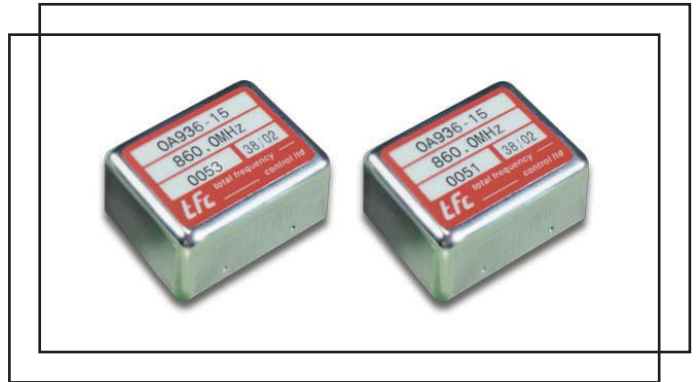


Series OA936-15 1.0MHz ~ 1GHz

- # sine wave, CMOS output
- # $\pm 0.05\text{ppm}$ accuracy
- # low phase noise
- # custom designs



Standard options:

frequency range:	1.0MHz ~ 1GHz		
accuracy codes:	(A)	(B)	(C)
temperature tolerance	$\pm 0.05\text{ppm}$	$\pm 0.1\text{ppm}$	$\pm 0.2\text{ppm}$
temperature range	(0 +50) $^{\circ}\text{C}$	(-10 +60) $^{\circ}\text{C}$	(-20 +70) $^{\circ}\text{C}$
output codes:	(S)	(L)	
output	sine wave, 0dBm into 50 Ω harmonics -30dBc max.	CMOS 15pF, 45% ~ 55% <2ns max. rise and fall	
supply voltage codes:	(V1)*	(V2)*	(V3)*
supply voltage	+3.3Vd.c.	+5.0Vd.c.	+12.0Vd.c.
trim reference option*	+3.0Vd.c.	+4.5Vd.c.	+4.5Vd.c.

* add suffix (R) for V_{ref} output on pin #2

Generic specification:

stability:	
against supply voltage change	$\pm 0.02\text{ppm}$ max. for $V_{cc} \pm 5\%$
against load change	$\pm 0.02\text{ppm}$ max. for load $\pm 10\%$
aging short term	$\pm 0.005\text{ppm}$ max. per day after 30 days continuous operation
aging long term	$\pm 1.0\text{ppm}$ max. first year
voltage trim V_t	$\pm 10.0\text{ppm}$ min. typical, linearity $\pm 5\%$
trim input impedance	100K Ω min.
power supplies:	
supply voltage V_{cc}	+3.3Vd.c. +5.0Vd.c. +12.0Vd.c.
start up current at min. temp. range	900mA max. 600mA max. 300mA max.
quiescent current at max. temp. range	320mA max. 220mA max. 120mA max.
warm up time	5 minutes max. to within 0.1ppm of nominal
insulation resistance	500Meg Ω min., 100Vd.c.
phase noise:	
single sideband, 1Hz bandwidth	-90dBc/Hz, $f_o + 10\text{Hz}$ -125dBc/Hz, $f_o + 100\text{Hz}$ -140dBc/Hz, $f_o + 1\text{kHz}$
temperature:	
operating range	(0 +50) $^{\circ}\text{C}$ (-10 +60) $^{\circ}\text{C}$ (-20 +70) $^{\circ}\text{C}$
storage range	(-40 +125) $^{\circ}\text{C}$ (-40 +125) $^{\circ}\text{C}$ (-40 +125) $^{\circ}\text{C}$

Series OA936-15

Environmental test conditions (on request):

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 specification: OA936-15 A S V2* - 10.00M

OA936-15 = series generic code

A temp. tol. and temp. range code: A = $\pm 0.005\text{ppm}(0 + 50)^\circ\text{C}$

S output code: S = sine wave output, 0dBm into 50Ω

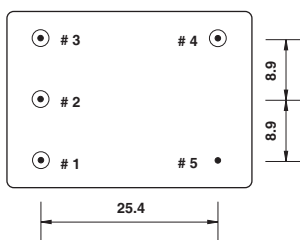
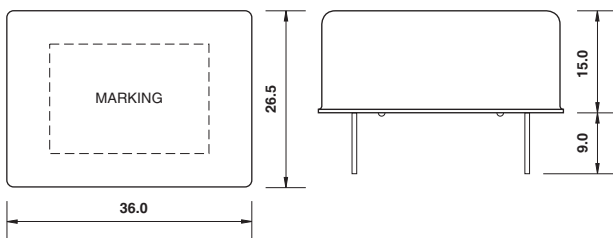
V2* supply voltage code: V2 = +5Vd.c. supply

*Add suffix (R) for V_{ref} output on pin #2

10.00M output frequency: 10.00M = 10.000MHz

custom specification: part number issued with custom specification and drawing

Dimensions(mm):

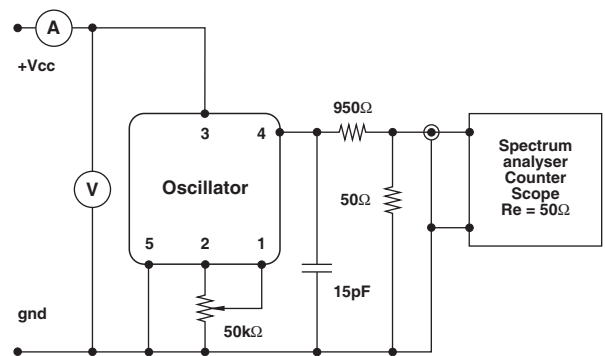


Pins viewed from bottom
pin diameter 0.8mm

Pin connections:

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

Test circuit:



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