



50 Watt



5 to 25 Watt



100 Watt

INTRODUCTION

The CSAT-5060 C-Band Transceiver provides superior performance, long-term reliability, and ease of installation. A very price competitive product, The CSAT-5060 embodies the best design efforts of Comtech EF Data's highly experienced RF engineering team.

APPLICATION

The CSAT-5060 is the perfect choice for any VSAT point-to-point application, including:

- TDMA
- DAMA
- SCPC/MCPC

FULL RATED POWER

The CSAT-5060 delivers the full rated power, or more, measured at the 1 dB compression point and at the output flange. You will know the useable output power you are paying for, and can receive full value for your investment.

PHASE NOISE

The dual synthesizers in the CSAT-5060 deliver superior phase noise performance, exceeding Intelsat specifications by a substantial margin. Your applications will benefit from outstanding spectral purity and the ability to operate in multi-carrier environments with less worry.

THIRD ORDER INTERCEPT (TOI)

The design of the CSAT-5060 provides a high TOI that allows multi-carrier applications without the issues normally encountered in low power environments. The CSAT-5060 delivers performance usually found only in split converter SSPA systems.

SMALL, COMPACT DESIGN

The CSAT-5060 transceiver is enclosed in a single unit chassis. This design allows quick, easy installation for all models in this family of transceivers.

FULL MONITOR AND CONTROL (M&C)

A variety of full monitor and control methods are designed into the CSAT-5060:

- Convenient connection using an optional small, hand-held terminal
- Easy access via EIA-232 or EIA-485 connections
- Remote management via the CDM modem family or the PC-based SatMac proprietary M&C software

REDUNDANCY

The CSAT-5060 is available in a 1:1 redundant configuration.



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CSAT-5060



C-Band Transceiver 5, 10, 25, 50 and 100 Watts

Transmit

Frequency RF	5845 to 6425 MHz Standard 6425 to 6725 MHz (Optional Extended) 5850 to 6650 MHz (Optional Wide) 5845 to 6725 MHz (Optional Super Wide)					
Frequency IF	70 MHz \pm 18MHz 140 MHz \pm 36MHz (Optional)					
Output Power, P _{1dB}	Model:	<u>5W</u>	<u>10W</u>	<u>25W</u>	<u>50W</u>	<u>100W</u>
Output Power, P _{sat} , Typ	dBm:	+37	+40	+44	+47	+50
Gain	dB:	65	68	71	74	77
Attenuator Range	25 dB in 0.25 dB steps					
Gain Flatness	\pm 0.75dB full RF band \pm 0.75dB per 36MHz					
Gain Stability	\pm 0.25dB at constant C \pm 1.00dB from -40° to +55°C (-40 to 131°F)					
Carrier Mute	-70dBc					
Inter-modulation	-33 dBc for two carriers at 6dB OPBO from rated power					
Second Harmonic	-55 dBc					
Spurious	AC line harmonics -45dBc Carrier related, <500kHz -60dBc All other in-band -65dBc					
AM to PM Conversion	3.0 Degrees at 6dB OPBO from rated power					
RF Output VSWR	1.25:1					
RF Output Connector	Type N Female for 5W, 10W, 25W units CPR137G for 50W, 100W units					
IF Input Impedance	50 Ohms					
IF Input VSWR	1.25:1					
IF Input Connector	Type N Female					

Receive

Frequency RF	3625 to 4200 MHz 3400 to 4200 MHz (Optional)
Frequency IF	70 MHz \pm 18MHz 140 MHz \pm 36MHz (Optional)
Gain, without LNA	45dB
Gain Flatness, without LNA	\pm 0.75dB full RF band \pm 0.75dB per 36MHz
Gain Stability, w/o LNA	\pm 0.25dB constant temp. \pm 1.00dB -40° to +55°C (-40 to 122°F)
Output Power, P1dB	+13dBm
Two Tone Inter-modulation	-50 dBc for two tones at 0 dBm each, 1MHz apart
Image Rejection	-60dBc
RF Input VSWR	1.25:1
RF Input Connector	Type N Female
IF Output Impedance	50 Ohms
IF Output VSWR	1.25:1
IF Output Connector	Type N Female

Common

Conversion	Dual, no spectral inversion	
Frequency Step Size	1.0 and 2.5 MHz automatic	
Frequency Stability	1x10 ⁻⁹ /day 1x10 ⁻⁷ /year 40° to +55°C 1x10 ⁻⁸ /Temp.	
Attenuation	Tx	0 to 25 dB in 0.25 dB steps
	Rx	0 to 20 dB in 0.25 dB steps
Phase Noise	100 Hz	-66 dBc/Hz
	1 kHz	-76 dBc/Hz
	10 kHz	-86 dBc/Hz
	100 kHz	-96 dBc/Hz
Group Delay	Linear	0.1 ns/MHz
	Parabolic	0.02 ns/MHz ²
	Ripple	1 ns p-p

Monitor and Control

Methods	Both EIA-485 and EIA-232 Serial Interface Hand held controller, optional
Commands	Set Tx/Rx frequency Set Tx/Rx attenuation Report Tx output power Mute Tx Report internal temperature Report power supply voltages Set time/date
Faults	Up/Down converter functions Up/Down converter synthesizers Internal reference oscillator LNA current fault Over temperature condition

Environmental

Temperature	-40° to +55°C (-40 to 122°F) Operating -50° to +75°C (-90 to 135°F) Storage
Altitude	15,000 ft, mean sea level
Humidity	0 to 100 Percent, Relative
Prime Power	90 to 260 VAC Standard 47 to 63 Hz Standard 48 Vdc Optional

Model	(RF Power) AC Power	5W 150W	10W 200W	25W 250W	50W 410W	100W 750W
Steady State True AC Power Requirement (110 VAC)						
Dimensions:	<u>Unit</u>	<u>Inches</u>			<u>Centimeters</u>	
	5, 10, 25W	8h x 8w x 11d			20h x 20w x 28d	
	50W	9.75h x 10w x 23d		24.77h x 25.4w x 58.42d		
	100W	10h x 12.5w x 26d		25.4h x 31.75w x 66.04d		
Weight:	<u>Unit</u>	<u>Pounds</u>			<u>Kilograms</u>	
	5, 10, 25W	36 lbs			16 kg	
	50W	65 lbs			29 kg	
	100W	80 lbs			40 kg	

Low Noise Amplifier	45°K, non-isolated standard Other noise temperatures available
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