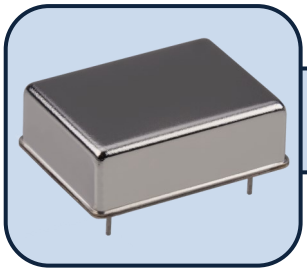
PETERMANN TECHNIK
Excellence in clocking
ISO 9001:2008

PETERMANN-TECHNIK GmbH
Lechwiesenstr. 13
D-86899 Landsberg am Lech
Fon: +49/8191/305395
Fax: +49/8191/305397
www.petermann-technik.com
info@petermann-technik.com



OCXO-36

FEATURES

- High reliability for low cost
- Aging of ± 0.001ppm/day in compact package using SC-Cut crystals
- Extended temperature range to -40/+75°C available
- Short warm-up time and excellent retrace behaviour
- Low power consumption and excellent phase noise parameters
- AT-cut and SC-cut based designs

Pb-free
RoHS-2 2011/65/EU
compliant

GENERAL DATA

SERIES		OCXO-36
PACKAGE		36 x 27 x 15 mm³
FREQUENCY RANGE		2.0 ~ 100.0 MHz
FREQUENCY ACCURACY		±0.2 ppm (control voltage centered)
FREQUENCY STABILITY	VS. AGING AT-CUT	±0.002 ppm/day / ±0.2 ppm/first year / ±2 ppm/10 years
	VS. AGING SC-CUT	±0.001 ppm/day / ±0.1 ppm/first year / ±0.5 ppm/10 years
	VS. LOAD	±0.001 ppm / load change of ±10 %
	VS. SUPPLY VOLTAGE	±0.001 ppm / supply voltage changement of ±5 %
	VS. TEMPERATURE	See table 1
SHORT TERM STABILITY		1x10E-11/s (10 MHz SC)
OPERATING TEMPERATURE RANGE		0/+50°C ~ -40/+75°C
STORAGE TEMPERATURE RANGE		-40/+100°C
SUPPLY VOLTAGE		+3.3VDC / +5.0VDC / +12VDC
CURRENT CONSUMPTION		4.0 W max. during warm-up / 1.2 W max. when static
WARM-UP TIME	AT-CUT	±0.2 ppm <3 minutes
	SC-CUT	±0.1 ppm <3 minutes
FREQUENCY CONTROL RANGE	AT-CUT	±3.0 ppm
	SC-CUT	±0.7 ppm
CONTROL VOLTAGE		0 ~ 3.3 VDC, 0 ~ 5 VDC,
SLOPE		POSITIVE
LINEARITY		±10%
PHASE NOISE	10 Hz	-120 dBc/Hz
	100 Hz	-140 dBc/Hz
	1 kHz	-145 dBc/Hz
	10 kHz	-150 dBc/Hz
OUTPUT SIGNAL AND LOAD CHARACTERISTICS		See table 2
OTHER PARAMETERS ARE AVAILABLE ON REQUEST / CREATE HERE YOUR SPECIFICATION		

CRYSTALS
OSCILLATORS
CERAMIC RESONATORS

Premium Quality by
PETERMANN-TECHNIK

CERAMIC FILTERS
SAW COMPONENTS

PETERMANN TECHNIK
Excellence in clocking
ISO 9001:2008

PETERMANN-TECHNIK GmbH
Lechwiesenstr. 13
D-86899 Landsberg am Lech
Fon: +49/8191/305395
Fax: +49/8191/305397
www.petermann-technik.com
info@petermann-technik.com

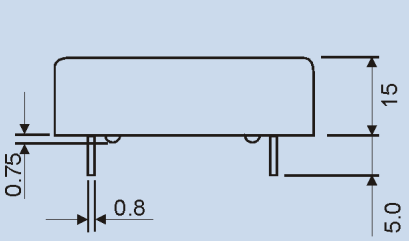
TABLE 1- FREQUENCY STABILITY VS. TEMPERATURE

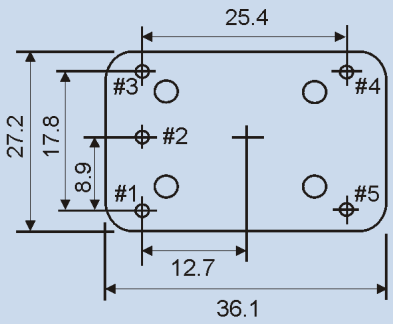
CODE	FREQUENCY STABILITY VS. TEMPERATURE	TEMPERATURE RANGE
A	±50 ppb for AT-CUT	0/+50°C
B	±2 ppb for SC-CUT	0/+50°C
C	±75 ppb for AT-CUT	-20/+70°C
D	±10 ppb for SC-CUT	-20/+70°C
E	±100 ppb for AT-CUT	-40/+75°C
F	±10 ppb for SC-CUT	-40/+75°C

TABLE 2 - OUTPUT WAVEFORM AND LOAD CHARACTERISTICS

OUTPUT WAVEFORM	OUTPUT TYPE CODE	FREQUENCY RANGE	OSCILLATION STATE	OUTPUT CHARACTERISTICS
SINE WAVE	S	2.000 ~ 30.000 MHz 10.000 ~ 100.000 MHz	F: FUNDAMENTAL O: OVERTONE	Load: 50 Ω Output level: >2dBm Harmonic : < -25dBm Noise Suppression: <- 75dBm
HCMOS	H	2.000 ~ 30.000 MHz 10.000 ~ 100.000 MHz	F: FUNDAMENTAL O: OVERTONE	Load: 15PF TYP/50 PF Max. available "1" level: > 0.9VDD; "0" level: <0.1VDD Duty cycle: 45/55 Rise/fall time: <6ns(fn<40MHz) <3ns(fn>40 MHz)
LVCMOS	L	2.000 ~ 30.000 MHz 10.000 ~ 100.000 MHz	F: FUNDAMENTAL O: OVERTONE	Load: 15PF TYP/50 PF Max. available "1" level: > 0.9VDD; "0" level: <0.1VDD Duty cycle: 45/55 Rise/fall time: <6ns(fn<40MHz) <3ns(fn>40 MHz)

OUTLINE DRAWING OF OCXO-36





PIN	Connection
#1	Control Voltage
#2	Reference Voltage/NC
#3	Power Supply
#4	Output
#5	Ground

Note: Lead-Kovar
Finish - Ni Plated

Unit:mm

CRYSTALS
OSCILLATORS
CERAMIC RESONATORS

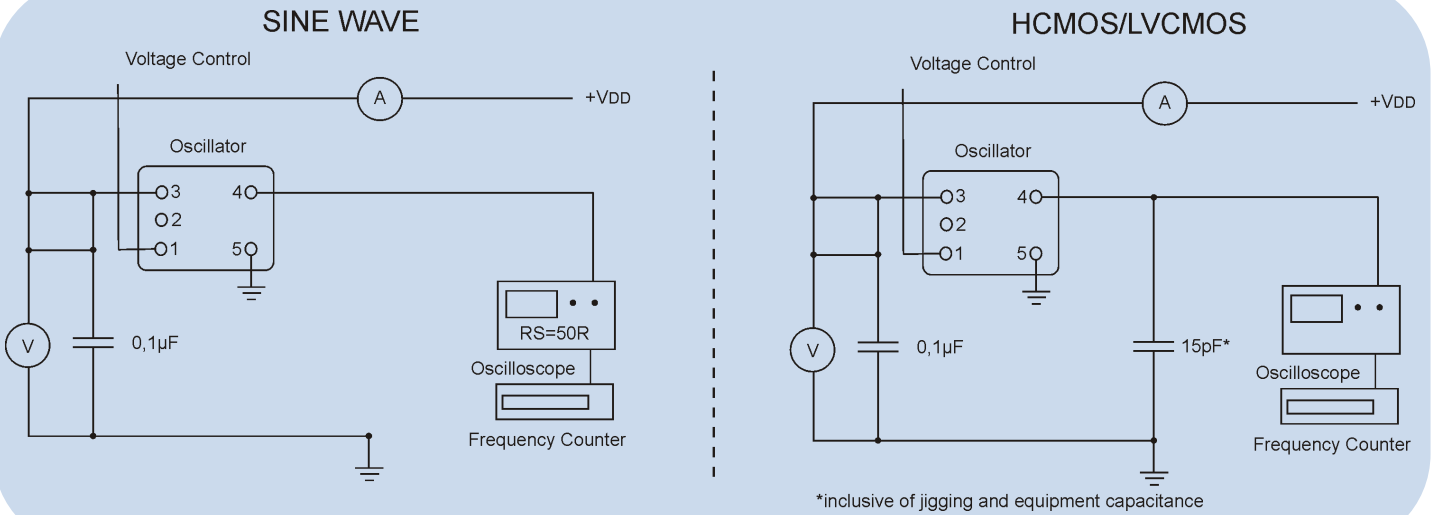
Premium Quality by
PETERMANN-TECHNIK

CERAMIC FILTERS
SAW COMPONENTS

PETERMANN TECHNIK
Excellence in clocking
ISO 9001:2008

PETERMANN-TECHNIK GmbH
Lechwiesenstr. 13
D-86899 Landsberg am Lech
Fon: +49/8191/305395
Fax: +49/8191/305397
www.petermann-technik.com
info@petermann-technik.com

TEST CURCUIT



ORDERING INFORMATION

OC36-5-A-10.000MHz-S

TYPE
OC14 / OC20 / OC25 / OC36 / OC50

VDD
3 for 3.3 Volt / 5 for 5 Volt / 12 for 12 Volt

FREQUENCY STABILITY
See Table 1

OUTPUT WAVEFORM
S-SINE WAVE / H-HCMOS / L-LVCMOS

FREQUENCY
See Table 2

PLEASE INDICATE YOUR REQUIRED PARAMETERS