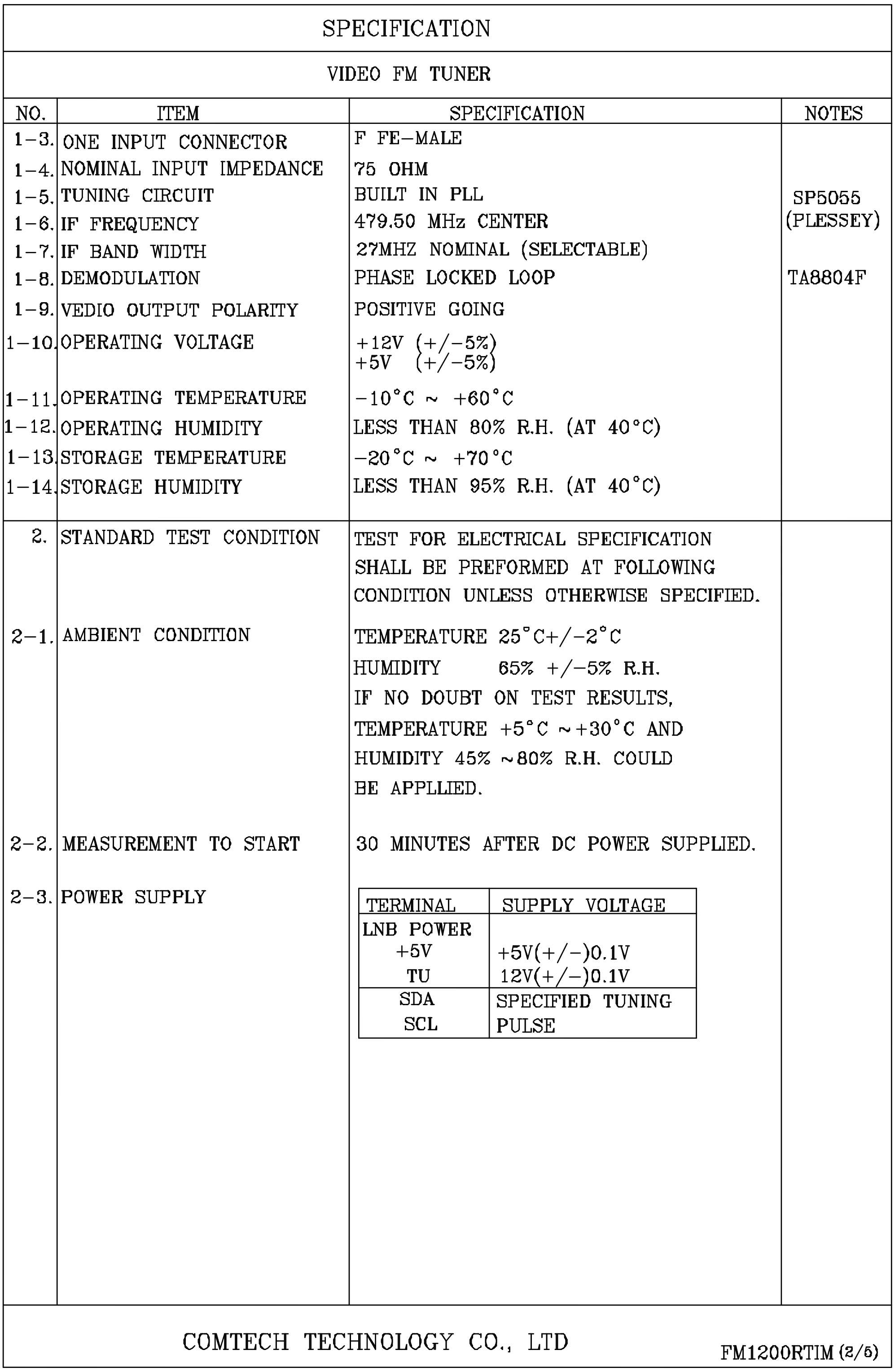
SPECIFICATION

VIDEO FM TUNER

CONTENTS

NO.	ITEM	SPECIFICATION	NOTE
1.	GENERAL SPECIFICATION		
1-1.	INPUT FREQUENCY RANGE	1100MHZ ~ 1300MHZ	



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NO.	ITEM	SPECIFICATION	NOTES
1-3.	ONE INPUT CONNECTOR	F FE-MALE	
1-4.	NOMINAL INPUT IMPEDANCE	75 OHM	
1-5.	TUNING CIRCUIT	BUILT IN PLL	SP5055 (PLESSEY)
1-6.	IF FREQUENCY	479.50 MHz CENTER	
1-7.	IF BAND WIDTH	27MHZ NOMINAL (SELECTABLE)	
1-8.	DEMODULATION	PHASE LOCKED LOOP	TA8804F
1-9.	VEDIO OUTPUT POLARITY	POSITIVE GOING	
1-10.	OPERATING VOLTAGE	+12V (+/-5%) +5V (+/-5%)	
1-11.	OPERATING TEMPERATURE	-10°C ~ +60°C	
1-12.	OPERATING HUMIDITY	LESS THAN 80% R.H. (AT 40°C)	
1-13.	STORAGE TEMPERATURE	-20°C ~ +70°C	
1-14.	STORAGE HUMIDITY	LESS THAN 95% R.H. (AT 40°C)	
2.	STANDARD TEST CONDITION	TEST FOR ELECTRICAL SPECIFICATION SHALL BE PREFORMED AT FOLLOWING CONDITION UNLESS OTHERWISE SPECIFIED.	
2-1.	AMBIENT CONDITION	TEMPERATURE 25°C+/-2°C HUMIDITY 65% +/-5% R.H. IF NO DOUBT ON TEST RESULTS, TEMPERATURE +5°C ~+30°C AND HUMIDITY 45% ~80% R.H. COULD BE APPLLIED.	
2-2.	MEASUREMENT TO START	30 MINUTES AFTER DC POWER SUPPLIED.	
2-3.	POWER SUPPLY		

TERMINAL	SUPPLY VOLTAGE
LNB POWER	
+5V	+5V(+/-)0.1V
TU	12V(+/-)0.1V
SDA SCL	SPECIFIED TUNING PULSE

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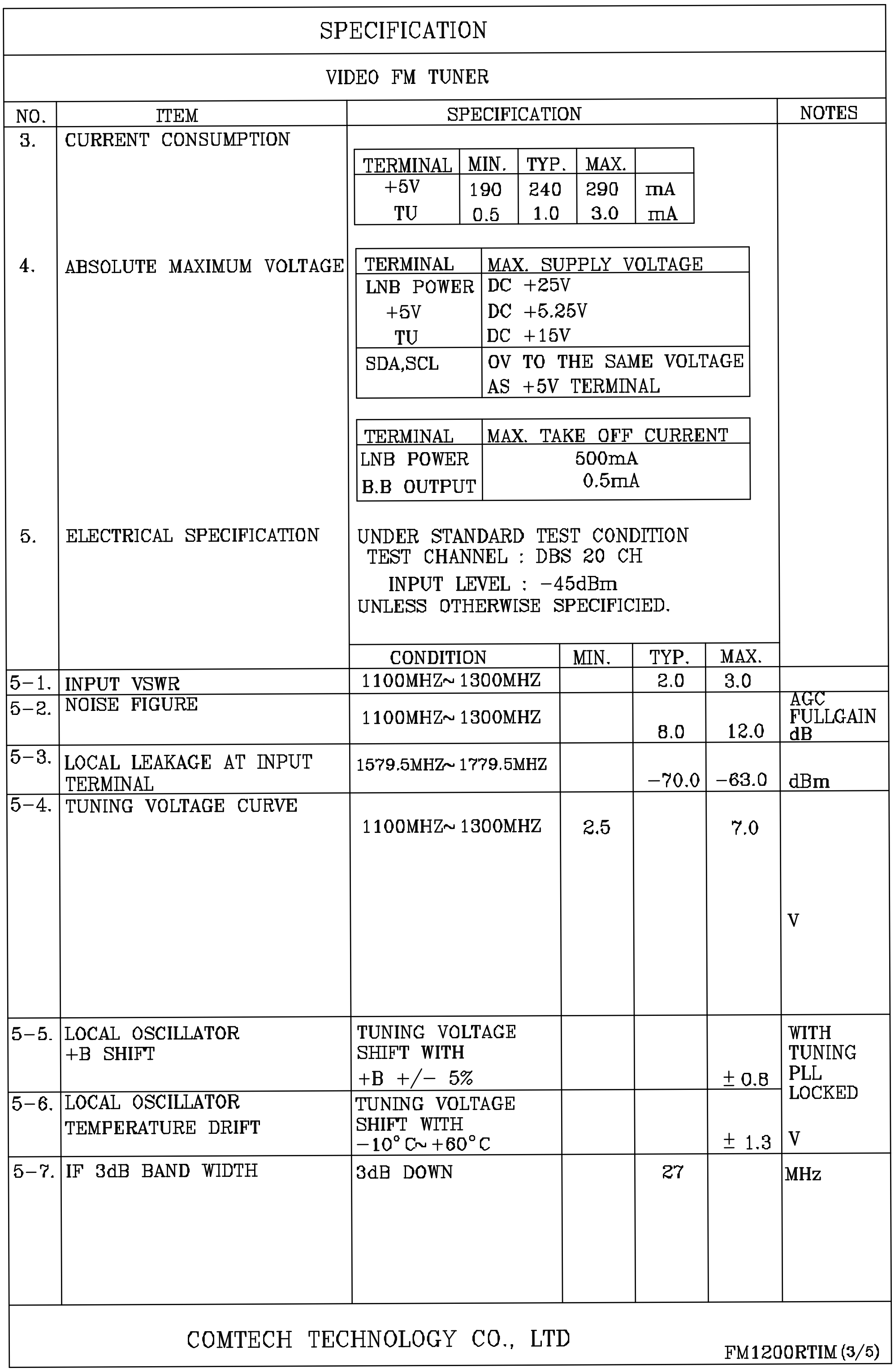
FM1200RTIM (2/6)



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NO.	ITEM	SPECIFICATION	NOTES
3.	CURRENT CONSUMPTION	see table below	
4.	ABSOLUTE MAXIMUM VOLTAGE	see tables below	
5.	ELECTRICAL SPECIFICATION	UNDER STANDARD TEST CONDITION TEST CHANNEL : DBS 20 CH INPUT LEVEL : -45dBm UNLESS OTHERWISE SPECIFICIED.	

TERMINAL	MIN.	TYP.	MAX.	
+5V	190	240	290	mA
TU	0.5	1.0	3.0	mA

TERMINAL	MAX. SUPPLY VOLTAGE
LNB POWER	DC +25V
+5V	DC +5.25V
TU	DC +15V
SDA,SCL	OV TO THE SAME VOLTAGE AS +5V TERMINAL

TERMINAL	MAX. TAKE OFF CURRENT
LNB POWER	500mA
B.B OUTPUT	0.5mA

NO.	ITEM	CONDITION	MIN.	TYP.	MAX.	NOTES
5-1.	INPUT VSWR	1100MHZ~1300MHZ		2.0	3.0	
5-2.	NOISE FIGURE	1100MHZ~1300MHZ		8.0	12.0	AGC FULLGAIN dB
5-3.	LOCAL LEAKAGE AT INPUT TERMINAL	1579.5MHZ~1779.5MHZ		-70.0	-63.0	dBm
5-4.	TUNING VOLTAGE CURVE	1100MHZ~1300MHZ	2.5		7.0	V
5-5.	LOCAL OSCILLATOR +B SHIFT	TUNING VOLTAGE SHIFT WITH +B +/- 5%			± 0.8	WITH TUNING PLL LOCKED
5-6.	LOCAL OSCILLATOR TEMPERATURE DRIFT	TUNING VOLTAGE SHIFT WITH -10°C~+60°C			± 1.3	V
5-7.	IF 3dB BAND WIDTH	3dB DOWN		27		MHz

COMTECH TECHNOLOGY CO., LTD

FM1200RTIM (3/5)

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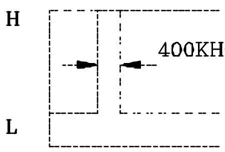
VIDEO FM TUNER

NO.	ITEM	SPECIFICATION				NOTES
5-8.	AFT OUTPUT (2 BIT OUTPUT)					
		CONDITION	MIN.	TYP.	MAX.	
		CENTER FREQUENCY ERROR(f0)	-2		+2	MHz
5-9.	B.B OUTPUT CHARACTERISTICS (1) VIDEO OUTPUT LEVEL	VIDEO WAVEFORM WHITE 100% PAL FREQUENCY DEVIATION 16MHzp-p WITHOUT PRE-EMPHASIS				
		WHITE TO SYNC.	0.72	0.90	1.12	Vp-p
	(2) GAIN-FREQUENCY RESPONSE	TEST MODULATION FREQUENCY :60Hz~8MHz WITHOUT ENERGY DISPOSAL MODULATION REFERENCE FREQ. 100KHz IF BW 27MHZ				
		FREQ. RESPONSE		±1	±3	dB
	(3) GROUP DELAY RESPONSE	TEST FREQUENCY :60Hz~8MHz WITHOUT ENERGY DISPOSAL MODULATION REFERENCE FREQ. 100KHz IF BW 27MHZ				
		GROUP DELAY		±10	±50	nsec
	(4) DG/DP	10 STEP STAIRCASE 16MHzp-p PAL WITHOUT ENERGY DISPOSAL MODULATION POSITIVE VIDEO AMPLIFIER WITH DE-EMPHASIS SHOULD BE APPLIED IF BW 27MHZ				
		DG (APL 50%)		4.0	8.0	%
		DP (APL 50%)		3.0	5.0	°
	(5) SN RATIO	INPUT C/N =14 dB (NOISE BW 27MHz) WHITE 100% VIDEO 16MHZp-p PAL WITH AUDIO SUBCARRIER MODULATION 3.4MHzp-p DEV. @6.5MHz POSITIVE VIDEO AMPLIFIER WITH DE-EMPHASIS SHOULD BE APPLIED 100Hz~5MHz UNWEIGHTED SN FOR:POWER ON RESET INDICATOR				
		SN	34.0	36.0		dB

COMTECH TECHNOLOGY CO., LTD FM1200RTIM (4/5)

SPECIFICATION

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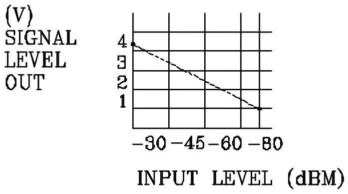
NO.	ITEM	SPECIFICATION	NOTES
7-1.	SIGNAL LEVEL OUT VOLTAGE		47K Ω LOADED
7-2.	IIC BUS (1) SDA,SCL INPUT VOLTAGE	UNDER STANDARD TEST CONDITION	V
	(2) ADDRESS	C2 (ON WRITE DATA FORMAT)	
	(3) SDA SCL INPUT IMPEDANCE	SDA/SCL ARE IN THE HIGH IMPEDANCE AND THERE SHOULD BE NO RELIABLITY PROBLEM WITH 5V CONTINUALLY ON THE SDA/SCL, IF POWER SUPPLY IS SWITCHED OFF.	

CONDITION	MIN.	TYP.	MAX.
HIGH VOLTAGE	3		5
LOW VOLTAGE	0		1.5

(4) DATA FORMAT

	MSB							LSB		
ADDRESS	1	1	0	0	0	MA1	MA0	0	A	BYTE1
PROGRAMMABLE DIVIDER	0	2^{14}	2^{13}	2^{12}	2^{11}	2^{10}	2^{9}	2^{8}	A	BYTE2
PROGRAMMABLE DIVIDER	2^{7}	2^{6}	2^{5}	2^{4}	2^{3}	2^{2}	2^{1}	2^{0}	A	BYTE3
CHARGE PUMP AND TEST BITS	1	CP	T1	T0	1	1	1	(0) OS	A	BYTE4
I/O PORT CONTROL BITS	P7	P6	P5	P4	P3	P2	P1	P0	A	BYTE5

TABLE 1 WRITE DATA FORMAT (MSB IS TRANSMITTED FIRST)

ADDRESS	1	1	0	0	0	MA1	MA0	1	A	BYTE1
STATUS BYTE	POR	FL	I2	I1	I0	A2	A1	A0	A	BYTE2

TABLE 2 READ DATA FORMAT

A:ACKNOWLEDGE BIT.
MA1,MA0:VOLTAGE ADDRESS BITS.
CP:CHARGE PUMP CURRENT SELECT.
T1:TEST MODE SELECTION.
T0:CHARGE PUMP DISABLE.
OS:VARACTOR DRIVE OUTPUT DISABLE SWITCH.
P7,P6,P5,P4,P3,P2,P1,P0:CONTROL OUTPUT STATES.
POR:POWER ON RESET INDICATOR
FL:PHASE LOCK DETECT FLAG.
I2,I1,I0:DIGITAL INFORMATION FROM PORTS P7,P5 AND P4.
A2,A1,A0:5 LEVEL ADC DATA FROM P6.

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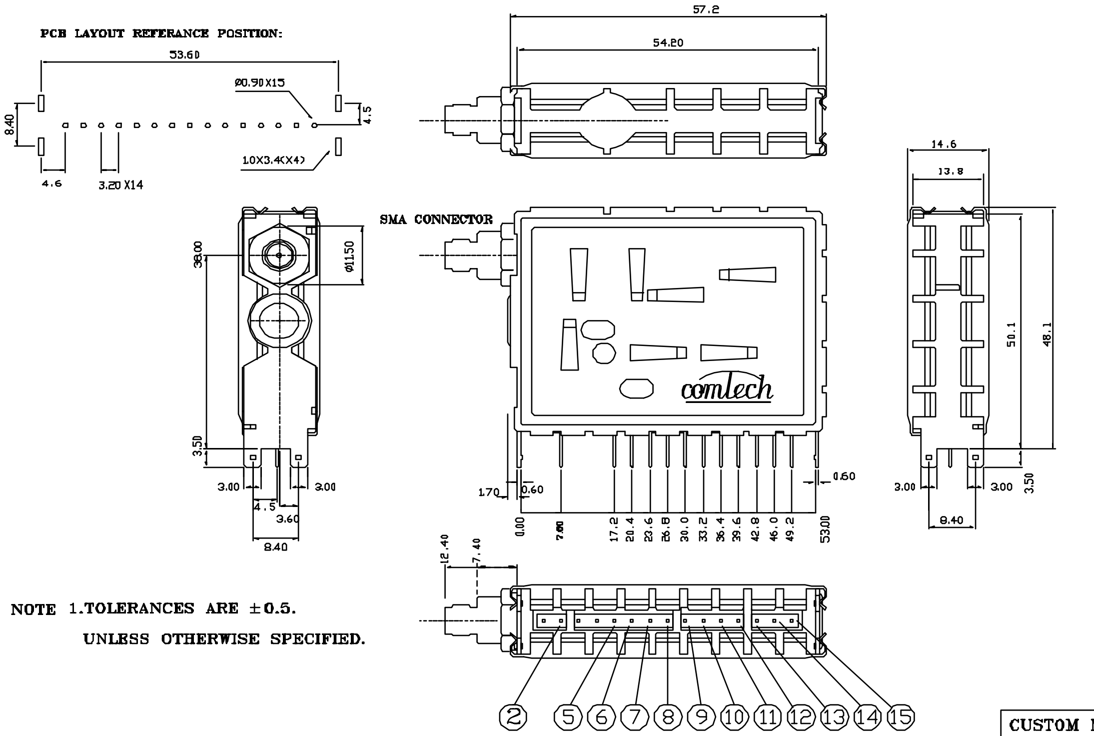
FM1200RTIM (5/5)



NOTE 1.TOLERANCES ARE ±0.5.
UNLESS OTHERWISE SPECIFIED.

PIN NO.	CONTENTS
1	———
2	NC
3	———
4	———
5	AFT OUT (DIGITAL)
6	+5V
7	B.B OUT
8	AFT OUT (DIGITAL)
9	SIGNAL LEVEL OUT
10	P4
11	12V
12	P3
13	P5
14	SDA
15	SCL

CUSTOM MODEL	
COMTECH MODEL	FM1200RTIM

comtech COMTECH TECHNOLOGY CO., LTD
DSGD. SCALE
CHKD. CRS 99-07-19 TITLE
APPD. UNIT mm DOCUMENT NO.
ZONE SYMB DATE OR NO. APPD CHKD DSGD