

Series OS3E400-15

- (5.0 ~ 50.0)MHz
- stratum 3E compliant
- CMOS output
- excellent phase noise
- extremely low ageing

Applications:

- telecomms systems
- instrumentation
- system synchronisation



Standard options:

frequency range:

(5.0 ~ 50.0)MHz

supply voltage codes:

supply voltage
trim reference option*

(V1)*	(V2)*	(V3)*
+3.3Vd.c.	+5.0Vd.c.	+12.0Vd.c.
+3.0Vd.c.	+4.5Vd.c.	+4.5Vd.c.

* add suffix (R) for V_{ref} output on pin #5

Generic specification:

output:

CMOS 15pF, 45% ~ 55%
rise and fall time 2ns max.

stability:

against temperature change
stratum 3E compliant

$\pm 0.0085\text{ppm}(0 + 70)^\circ\text{C}$

long term and 24 hour holdover requirements of Stratum 3E levels
specified in GR-1244-CORE issue 2 and GR-63-CORE issue 1

against supply voltage change
against load change
ageing short term

$\pm 0.002\text{ppm max. for } V_{cc} \pm 5\%$

$\pm 0.002\text{ppm max. for load } \pm 10\%$

$\pm 0.0005\text{ppm max. per day}$

after 30 days continuous operation

$\pm 0.1\text{ppm max. first year}$

$\pm 0.5\text{ppm min. typical, linearity } \pm 5\%$

ageing long term

voltage trim V_t

trim input impedance

100K Ω min.

power supplies:

supply voltage V_{cc}

+3.3Vd.c.	+5.0Vd.c.	+12.0Vd.c.
900mA max.	600mA max.	300mA max.
320mA max.	220mA max.	120mA max.

start up current at min. temp. range

quiescent current at max. temp. range

warm up time

insulation resistance

5 minutes max. to within 0.1ppm of nominal

500Meg Ω min., 100Vd.c.

phase noise:

single sideband, 1Hz bandwidth

-110dBc/Hz, $f_o + 10\text{Hz}$

-135dBc/Hz, $f_o + 100\text{Hz}$

-155dBc/Hz, $f_o + 1\text{kHz}$

temperature:

operating range

(0 + 70) $^\circ\text{C}$

storage range

(-40 + 125) $^\circ\text{C}$

Environmental conditions:

mechanical shock: MIL standard 202F, method 213, condition J

thermal shock: MIL standard 202F, method 107, condition A

vibration: MIL standard 202F, method 204, condition B

solderability: 5 seconds max. at +230°C, 3 seconds max at +350°C

Marking:

frequency, date code, serial number on high temperature metalised polyester label

Ordering code:

standard options: OS3E400-15-V2* - 10.00M

OS3E400-15 = series generic code

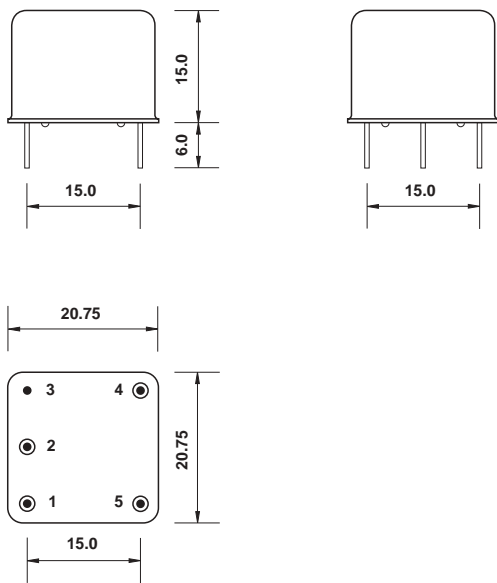
V2* supply voltage code: V2 = +5Vd.c. supply

*Add suffix (R) for V_{ref} output on pin #5

10.00M output frequency: 10.00M = 10.000MHz

custom specification: part number issued with custom specification and drawing

Dimensions(mm):

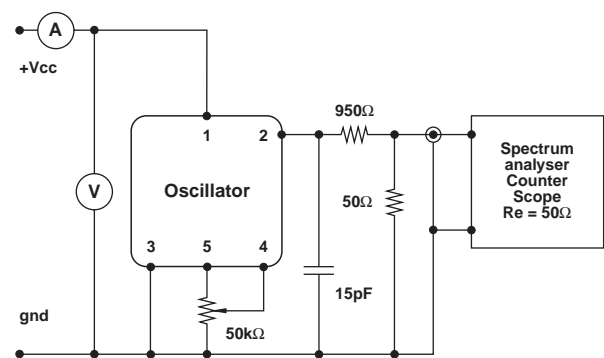


Pins viewed from bottom
pin diameter 0.45mm

Pin connections:

- #1 +V_{cc}
- #2 output
- #3 ground/case
- #4 trim
- #5 n.c. or trim reference voltage*

Test circuit, CMOS load:



test circuit includes a 20:1 step down into a matched 50Ω load