



5x7,5mm SMT CRYSTAL-OSCILLATORS NMSOL3 / NMSOL5 3,3V / 5,0V 15pF



FREQUENZSTABILITÄT FREQUENCY STABILITY	
Modell Model	
NM1SOL3 / NM1SOL5	±100ppm/-10~+70°C
NM2SOL3 / NM2SOL5	±50ppm/-10~+70°C
NM3SOL3 / NM3SOL5	±25ppm/-10~+70°C
NM4SOL3 / NM4SOL5	±20ppm/-10~+70°C
NM1SOL3R / NM1SOL5R	±100ppm/-40~+85°C
NM2SOL3R / NM2SOL5R	±50ppm/-40~+85°C
NM3SOL3R / NM3SOL5R	±25ppm/-40~+85°C

BETRIEBSBEDINGUNGEN OPERATING CONDITIONS	
Betriebstemperatur operating temp.	-10~+70°C, -40~+85°C
Lagertemperatur storage temperature	-55~+125°C
Betriebsspannung V _{DD} supply voltage	+3,3V ±0,3V +5,0V ±0,5V
Feuchteempfindlichkeit MSL	1

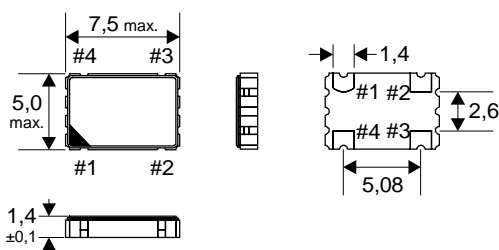
nicht alle Toleranzen sind bei Frequenzen über 70 MHz möglich
not all tolerances are available at frequencies above 70 MHz

Elektrische Daten electrical characteristics T _a = 25°C, V _{DD} = 3,3 V / 5,0 V, C _L = 15 pF				
Parameter parameter	Bedingungen conditions	Frequenzbereich frequ. range	NMSOL3	NMSOL5
max. Stromaufnahme max. input current	I _{DD}	12 kHz ~ 32,000 MHz 32,000 ⁺ ~ 50,000 MHz 50,000 ⁺ ~ 67,000 MHz 67,000 ⁺ ~ 125,000 MHz 125,000 ⁺ ~ 170,000 MHz	12 mA 16,5 mA 18 mA 40 mA 50 mA	18 mA 20 mA 50 mA 80 mA 90 mA
Frequenzstabilität frequency stability	über alles *) all conditions *)	12 kHz ~ 170,000 MHz	±20 ppm ~ ±100 ppm	
Tastverhältnis symmetry	@50% V _{DD}	12 kHz ~ 50,000 MHz 50,000 ⁺ ~ 170,000 MHz	45/55 % 40/60 %	40/60 % 40/60 %
Ausgangsspannung output voltage	V _{OL} V _{OH}	"0" level "1" level	10% V _{DD} max. 90% V _{DD} min.	
Anstiegszeit max. rise time max.	T _R	10% - 90% V _{DD}	12 kHz ~ 79,999 MHz 80,000 ~ 25,000 MHz 125,000 ⁺ ~ 170,000 MHz	6 ns 4 ns 3 ns
Abfallzeit max. fall time max.	T _F	90% - 10% V _{DD}	12 kHz ~ 79,999 MHz 80,000 ~ 125,000 MHz 125,000 ⁺ ~ 170,000 MHz	6 ns 4 ns 3 ns
Ausgangsstrom min. output current min.	I _{OL} I _{OH}	"0" level "1" level	2 mA 2 mA	
standby current max.	V _{IL} ≤ 30% V _{DD}	12 kHz ~ 170,000 MHz	10 µA	
max. Belastbarkeit max. driving ability	TTL	12 kHz ~ 170,000 MHz	10 LS-TTL	
	HCMOS	12 kHz ~ 170,000 MHz	15 pF	
Startzeit max. start-up time max.	0,0 - V _{DD}	12 kHz ~ 32,000 MHz	5 ms	
		32,000 ⁺ ~ 170,000 MHz	10 ms	

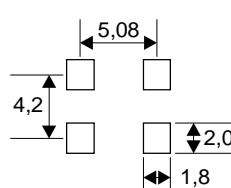
*) Anmerkung: inkl. Abgleichtoleranz, Temperaturgang, Spannungs- und Laständerung, Alterung, Schock und Vibration
note: incl. frequency and temperature tolerance, supply voltage and load change, aging, shock and vibration

Abmessungen in mm
dimensions in mm

empfohlenes Layout
recommended solder pad layout



lead-free/RoHS-conformal



Anschlußbelegung
pin connections

#1	E/D
#2	GND
#3	OUT
#4	V _{DD}

Funktionstabelle
enable /disable function

INH (pin #1)	output (pin #3)
open	active
"1" (V _{IH} ≥ 70% V _{DD})	active
"0" (V _{IL} ≤ 30% V _{DD})	high Z