

# PRODUKT-INFO

## SCO-20 SMD CRYSTAL OSCILLATOR

### FEATURES

1. Compact & lightweight design: 2.0 x 1.6 x 0.8 mm max.  
Weight: 8.6 mg
2. Wide range of operating supply voltage: 1.8V, 2.5V, 3.3V
3. High accuracy.
4. Ceramic package and metal lid sealed by electron beam ensure high reliability.
5. Lead-free reflow soldering is available.



### APPLICATION

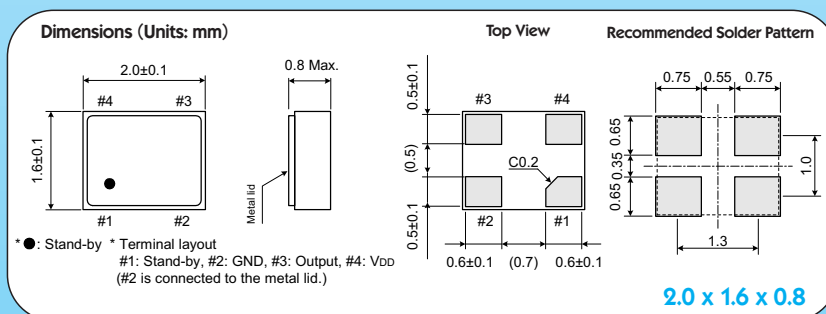
Mobile communication, wireless modules.

ELECTRICAL SPECIFICATIONS		SCO-20
<b>Model</b>	SCO-20	
<b>Frequency Range</b>	1.0 MHz ~80.0 MHz	
<b>Frequency Stability</b>	±7 ppm / ±10 ppm / ±15 ppm / ±20 ppm / ±30 ppm / ±50 ppm	
<b>Operating Temperature Range</b>	-20°C to +70°C, -30°C to +85°C, -40°C to +85°C option	
<b>Storage Temperature Range</b>	-40°C to +85°C, -40°C to +105°C option	
<b>Supply Voltage (V<sub>DD</sub>)</b>	1.8V DC ±10%	2.5V DC ±10%    3.3V DC ±10%
<b>Current Consumption during Operation</b>	3.0 mA max.; F = 40MHz, V <sub>DD</sub> = 3.0V, no load 10 µA max.; Stand-by = „L“	
<b>Output Load</b>	15 pF, max., CMOS	
<b>Output Voltage</b>	V <sub>OH</sub> V <sub>OL</sub>	V <sub>DD</sub> - 0.4 V min.; I <sub>OH</sub> = -4 mA 0.4 V max.; I <sub>OL</sub> = +4 mA
<b>Rise Time</b>	10% V <sub>DD</sub> ~ 90% V <sub>DD</sub>	5.0 ns max.
<b>Fall Time</b>	90% V <sub>DD</sub> ~ 10% V <sub>DD</sub>	5.0 ns max.
<b>Duty Cycle</b>	50% ± 5%	
<b>Startup Time</b>	2.0 ms max.; V <sub>DD</sub> = 3.3V 5.0 ms max.; V <sub>DD</sub> = 1.8V	
<b>Random Jitter* (RJ)</b>	3.7 ps typ.; V <sub>DD</sub> = 3.3V	
<b>Total Jitter* (TJ)</b>	51 ps typ.; V <sub>DD</sub> = 3.3V, TJ = n x RJ (n = 14.1, BER = 10 <sup>-12</sup> )	
<b>Phase Jitter</b>	1.0 ps; V <sub>DD</sub> = 3.3 V Offset Frequency 12kHz ~ 5MHz	
<b>Stand-by Terminal Function (V)</b>	High	0.7 V <sub>DD</sub> min.; Output enable
	Low	0.3 V <sub>DD</sub> max.; Oscillation stop and high impedance output

■ **OPTIONS:** \* Measured by wave crest 3100C.

■ **OPTIONS:** For operational stability, the bypass capacitor (0.01 µF ~0.1 µF) between V<sub>DD</sub> and GND should be placed as close to the product as possible.

Other specifications can be available.



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**digital electronic  
siegfried lehrer gmbh**  
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D-89340 Leipzig / Germany  
www.digitallehrer.de  
digital@digitallehrer.de

Telefon +49 (0) 82 21 / 7 08 - 0 · Telefax +49 (0) 82 21 / 7 08 - 80

All specifications subject to change without notice.