



1. GENERAL SPECIFICATION

| | | |
|-----------------------------|-------------------------------|--------------|
| 1-1 Input Frequency Range | 2.4 GHz - 2.4835 GHz | |
| 1-3 One Input Connector | Female | |
| 1-4 Nominal Input Impedance | 75 Ohm | Note: |
| 1-5 Tuning Circuit | Built-in PLL | SP5055 |
| 1-6 IF Frequency | 479.50 MHz Center | (PLESSEY) |
| 1-7 IF Bandwidth | 27 MHz Nominal (Selectable) | Note: |
| 1-8 Demodulation | Phase Locked Loop | TA8804F |
| 1-9 Video Output Polarity | Negative | |
| 1-10 Operating Voltage | +28V (+/-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 |
| | Humidity | 45% ~ 80% R. H. |
| | could be applied | |

2-2 Measurement to Start 30 minutes after DC power supplied

2-3 Power Supply

| Terminal | Supply Voltage |
|----------|------------------|
| +5V | +5V (+/-) 0.1V |
| +12V | +12V (+/-) 0.1V |
| SDA | specified tuning |
| SCL | pulse |



3. CURRENT CONSUMPTION

| Terminal | Min | Typ. | Max | Unit |
|----------|-----|------|-----|------|
| +5V | 190 | 240 | 290 | mA |
| +12V | 0.5 | 1.0 | 3.0 | mA |

4. ABSOLUTE MAXIMUM VOLTAGE

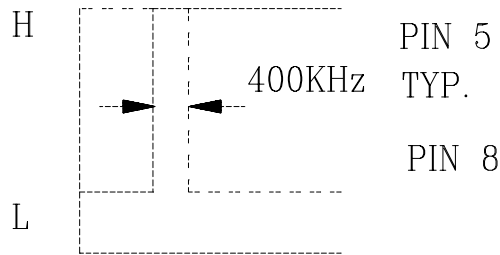
| Terminal | Max. Supply Voltage |
|----------|---|
| +5V | DC +5.25V |
| +12V | DC +30V |
| SDA,SCL | 0V to The Same Voltage AS +5V Terminal |

| Terminal | Max. Take Off Current |
|--------------|-----------------------|
| B. B. Output | 0.5 mA |

5. ELECTRICAL SPECIFICATION

under standard test condition
 Test Channel: DBS 20 CH
 Input Level: -45 dBm
 unless otherwise specified

| Condition | Min. | Typ. | Max. | Note |
|---|------|--------|---------|-------------------------------|
| 5-1 Input VSWR 2.4 ~ 2.4835 MHz | | 2.0 | 3.0 | |
| 5-2 Noise Figure 2.4 ~ 2.4835 MHz | | 3.5 dB | | AGC fullgain |
| 5-3 Local Leakage at Input Terminal 1.9205~2.004 GHz | | | -63.0 | dBm |
| 5-4 Tuning Voltage Curve 2.4 ~ 2.4835 GHz | 5V | | 10V | |
| 5-5 Local Oscillator +B Shift tuning voltage shift with +B +/- 5% | | | +/- 0.8 | with tuing PLL locked V |
| 5-6 Local Oscillator Temperature Drift tuning voltage shift with -10°C ~ +60°C | | | +/- 1.3 | |
| 5-7 IF 3dB Bandwidth 3dB down | | 27 | | MHz |
| 5-8 AFT Output (2 bit Output) Center Frequency Error (f0) | -2 | | +2 | MHz |

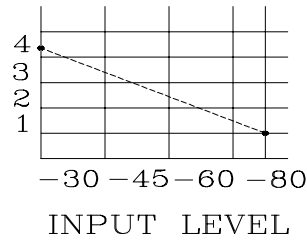

5-9 B. B. Output Characteristics

| Condition | Min. | Typ. | Max. | Note |
|----------------------------|---|--------|--------|------|
| 1) Video Output Level | video waveform white 100% PAL frequency deviation 16 MHz p-p without pre-emphasis | | | |
| white to SYNC | 0.72 | 0.90 | 1.12 | Vp-p |
| 2) Gain-Frequency Response | test modulation frequency: 60 Hz ~ 8 MHz without energy disposal modulation, reference frequency 100 KHz, IF BW: 27 MHz | | | |
| Frequency Response | | +/- 1 | +/- 3 | dB |
| 3) Group Delay Response | test frequency: 60 Hz ~ 8 MHz without energy disposal modulation, reference frequency 100 KHz, IF BW: 27 MHz | | | |
| Group Delay | | +/- 10 | +/- 50 | nsec |
| 4) DG/DP | 10 step siaircase 16MHz p-p PAL without energy disposal modulation, positive video amplifier with de-emphasis should be applied IF BW: 27 MHz | | | |
| DG (APL 50%) | | 4.0 | 8.0 | % |
| DP (APL 50%) | | 3.0 | 5.0 | deg |
| 5) S/N | input C/N = 14 dB (Noise BW: 27 MHz) white 100% video 16 MHz p-p PAL with audio subcarrier modulation 3.4 MHz p-p DEV. @6.5 MHz positive video amplifier with de-emphasis should be applied 100 Hz ~ 5 MHz unweighted S/N, POR power on reset indicator | | | |
| S/N | 34.0 | 36.0 | | dB |



7-1 Signal Level Out Voltage (V)

SIGNAL
LEVEL
OUT



Note:

45 KOhm loaded

7-2 IIC Bus

1) SDA, SCL Input Voltage under standard test condition

| Condition | Min. | Typ. | Max. | Note |
|--------------|------|------|------|------|
| High Voltage | 3 | | 5 | V |
| Low Voltage | 0 | | 1.5 | 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 reliability problem with 5V continually on the SDA/SCL if power supply is switched off.

4) Date Format MSB LSB

| | 1 | 1 | 0 | 0 | 0 | MA1 | MA0 | 0 | A | BYTE 1 |
|---------------------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|---|--------|
| Address | 1 | 1 | 0 | 0 | 0 | MA1 | MA0 | 0 | A | BYTE 1 |
| Programmable Divider | 0 | 2 ¹⁴ | 2 ¹³ | 2 ¹² | 2 ¹¹ | 2 ¹⁰ | 2 ⁹ | 2 ⁸ | A | BYTE 2 |
| Programmable Divider | 2 ⁷ | 2 ⁶ | 2 ⁵ | 2 ⁴ | 2 ³ | 2 ² | 2 ¹ | 2 ⁰ | A | BYTE 3 |
| Charge Pump and Test Bits | 1 | CP | T1 | T0 | 1 | 1 | 1 | OS | A | BYTE 4 |
| I/O Port Control Bits | P7 | P6 | P5 | P4 | P3 | P2 | P1 | P0 | A | BYTE 5 |

Table 1 write data format (MSB is transmitted first)

| | | | | | | | | | | |
|-------------|-----|----|----|----|----|-----|-----|----|---|--------|
| Address | 1 | 1 | 0 | 0 | 0 | MA1 | MA0 | 0 | A | Byte1 |
| Status Byte | FOR | FL | I2 | I1 | I0 | A2 | A1 | A0 | A | Byte 2 |

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 indicator

I2, I1, I0: digital information from ports P7, P5 and P4

A2, A1, A0: 5 level ADC data from P6

