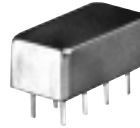


# VOLTAGE CONTROLLED OSCILLATORS

Plug-In

LINEAR TUNING 15 to 2000 MHz



POS

| MODEL NO. | FREQ. (MHz) |      | POWER OUTPUT (dBm) | TUNE VOLTAGE (V) |      | PHASE NOISE (dBc/Hz) SSB@ offset frequencies:<br>Typ. |        |         |       | PULLING (MHz) pk-pk @12 dB | PUSHING (MHz/V) | TUNING SENSITIVITY (MHz/V) | HARMONICS (dBc) |      | 3 dB MOD. BANDWIDTH (kHz) | POWER SUPPLY     |                   | CASE STYLE | CONNECTOR | PRICE \$    |
|-----------|-------------|------|--------------------|------------------|------|---|--------|---------|-------|----------------------------|-----------------|----------------------------|-----------------|------|---------------------------|------------------|-------------------|------------|-----------|-------------|
|           | Min.        | Max. | Typ.               | Min.             | Max. | 1 kHz   | 10 kHz | 100 kHz | 1 MHz | Typ.                       | Typ.            | Typ.                       | Typ.            | Max. | Typ.                      | Voltage (V) Nom. | Current (mA) Max. | Note B     |           | Qty. (5-49) |
| POS-25    | 15-25       |      | +7.0               | 1                | 11   | -86   | -105   | -125    | -145  | 0.06                       | 0.04            | 1-4                        | -26             | -15  | 60                        | 12               | 20                | A06        | hx        | 16.95       |
| POS-50    | 25-50       |      | +8.5               | 1                | 16   | -88   | -110   | -130    | -150  | 0.06                       | 0.04            | 2.0-2.6                    | -19             | -12  | 100                       | 12               | 20                | A06        | hx        | 11.95       |
| POS-75    | 37.5-75     |      | +8.0               | 1                | 16   | -87   | -110   | -130    | -150  | 0.15                       | 0.11            | 3.1-3.8                    | -27             | -16  | 100                       | 12               | 20                | A06        | hx        | 11.95       |
| POS-100   | 50-100      |      | +8.3               | 1                | 16   | -83   | -107   | -130    | -150  | 0.6                        | 0.2             | 4.2-4.8                    | -23             | -18  | 100                       | 12               | 20                | A06        | hx        | 11.95       |
| POS-150   | 75-150      |      | +9.5               | 1                | 16   | -80   | -103   | -127    | -147  | 0.8                        | 0.3             | 5.8-6.7                    | -23             | -17  | 100                       | 12               | 20                | A06        | hx        | 11.95       |
| POS-200   | 100-200     |      | +10.0              | 1                | 16   | -80   | -102   | -122    | -142  | 1.0                        | 0.2             | 7.1-8.6                    | -24             | -20  | 100                       | 12               | 20                | A06        | hx        | 11.95       |
| POS-300   | 150-280     |      | +10.0              | 1                | 16   | -78   | -100   | -120    | -140  | 1.8                        | 0.3             | 9.5-13                     | -30             | -20  | 100                       | 12               | 20                | A06        | hx        | 13.95       |
| POS-400   | 200-380     |      | +9.5               | 1                | 16   | -76   | -98    | -120    | -140  | 1.8                        | 0.3             | 13.7-16.9                  | -28             | -20  | 100                       | 12               | 20                | A06        | hx        | 13.95       |
| POS-535   | 300-525     |      | +8.8               | 1                | 16   | -70   | -93    | -116    | -139  | 2.0                        | 0.4             | 10.5-24                    | -26             | -20  | 100                       | 12               | 20                | A06        | hx        | 13.95       |
| POS-765   | 485-765     |      | +9.5               | 1                | 16   | -61   | -85    | -108    | -129  | 5.0                        | 0.4             | 18-27                      | -21             | -17  | 100                       | 12               | 22                | A06        | hx        | 14.95       |
| POS-1025  | 685-1025    |      | +9.0               | 1                | 16   | -65   | -84    | -104    | -124  | 5.0                        | 0.6             | 21-36                      | -23             | -18  | 100                       | 12               | 22                | A06        | hx        | 16.95       |
| POS-1060  | 750-1060    |      | +12.0              | 1                | 20   | -65   | -90    | -112    | -132  | 50                         | 3.0             | 18-32                      | -11             | —    | 1000                      | 8                | 30                | A06        | hx        | 14.95       |

NOTES:

- A. General Quality Control Procedures, Environmental specifications, Hi-Rel, and MIL description are given in General Information (Section 0).
- B. Connector types and case mounted options, case finishes are given in section 0, see "Case Styles & Outline Drawings".
- C. Prices and Specifications subject to change without notice.
  1. Operating Temperature: -55°C to +85°C
  2. Absolute Maximum Supply Voltage ( $V_{CC}$ ) & Tuning Voltage ( $V_{tune}$ ):

| Model    | ( $V_{CC}$ ) | ( $V_{tune}$ ) | Model     | ( $V_{CC}$ ) | ( $V_{tune}$ ) |
|----------|--------------|----------------|-----------|--------------|----------------|
| POS-25   | +15V         | +12V           | POS-765   | +16V         | +18V           |
| POS-50   | +16V         | +17V           | POS-800W  | +12V         | +20V           |
| POS-75   | +16V         | +18V           | POS-900W  | +15V         | +25V           |
| POS-100  | +16V         | +18V           | POS-1000W | +15V         | +20V           |
| POS-150  | +16V         | +18V           | POS-1025  | +16V         | +18V           |
| POS-200  | +16V         | +18V           | POS-1060  | +10V         | +22V           |
| POS-300  | +16V         | +18V           | POS-1400A | +10V         | +25V           |
| POS-400  | +16V         | +18V           | POS-2000A | +10V         | +25V           |
| POS-500W | +15V         | +20V           | POS-2120W | +15V         | +25V           |
| POS-535  | +16V         | +18V           |           |              |                |

designers kits available

| KIT No. | No. of Units in KIT | Description  | Price \$ per KIT |
|---------|---------------------|--|------------------|
| K-POS1  | 10                  | 1 of each: POS-50, 75, 100, 150, 200, 300, 400, 535, 765, 1025 | 124.95           |
| K-POS2  | 7                   | 1 of each: POS-50, 100, 200, 400, 535, 765, 1025               | 79.95            |
| K-POS3  | 6                   | 2 of each: POS-1060, 1400A, 2000A                              | 79.95            |

## WIDE BAND 250 to 2120 MHz



POS

| MODEL NO.     | FREQ. (MHz) |      | POWER OUTPUT (dBm) | TUNE VOLTAGE (V) |      | PHASE NOISE (dBc/Hz) SSB@ offset frequencies: Typ. |        |         |       | PULLING (MHz) pk-pk @12 dB | PUSHING (MHz/V) | TUNING SENSITIVITY (MHz/V) | HARMONICS (dBc) |      | 3 dB MOD. BANDWIDTH (kHz) | POWER SUPPLY     |                   | CASE STYLE | CONNECTION | PRICE \$    |
|---------------|-------------|------|--------------------|------------------|------|--|--------|---------|-------|----------------------------|-----------------|----------------------------|-----------------|------|---------------------------|------------------|-------------------|------------|------------|-------------|
|               | Min.        | Max. | Typ.               | Min.             | Max. | 1 kHz  | 10 kHz | 100 kHz | 1 MHz | Typ.                       | Typ.            | Typ.                       | Typ.            | Max. | Typ.                      | Voltage (V) Nom. | Current (mA) Max. | Note B     |            | Qty. (5-49) |
| POS-500W      | 250         | 500  | +10.0              | 1                | 16   | -79  | -100   | -120    | -140  | 1.5                        | 0.2             | 17-23                      | -25             | -18  | 100                       | 12               | 25                | A06        | hx         | 18.95       |
| POS-800W      | 400         | 800  | +8.0               | 0.5              | 18   | -71  | -93    | -115    | -137  | 3.0                        | 0.5             | 18-50                      | -26             | -18  | 100                       | 10               | 25                | A06        | hx         | 16.95       |
| POS-900W      | 500         | 900  | +7.0               | 1                | 20   | -75  | -95    | -115    | -135  | 2.0                        | 0.3             | 16-40                      | -26             | -20  | 100                       | 12               | 25                | A06        | hx         | 16.95       |
| POS-1000W     | 500         | 1000 | +7.0               | 1                | 16   | -73  | -93    | -113    | -133  | 6.0                        | 1.5             | 30-42                      | -26             | -20  | 100                       | 12               | 20                | A06        | hx         | 19.95       |
| NEW POS-1400A | 975         | 1400 | +13.0              | 1                | 20   | -65  | -95    | -115    | -135  | 14                         | 2.0             | 25-30                      | -16             | —    | 4000                      | 8                | 30                | A06        | hx         | 14.95       |
| NEW POS-2000A | 1370        | 2000 | +11.8              | 1                | 20   | -73  | -97    | -117    | -137  | 12                         | 3.0             | 30-45                      | -24             | -12  | 4000                      | 8                | 30                | A06        | hx         | 14.95       |
| POS-2120W     | 1060        | 2120 | +8.0               | 0.5              | 20   | -70  | -97    | -117    | -137  | 27.0                       | 2.5             | 35-120                     | -11             | —    | 1000                      | 12               | 28                | A06        | hx         | 21.95       |

### features

- Octave bandwidth range (typ.)
- Linear tuning
- Low phase noise
- Excellent harmonic suppression
- Output suitable for LO drive to mixers
- Low power consumption, typically 190 mW (most models)
- 12-V parts are usable with +15V supply for higher power output, typically 2 dB

### applications

- digital cordless phones
- cellular up-and-down converters
- catv distribution set top converters
- wideband frequency synthesizers
- test instruments
- signal generators
- agile communications systems

### pin connections

see case style outline drawings

| PORT    | hx        |
|---------|-----------|
| RF OUT  | 2         |
| V-CC    | 1         |
| V-TUNE  | 8         |
| GND EXT | 3,4,5,6,7 |



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