

# VOLTAGE CONTROLLED OSCILLATORS

Surface Mount □

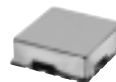
## 5V TUNING FOR PLL IC's 24 to 2600 MHz



JTO5



MOS



ROS

| MODEL<br>NO.          | FREQ.<br>(MHz) |      | POWER<br>OUTPUT<br>(dBm) | PHASE NOISE<br>(dBc/Hz) SSB@<br>offset frequencies:<br>Typ. |           |            |          | PULLING<br>(MHz)<br>pk-pk<br>@12 dB | PUSHING<br>(MHz/V) | TUNING<br>SENSITIVITY<br>(MHz/V) | HARMONICS<br>(dBc) |      | 3 dB MOD.<br>BANDWIDTH<br>(kHz) | POWER<br>SUPPLY        |                         | CASE<br>STYLE | C<br>ONNECT<br>ION | PRICE<br>\$ |
|-----------------------|----------------|------|--------------------------|-------------------------------------------------------------|-----------|------------|----------|-------------------------------------|--------------------|----------------------------------|--------------------|------|---------------------------------|------------------------|-------------------------|---------------|--------------------|-------------|
|                       | Min.           | Max. |                          | 1<br>kHz                                                    | 10<br>kHz | 100<br>kHz | 1<br>MHz |                                     |                    |                                  | Typ.               | Max. |                                 | Voltage<br>(V)<br>Nom. | Current<br>(mA)<br>Max. |               |                    |             |
| JTOS-50P              | 24-29          |      | +9.5                     | -88                                                         | -108      | -127       | -147     | 0.06                                | 0.04               | 2-2.5                            | -14                | -12  | 50                              | 12                     | 20                      | BK377         | jc                 | 14.95       |
| JTOS-75P              | 35-43          |      | +9                       | -89                                                         | -110      | -130       | -140     | 0.15                                | 0.11               | 2.5-4                            | -25                | -20  | 125                             | 12                     | 20                      | BK377         | jc                 | 14.95       |
| JTOS-100P             | 48-59          |      | +9                       | -83                                                         | -108      | -128       | -140     | 0.6                                 | 0.2                | 3.5-4                            | -30                | -20  | 100                             | 12                     | 18                      | BK377         | jc                 | 14.95       |
| JTOS-150P             | 72-91          |      | +9.5                     | -82                                                         | -106      | -127       | -147     | 0.8                                 | 0.3                | 6-9                              | -30                | -17  | 112                             | 12                     | 20                      | BK377         | jc                 | 14.95       |
| JTOS-200P             | 95-120         |      | +8.8                     | -84                                                         | -105      | -124       | -145     | 1.0                                 | 0.2                | 7-10                             | -30                | -20  | 110                             | 12                     | 20                      | BK377         | jc                 | 14.95       |
| JTOS-300P             | 148-174        |      | +10                      | -82                                                         | -102      | -122       | -142     | 1.0                                 | 0.2                | 10-14                            | -27                | -20  | 120                             | 12                     | 20                      | BK377         | jc                 | 16.95       |
| JTOS-400P             | 194-220        |      | +11                      | -82                                                         | -102      | -122       | -142     | 1.4                                 | 0.4                | 13-18                            | -25                | -20  | 130                             | 12                     | 20                      | BK377         | jc                 | 16.95       |
| JTOS-535P             | 278-325        |      | +9.5                     | -75                                                         | -97       | -117       | -137     | 2.0                                 | 0.5                | 17-22                            | -30                | -20  | 115                             | 12                     | 20                      | BK377         | jc                 | 16.95       |
| JTOS-765P             | 486-510        |      | +9                       | -75                                                         | -98       | -118       | -138     | 2.0                                 | 0.5                | 20-30                            | -30                | -20  | 100                             | 12                     | 20                      | BK377         | jc                 | 17.95       |
| JTOS-1025P            | 680-755        |      | +9                       | -70                                                         | -94       | -114       | -134     | 5.0                                 | 0.6                | 30-40                            | -27                | -20  | 100                             | 12                     | 22                      | BK377         | jc                 | 19.95       |
| JTOS-2200PA           | 2000-2200      |      | +6                       | -65                                                         | -92       | -112       | -132     | 15                                  | 5.0                | 110-170                          | -22                | -12  | 10000                           | 5                      | 25                      | BK377         | jc                 | 21.95       |
| JTOS-3000P            | 2300-2600      |      | +11                      | -65                                                         | -92       | -112       | -132     | 50.0                                | 5.0                | 120-160                          | -22                | -12  | 20000                           | 5                      | 25                      | BK377         | jc                 | 21.95       |
| <b>NEW</b> MOS-1826PV | 1766-1826      |      | +2                       | -75                                                         | -101      | -122       | -142     | 8.0                                 | 1.0                | 21-35                            | -28                | -15  | 10000                           | 5                      | 25                      | CZ682         | my                 | 19.95       |
| ROS-205PV             | 180-210        |      | +2                       | -88                                                         | -110      | -131       | -151     | 0.4                                 | 0.4                | 10-15                            | -30                | -20  | 2000                            | 5                      | 15                      | CK605         | kg                 | 17.95       |
| ROS-285PV             | 245-285        |      | +3                       | -80                                                         | -100      | -120       | -140     | 2.0                                 | 0.2                | 10-20                            | -20                | -10  | 100                             | 5                      | 20                      | CK605         | kg                 | 17.95       |
| ROS-550PV             | 450-550        |      | +6                       | -81                                                         | -104      | -124       | -144     | 3.0                                 | 0.5                | 30-60                            | -15                | —    | 8000                            | 5                      | 15                      | CK605         | kg                 | 19.95       |
| ROS-660PV             | 640-660        |      | 0                        | -85                                                         | -107      | -127       | -147     | 0.8                                 | 0.6                | 10-14                            | -17                | -12  | 2000                            | 5                      | 15                      | CK605         | kg                 | 19.95       |
| ROS-675PV             | 655-675        |      | 0                        | -85                                                         | -107      | -127       | -145     | 1.0                                 | 0.5                | 10-14                            | -23                | -10  | 5000                            | 5                      | 15                      | CK605         | kg                 | 19.95       |
| ROS-725PV             | 710-725        |      | 0                        | -85                                                         | -105      | -126       | -145     | 0.9                                 | 0.3                | 8-13                             | -19                | -12  | 2000                            | 5                      | 15                      | CK605         | kg                 | 19.95       |
| ROS-740PV             | 720-740        |      | 0                        | -84                                                         | -106      | -126       | -145     | 1.0                                 | 0.8                | 10-14                            | -16                | -10  | 5000                            | 5                      | 15                      | CK605         | kg                 | 19.95       |
| ROS-900PV             | 810-900        |      | +1                       | -80                                                         | -102      | -122       | -142     | 3.0                                 | 2.0                | 26-30                            | -25                | -16  | 1000                            | 4.5                    | 12                      | CK605         | kg                 | 19.95       |
| ROS-960PV             | 890-960        |      | 0                        | -80                                                         | -102      | -122       | -142     | 2.0                                 | 0.2                | 25-28                            | -27                | -18  | 1000                            | 5                      | 12                      | CK605         | kg                 | 19.95       |
| ROS-1000PV            | 900-1000       |      | +6                       | -80                                                         | -104      | -124       | -144     | 2.0                                 | 0.7                | 27-38                            | -33                | -20  | 1000                            | 5                      | 22                      | CK605         | kg                 | 19.95       |
| ROS-1435PV            | 1375-1435      |      | +3                       | -78                                                         | -101      | -121       | -141     | 4.0                                 | 1.7                | 20-30                            | -26                | -18  | 5000                            | 5                      | 20                      | CK605         | kg                 | 19.95       |
| ROS-1600PV            | 1520-1600      |      | +7                       | -75                                                         | -100      | -120       | -140     | 10.0                                | 3.0                | 25-38                            | -26                | -16  | 1000                            | 5                      | 25                      | CK605         | kg                 | 18.95       |
| ROS-1605PV            | 1500-1605      |      | 0                        | -74                                                         | -98       | -118       | -138     | 6.0                                 | 0.8                | 40-50                            | -17                | -8   | 8000                            | 3.3                    | 16                      | CK605         | kg                 | 19.95       |

TUNING VOLTAGE TO COVER FREQUENCY RANGE 0.5V TO 5V

### NOTES:

- ◆ Aqueous washable
- Non-hermetic
- 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                   | ( $V_{cc}$ ) | ( $V_{tune}$ ) |
|--------------------------|--------------|----------------|-------------------------|--------------|----------------|
| JTOS-50P thru JTOS-1025P | +16V         | +7V            | ROS-1605PV              | +3.5V        | +6V            |
| JTOS-2200PA, MOS-1826PV  | +6V          | +6V            | all other ROS-PV models | +6V          | +6V            |
| JTOS-3000P               | +7V          | +7V            | POS-P models            | +16V         | +7V            |
| ROS-285PV                | +8V          | +10V           |                         |              |                |

## Plug-In

### 24 to 755 MHz



| MODEL NO. | FREQ. (MHz) |      | POWER OUTPUT (dBm) | 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 | C CONNECTION | PRICE \$ |
|-----------|-------------|------|--------------------|----------------------------------------------------|--------|---------|-------|----------------------------|-----------------|----------------------------|-----------------|------|---------------------------|------------------|-------------------|------------|--------------|----------|
|           | Min.        | Max. |                    | 1 kHz                                              | 10 kHz | 100 kHz | 1 MHz |                            |                 |                            | Typ.            | Max. |                           | Voltage (V) Nom. | Current (mA) Max. |            |              |          |
| POS-50P   | 24-29       |      | +10                | -92                                                | -113   | -134    | -151  | 0.06                       | 0.04            | 2-2.5                      | -18             | -12  | 50                        | 12               | 20                | A06        | hx           | 12.95    |
| POS-75P   | 35-43       |      | +9                 | -91                                                | -113   | -135    | -151  | 0.15                       | 0.11            | 2.5-4                      | -25             | -20  | 100                       | 12               | 20                | A06        | hx           | 12.95    |
| POS-100P  | 48-59       |      | +9                 | -92                                                | -112   | -134    | -151  | 0.6                        | 0.2             | 3.5-5                      | -30             | -18  | 100                       | 12               | 20                | A06        | hx           | 12.95    |
| POS-150P  | 72-91       |      | +10                | -84                                                | -104   | -126    | -147  | 0.8                        | 0.3             | 6-9                        | -25             | -17  | 100                       | 12               | 20                | A06        | hx           | 12.95    |
| POS-200P  | 95-120      |      | +10                | -77                                                | -102   | -123    | -146  | 1.0                        | 0.2             | 7-10                       | -30             | -20  | 100                       | 12               | 20                | A06        | hx           | 12.95    |
| POS-300P  | 148-174     |      | +10                | -83                                                | -105   | -125    | -145  | 1.8                        | 0.3             | 10-14                      | -27             | -20  | 100                       | 12               | 20                | A06        | hx           | 14.95    |
| POS-400P  | 194-220     |      | +10.5              | -82                                                | -103   | -124    | -142  | 1.8                        | 0.3             | 13-18                      | -25             | -20  | 100                       | 12               | 20                | A06        | hx           | 14.95    |
| POS-535P  | 278-325     |      | +10                | -66                                                | -95    | -120    | -138  | 2.0                        | 0.4             | 17-22                      | -30             | -20  | 100                       | 12               | 20                | A06        | hx           | 14.95    |
| POS-765P  | 486-510     |      | +9.5               | -70                                                | -92    | -116    | -135  | 5.0                        | 0.4             | 20-30                      | -26             | -20  | 100                       | 12               | 22                | A06        | hx           | 15.95    |
| POS-1025P | 680-755     |      | +8.5               | -74                                                | -96    | -116    | -135  | 5.0                        | 0.6             | 30-40                      | -24             | -18  | 100                       | 12               | 22                | A06        | hx           | 17.95    |

TUNING VOLTAGE TO COVER FREQUENCY RANGE 0.5V TO 5V

#### features

- wide frequency range
- linear tuning characteristics
- low phase noise
- 5V tuning voltage range

#### applications

- PLL circuitry
- measurement instrumentation
- satellite systems
- frequency synthesizers
- wireless microphones
- cellular

#### pin connections see case style outline drawings

| PORT       | hx        | jc                           | kg                                | my        |
|------------|-----------|------------------------------|-----------------------------------|-----------|
| RF OUT     | 2         | 13                           | 10                                | 5         |
| V-CC       | 1         | 2                            | 14                                | 3         |
| V-TUNE     | 8         | 5                            | 2                                 | 1         |
| GND EXT    | 3,4,5,6,7 | 1,3,4,6,7,8,9<br>10,11,12,14 | 1,3,4,5,6,7,8,9<br>11,12,13,15,16 | 2,4,6,7,8 |
| DEMO BOARD | —         | TB-04                        | TB-10                             | TB-28     |



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