

5x7,5mm SMT CRYSTAL-OSCILLATORS NMSOL3B -20/+70°C 3,3V 15pF



FREQUENZSTABILITÄT FREQUENCY STABILITY	
Modell <i>Model</i>	
NM1SOL3B	±100ppm/-20~+70°C
NM2SOL3B	±50ppm/-20~+70°C
NM3SOL3B	±25ppm/-20~+70°C
NM4SOL3B	±20ppm/-20~+70°C

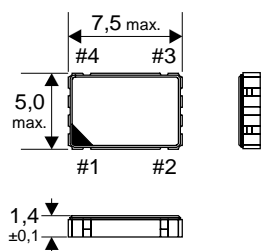
BETRIEBSBEDINGUNGEN OPERATING CONDITIONS	
Betriebstemperatur <i>operating temp.</i>	-20~+70°C
Lagertemperatur <i>storage temperature</i>	-55~+125°C
Betriebsspannung V_{DD} <i>supply voltage</i>	+3,3V ±0,3V

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

Elektrische Daten <i>electrical characteristics</i> $T_a = 25^\circ\text{C}$, $V_{DD} = 3,3\text{ V}$, $C_L = 15\text{ pF}$				
Parameter <i>parameter</i>	Bedingungen <i>conditions</i>	Frequenzbereich <i>frequency. range</i>	Spezifikationen <i>specifications</i>	
max. Stromaufnahme <i>max. input current</i>	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	12,5 mA 16,5 mA 18 mA 40 mA 50 mA	
Frequenzstabilität <i>frequency stability</i>	über alles *) all conditions *)	12 kHz ~ 99,999 MHz 100,000 ⁺ ~ 170,000 MHz	±20 ppm ~ ±100 ppm ±25 ppm ~ ±100 ppm	
Tastverhältnis <i>symmetry</i>	@50% V_{DD}	12 kHz ~ 50,000 MHz 50,000 ⁺ ~ 170,000 MHz	45/55 % 40/60 %	
Ausgangsspannung <i>output voltage</i>	V_{OL} V_{OH}	"0" level "1" level	12 kHz ~ 170,000 MHz	0,33 V max. 2,97 V min.
Anstiegszeit max. <i>rise time max.</i>	T_R	10% - 90% V_{DD}	12 kHz ~ 80,000 MHz 80,000 ⁺ ~ 125,000 MHz 125,000 ⁺ ~ 170,000 MHz	6 ns 4 ns 3 ns
Abfallzeit max. <i>fall time max.</i>	T_F	90% - 10% V_{DD}	12 kHz ~ 80,000 MHz 80,000 ⁺ ~ 125,000 MHz 125,000 ⁺ ~ 170,000 MHz	6 ns 4 ns 3 ns
Ausgangsstrom min. <i>output current min.</i>	I_{OL} I_{OH}	"0" level "1" level	12 kHz ~ 170,000 MHz	2 mA 2 mA
standby current max.	$V_{IL} \leq 30\% V_{DD}$	12 kHz ~ 170,000 MHz	10 µA	
max. Belastbarkeit <i>max. driving ability</i>	TTL HCMOS	12 kHz ~ 170,000 MHz 12 kHz ~ 170,000 MHz	10 LS-TTL 15 pF	
Startzeit max. <i>start-up time max.</i>	0,0 - 3,3 V	12 kHz ~ 32,000 MHz 32,000 ⁺ ~ 170,000 MHz	5 ms 10 ms	

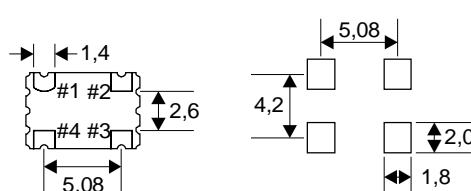
*) Anmerkung: inkl. Abgleichtoleranz, Temperaturgang, Spannungs- und Laständerung, Alterung, Schock und Vibration
note: incl. frequency and temperature tolerance, supply voltage and load change, aging, shock and vibration

Abmessungen in mm
dimensions in mm



lead-free/RoHS-conformal

empfohlenes Layout
recommended solder pad layout



Anschlußbelegung
pin connections

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

Funktionstabelle (f. NMSOL3B)
enable /disable function

INH (pin #1)	output (pin #3)
open	active
"1" ($V_{IH} \geq 70\% V_{DD}$)	active
"0" ($V_{IL} \leq 30\% V_{DD}$)	high Z