Wolfgang Knap
Gesellschaft m.b.H. & Co.KG

A-1130 Wien
Lilienberggasse 13
Tel.: +43-1-403 08 12
Fax: +43-1-408 72 13
e-mail: info@knap.at
http://www.knap.at

5x7mm SMT VCXO -40/+85°C
VAA

FREQUENZSTABILITÄT / ZIEHBEREICH *FREQUENCY STABILITY / PULLABILITY*		
Modell *Model*	*Stability*	*Pullability*
VAA13D1R/VAA13F1R	±100ppm	±100ppm
VAA21D1R/VAA21F1R	±50ppm	±50ppm
VAA23D1R/VAA23F1R	±50ppm	±100ppm
VAA41D1R/VAA41F1R	±25ppm	±50ppm
VAA43D1R/VAA43F1R	±25ppm	±100ppm

BETRIEBSBEDINGUNGEN *OPERATING CONDITIONS*			
Betriebstemperatur *operating temp.*			-40~+85°C
Lagertemperatur *storage temperature*			-40~+85°C
Betriebsspannung *supply voltage*	V_{DD}	VAA□□D1R VAA□□F1R	+3,3 V ±0,3 V +5,0 V ±0,5 V
Ziehspannung *control voltage*	V_{cont}	VAA□□D1R VAA□□F1R	+1,65 V ±1,5 V +2,5 V ±2,0 V

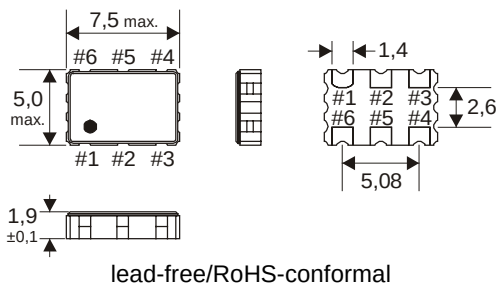
Elektrische Daten *electrical characteristics*

T_a = -40 ~ +85°C, V_{DD} = 5,0 V & 3,3 V, C_L = 15 pF, V_{cont} = 2,5 V & 1,65 V

Parameter ***parameter***		**Bedingungen** ***conditions***	**Frequenzbereich** ***frequ. range (MHz)***	**VAA□□D1R**	**VAA□□F1R**
max. Stromaufnahme *max. input current*	I_{DD}		1,000 ~ 18,000 18,000+ ~ 30,000 30,000+ ~ 36,000 36,000+ ~ 45,000 45,000+ ~ 52,000	15 mA 15 mA 25 mA 25 mA -	20 mA 30 mA 30 mA 40 mA 40 mA
Frequenzstabilität *frequency stability*		über alles [1] all conditions [1]	1,000 ~ 52,000	±25 ppm ~ ±100 ppm	
Ziehbereich *pulling range*		V_{cont} =2.5 ±2.0 V [2] V_{cont} =1.65 ±1.5 V [2]	1,000 ~ 52,000	≥±50 ppm ~ ≥±100 ppm	
Tastverhältnis *symmetry*		@50% V_{DD}	1,000 ~ 52,000	40/60 %	
Ausgangsspannung *output voltage*	V_{OL} V_{OH}	"0" level "1" level	1,000 ~ 52,000	0,33 V max. 2,97 V min.	0,5 V max. 4,5 V min.
Anstiegszeit max. *rise time max.*	T_R	20 - 80 % V_{DD}	1,000 ~ 52,000	5 ns	
Abfallzeit max. *fall time max.*	T_F	80 - 20 % V_{DD}	1,000 ~ 52,000	5 ns	
Ausgangsstrom min. *output current min.*	I_{OL} I_{OH}	"0" level "1" level	1,000 ~ 52,000	4,0 mA 1,0 mA	16,0 mA 4,0 mA
Modulationsbereich *modulation range*			1,000 ~ 52,000	20 kHz min.	
max. Belastbarkeit *max. driving ability*		HCMOS	1,000 ~ 52,000	15 pF	
Linearität *linearity*			1,000 ~ 52,000	±10 % max.	
Startzeit max. *start-up time max.*			1,000 ~ 52,000	10 ms max.	

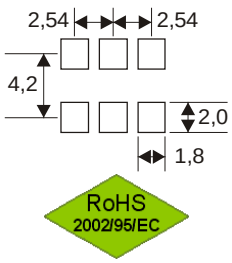
[1]) Anmerkung: inkl. Abgleichtoleranz, Temperaturgang, Spannungs- und Laständerung, Alterung, Schock und Vibration
note: incl. frequency and temperature tolerance, supply voltage and load change, aging, shock and vibration
[2]) positiver Verlauf der Frequenzänderung - *positive transfer sense*

Abmessungen in mm
dimensions in mm



lead-free/RoHS-conformal

empfohlenes Layout
recommended solder pad layout



Anschlußbelegung *pin connections*	
#1	V_{cont}
#2	E/D
#3	GND
#4	OUT
#5	N.C.
#6	V_{DD}

Funktionstabelle *enable /disable function*	
control (pin #2)	output (pin #4)
open	active
"1"	active
"0"	high Z