DATASHEET

5-40 W C-BAND ONE-BOX DESIGN BUC

SATELLITE COMMUNICATIONS

EVEN MORE POWER FOR YOUR BUC

The new generation of Mitec VSAT medium power Block Up-Converters comes with a super compact form factor and is lightweight, which allows it to be mounted directly on an antenna feed.

This type of installation does not incur any TX loss, enabling the end user to minimize the size and cost of a VSAT station using the smallest antenna and the lowest TX power possible.

KEY FEATURES

- Compact size and light weight (ideal for direct mount on antenna OMT that provides no TX loss)
- Offered in 5 C-bands
  - Band 1: Standard 5.850-6.425 GHz
  - Band 2: Super extended 5.850-6.725 GHz
  - Band 3: Low Extended 5.725-6.425 GHz
  - Band 4: Insat: 6.725-7.025 GHz
  - Band 5: Palapa: 6.425-6725 GHz
- Best in Class efficiency with a draw of less than 45 W for 5 W RF Output, 70 W for 10 W RF Output, 140 W for 20 W RF Output and 250 W for 40 W RF Output
- Non-standard frequency range options available
- FSK Interface (Mute control, RF power detection, Alarm status, Temperature monitoring, Lock status) via IF cable
- Fanless package for 5 W and 10 W or forced air cooling for 20 W and 40 W
- Both Internal and External 10 MHz reference options available
- Wide range of supply voltage 24-48 VDC for 5 W and 10 W; 48 VDC only for 20 W and 40 W
- Built-in input over current protection will shut down the BUC when 20 W or 40 W is powered from 24 VDC
- Status LED

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TRANSMIT CHARACTERISTICS	5 W	10 W	20 W	40 W
Output Frequency Range	Band 1: 5.850-6.425 MHz; Band 2: 5.850-6.725 GHz; Band 3: 5.725-6.425 GHz; Band 4: 6.725-7.025 GHz; Band 5: 6.425-6.725 GHz			
Input Frequency Range	Band 1: 950-1525 MHz; Band 2: 950-1825 MHz; Band 3: 975-1675 MHz; Band 4: 1275-1575 MHz; Band 5: 975-1275 MHz			
L.O. Frequency	Bands 1 & 2: 4.9 GHz; Band 3: 4.75 GHz; Bands 4 & 5: 5.45 GHz			
Conversion Type	Single stage, Non-inverting			
RF Output at 1 dB GCP	+37.0 dBm min	+40.0 dBm nom	+43.0 dBm min	+46.0 dBm nom
Linear Gain	60 dB min	63 dB min	66 dB min	68 dB min
TX Gain Stability over temperature range	+/- 1.5 dB nominal; +/- 2 dB max			
TX Gain Variation	Over full band: Bands 1, 4 & 5: +/- 2.0 dB ; Band 2: +/- 2.50 dB; Band 3: +/- 2.25 dB Over 40 MHz: +/- 0.5 dB for all bands			
Intermodulation	-25 dBc, with 2 equal carriers at 3 dB total power backoff from rated power			
Output Spurious	Bands 1, 3, 4 & 5: -55 dBc; Band 2: -45 dBc			
10 MHz Reference (via IF Connector)	0 dBm +/- 5 dB, (internal reference, optional)			
L.O. Phase Noise	-65 dBc/Hz max @ 100 Hz, -75 dBc/Hz max @ 1 KHz, -85 dBc/Hz max @ 10 KHz, -95 dBc/Hz max @ 100 KHz, -110 dBc/Hz max @ 1 MHz			
Input IF Impedance	50 Ohms (75 Ohms optional for 5 W and 10 W only)			
DC Power Requirements	+18 to +50 VDC	+18 to +50 VDC	+32 to +50 VDC	+32 to +50 VDC
Power Consumption	45 W max	70 W max	140 W max	250 W max
Mute Internally Built	Shut off BUC in case of L.O. unlocked			
Status LED	Bicolor: RED - Alarm; GREEN - Operational			

MONITOR & CONTROL

Interface Type	Standard: FSK; Optional: RS232/RS485/ETHERNET/ANALOGUE via BIAS-TEE module
Mute Control	Via M&C Interfaces or disconnecting 10 MHz External Reference
Alarms	Via M&C Interfaces: Out of Lock, Temperature & Summary
Output Power Detection	Via M&C Interfaces; 15 dB Dynamic Range

MECHANICAL

Input Interface	N-type, female (50 Ohm) [IF/10 MHz/DC Power/FSK]			
Output Interface	Waveguide, WR137-G (Grooved)			
Cooling	Passive Convection	Passive Convection	Forced Air (Fan)	Forced Air (Fan)
Dimensions (L x W x H), inches	8.98" x 7.04" x 3.00"	8.98" x 7.04" x 3.00"	9.04" x 7.04" x 5.28"	9.04" x 7.04" x 5.28"
Weight	8.8 lbs (4 kg)	8.8 lbs (4 kg)	10.0 lbs (4.5 kg)	10.0 lbs (4.5 kg)

ENVIRONMENTAL

Temperature Range (Ambient)	-40° to +55°C (operating); -40° to +75°C (storage)
Humidity	0 to 100%
Altitude	15,000 feet
Rain	20 inches per hour
Wind	150 miles per hour
Vibration	5 G (3 axis, 50 Hz to 2 KHz); 1 mm p-p (3 axis, 5 to 50 Hz)
Shock	30 G (3 axis)

ORDERING INFORMATION*

Band 1 Block Upconverter	MTX-596437-60-ES-XX	MTX-596440-60-ES-XX	MTX-596443-60-ES-XX	MTX-596446-60-ES-XX
Band 2 Block Upconverter	MTX-596737-60-ES-XX	MTX-596740-60-ES-XX	MTX-596743-60-ES-XX	MTX-596746-60-ES-XX
Band 3 Block Upconverter	MTX-576437-60-ES-XX	MTX-576440-60-ES-XX	MTX-576443-60-ES-XX	MTX-576446-60-ES-XX
Band 4 Block Upconverter	MTX-677037-60-ES-XX	MTX-677040-60-ES-XX	MTX-677043-60-ES-XX	MTX-677046-60-ES-XX
Band 5 Block Upconverter	MTX-646737-60-ES-XX	MTX-646740-60-ES-XX	MTX-646743-60-ES-XX	MTX-646746-60-ES-XX

Optional Outdoor Power Supply for all above BUCs	PN: 215560-001MD (With Bias-Tee)
Optional Indoor Power Supply for 5-10W BUCs	PN: 217537-001MD (With Bias-Tee)
Optional Indoor Power Supply for 20-40W BUCs	PN: 215559-001MD (With Bias-Tee)

Outdoor Power Supply

*When ordering replace -XX by the following options:
- 20 External Reference, FSK M&C
- 27 Internal Reference, FSK M&C
- 40 External Reference, RS485/RS232/Ethernet M&C
- 47 Internal Reference, RS485/RS232/Ethernet M&C

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