		2nd	
		TYPE NO	MAKER	TYPE NO	MAKER
R25, 52	"	RC1608J303	"	"	
R28, 70, 77, 78, 84, 85, 91, 92	"	RC1608J104	"	"	
R73, 74, 75, 76	"	RC1608J122	"	"	
R69	"	RC3216J182	"	"	
R71, 72	"	RC1608J203	"	"	
R80, 93, 114	"	RC1608J000	"	"	
R86	"	RC1608J335	"	"	
R112, R113	"	RC1608J105			
R101 ~108	"	RC3216J204	"	"	
R110, 111		RC3216J103			
R100	VR	10kΩ	"		
T2, 4	TRANS	TA-002	NAMYANG	TA-002	DAISUNG
T1, 3	TRANS	TA-002R	NAMYANG	TA-002R	DAISUNG
L1, 2	COIL	KCL47	NAMYANG	KCL47	KYUNGIN
F1	FUSE	SSQ3	BEL	451003	LITTEL
CN1	CONNECTOR	12505WR-12A00	YEONHO	53261-1290	MOLEX
CN2, 3, 4, 5	CONNECTOR	35001WR-02P	YEONHO	SM02B-BHS	JST
PCB	PCB	SIC840	YOUNGEUN	SIC840	TAT CHUN
ADHESIVE	ADHESIVE	KE40RTV	SHINETSU		
METAL SHIELD-A	SHIELD	SIC840	YOUNGDONG	SIC840	SAMIL
		SIC840	DAISUNG IND.		
METAL SHIELD-B	SHIELD	SIC850	YOUNGDONG	SIC850	SAMIL
		SIC850	DAISUNG IND.		
BRACKET	BRACKET	SIC840	EUNHA	SIC840	DAISUNG IND.
SCREW	SCREW	CH-M2*3	SAMPOONG		
INSULATOR	INSULATOR	SIC840	YOUNGDONG		

8.0 RELIABILITY SPECIFICATION

NO	ITEM	CONDITION AND METHOD
1	HIGH TEMPERATURE STORAGE TEST	TEMP.;70 DURATION: 500 hrs
2	LOW TEMPERATURE STORAGE TEST	TEMP.;-30 DURATION: 500 hrs
3	HIGH TEMPERATURE HIGH HUMIDITY STORAGE TEST	TEMP.;40 , HUMIDITY:95%RH DURATION: 500 hrs
4	HIGH TEMPERATURE HIGH HUMIDITY OPERATION TEST	TEMP.;40 , HUMIDITY:95%RH DURATION: 1000 hrs
5	THERMAL SHOCK TEST	TEMP;-30 ↔ 70 , 250 CYCLE (30 MINUTE), (30 MINUTE)
6	VIBRATION TEST	AMPLITUDE;1.5mm,FEEQUENCY;10~55Hz, POSITION; TREE PERPENDLCULAR PLANES,DURATION;1000 hrs
7	HIGH TEMPERATURE OPERATION TEST	TEMP;50 DURATION;72 hrs
8	LOW TEMPERATURE OPERATION TEST	TEMP; 0 DURATION;72 hrs



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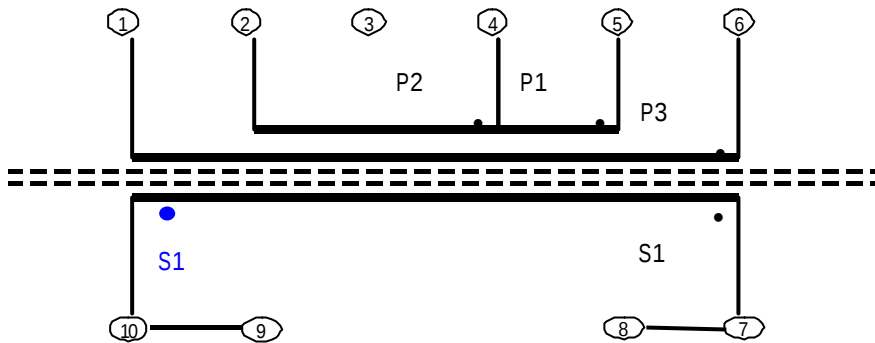
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PART SPEC

9.0 DETAIL SPECIFICATION FOR KEY PARTS

9.1 TRANS (TA-002, TA-002R)

9.1.1 WINDING SPEC & ELECTRICAL CHARACTERISTICS



SYMBOL& WINDING	WIRE	TURNS	INDUCTANCE	CONDITION
P1 (#5-#4)	1 UEW 0.25Ø	9	43.7 uH ± 12%	AT 1KHZ 1Vrms
P2 (#4-#2)	1 UEW 0.25Ø	9		
P3 (#6-#1)	1 UEW 0.25Ø	2		
S1 (#8-#9) (#10-#7)	F UEW 0.04Ø	1,620 (270X6)	310mH ± 12%	
(#8-#9)	Rdc	560 ohm		

9.1.2 MATERIAL LIST (TA-002, TA002R)

NO.	COMPONENT	MANUFACTURE COMPONENT	NAME OF MATERIAL	MANUFACTURER OF MATERIAL	UL FILE NO.
1	CORE	SAM SUNG CORNING CO., LTD.	SL-2 EPS 16.4 m/m		
		ISU CERAMICS CO., LTD.	PM7 EFD 1618		
		SAM WHA ELECTRONICS CO., LTD.	PL7 EFD 1618		
2	BOBBIN	JO KWANG ELECTRONICS CO., LTD.	(94V-0) SB EE16B LCP UL	SUMITOMO CHEMICAL CO., LTD.	E 54705(M)
3	WIRE	CHANG JUN CO., LTD.	F UEW 0.04Ø (AWG #44)		E 93944
4		DONG YANG ELECTRONICS IND CO., LTD.	1 UEW 0.25Ø (AWG #30)		E 102761(S)
5	INSULATION TAPE	DAE HYUN ST CO., LTD. (Cat No. ST-130UL)	POLYIMIDE FILM TAPE 0.025 mm X 13.5 mm (Transparent Color)		E 220986
6	CORE FIXING TAPE	DUCK SUNG TAPE CO., LTD. (Cat No. DTS-204)	POLYESTER FILM TAPE 0.025 mm X 4.0 mm (Yellow Color)		E 105147(S)
7	INSULATOR	SKC LTD	PETP FILM SR55 (0.1MIN)		E 74359 (S)
8	VARNISH	SR-337, SH-337	SEGYE CHEMICAL CO.		
9	ADHESIVE	SUNG MOON RESIN	#818Y		

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PART SPEC

9.2 DETAIL MATERIAL LIST FOR KEY PARTS (SAFETY)

SYMBOL	NAME	TYPE NO.	MANUFACTURER	DESCRIPTION
FI	FUSE	451003	LITTERBUGS INC	UL FILE NO :E10480 CSA FILE NO :LR29862
		SSQ3	BEL	UL FILE NO :E20624 CSA FILE NO :LR39772
PCB	PRINTED WIRING BOARD	FR-4	TAT CHUN	UL FILE NO :E131175
			YOUNG EUN ELECTRONICS	UL FILE NO:E173507
CN1	CONNECTOR	53261-1290	MOLEX	NYLON 4/6 UL94V-0
		12505WR-12A00	YEONHO	"
CN2,3 CN4,5	CONNECTOR	SM02B-BHS	JST	PA46 UL94V-0
		35001WR-02P	YEONHO	"
	INSULATOR	SKC LTD	PETP FILM (SG00) 0.05mm(T) MIN	UL FILE NO:E74359(S)
		SKC LTD	PETP FILM (SR53) 0.05mm(T) MIN	UL FILE NO:E74359(S)
T2,4	TRANSFORMER	TA-002	DAISUNG TELECOMMUNICATIONS	CLASS A (105 de.C) SEE TRANS SPEC
			NAMYANG ELECTRONICS	CLASS A (105 de.C) SEE TRANS SPEC
T1,3	TRANSFORMER	TA-002R	DAISUNG TELECOMMUNICATIONS	CLASS A (105 de.C) SEE TRANS SPEC
			NAMYANG ELECTRONICS	CLASS A (105 de.C) SEE TRANS SPEC
	ADHESIVE	KE40RTV	SHINETSU	UL FILE NO:E48923A UL94V-0

10.0 PACKING REQUIREMENTS

BULK



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PART SPEC

SAMSUNG P/N	VENDOR #1 P/N	VENDOR #2 P/N	VENDOR #3 P/N	VENDOR #4 P/N
BN44-00070A	SIC840			
VENDOR #1	SAMSUNG ELECTRO-MECHANICS CO.,LTD.			
VENDOR #2				
VENDOR #3				
VENDOR #4				
	SAMSUNG ELECTRONICS CO.,LTD.(All Rights Reserved.)			
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