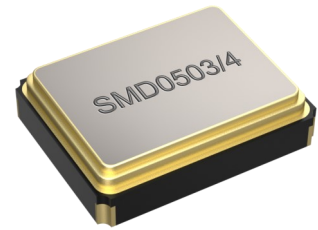


# SMD QUARTZ CRYSTAL

SERIES SMD0503 (4 pad housing 5.0x3.2mm)

## FEATURES

- + Tight tolerance / tight stability available
- + High reliability for low cost
- + Low profile – 0.70 mm package height
- + Extended temperature range to  $-40/+125^{\circ}\text{C}$  available
- + Qualified for automotive applications
- + Excellent clock signal generator for CPU's



PB FREE / ROHS-2 2011/65/EU COMPLIANT

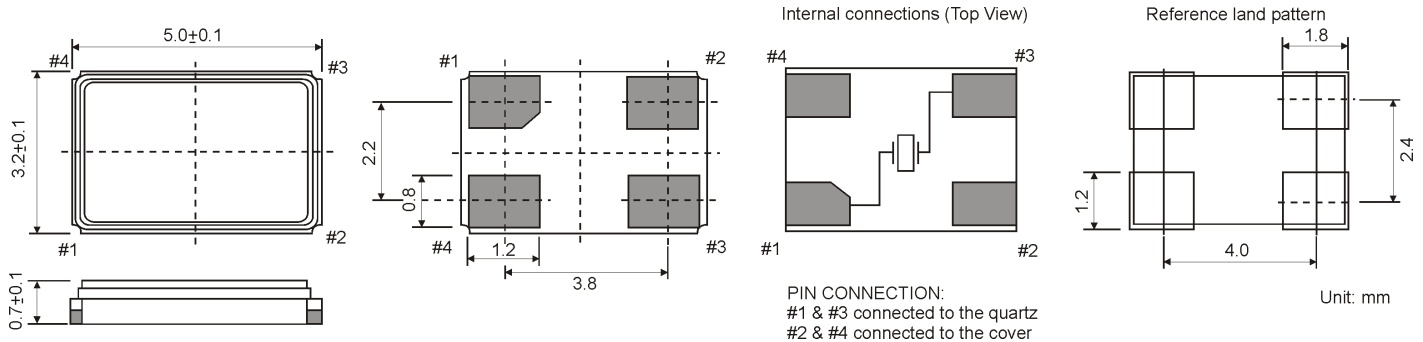
## GENERAL DATA

PARAMETERS	PRODUCT FEATURES AND CONDITIONS
SMD-CRYSTAL SERIES	SMD0503/4
NUMBER OF SOLDER PADS	4
FREQUENCY RANGE	8.0 ~ 54.0 MHz AT-Fundamental 40.0 ~ 80.0 MHz 3 <sup>rd</sup> Overtone
FREQUENCY TOLERANCES AT 25°C	$\pm 8$ ppm ~ $\pm 50$ ppm
LOAD CAPACITANCE (C <sub>L</sub> )	Series, 6 pF ~ 30 pF
WORKING TEMPERATURE RANGES	0/+50°C ~ -40/+125°C
SHUNT CAPACITANCE (C <sub>0</sub> )	7 pF max.
DRIVE LEVEL AT-Fundamental	0.01mW ~ 0.1mW standard (optional 0.3mW max. available on request)
DRIVE LEVEL AT-3 <sup>rd</sup> Overtone	0.01mW ~ 0.1mW standard (optional 0.5mW max. Available on request)
AGING	$\pm 2$ ppm per year standard ( $\pm 1$ ppm available as option)
INSULATION RESISTANCE	>500 MΩ DC/100V $\pm 10\%$
STORAGE TEMPERATURE	-55°/+125°C
DELIVERY FORM	Tape and Reel (1.000 pcs per reel)
<a href="#">OTHER PARAMETERS ARE AVAILABLE ON REQUEST / CREATE HERE YOUR SPECIFICATION</a>	

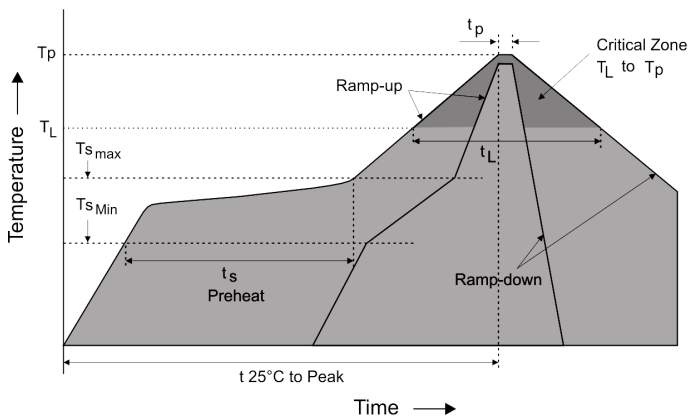
## FREQUENCY STABILITY VS. TEMPERATURE

	$\pm 5$ ppm	$\pm 10$ ppm	$\pm 15$ ppm	$\pm 20$ ppm	$\pm 30$ ppm	$\pm 50$ ppm
0°/+50°C	+	+	+	+	+	+
-10°/+60°C	+	+	+	+	+	+
0°/+70°C	+	+	+	+	+	+
-20°/+70°C		+	+	+	+	+
-40°/+85°C			+	+	+	+
-40°/+125°C						+

## DIMENSIONS



## REFLOW SOLDER PROFILE

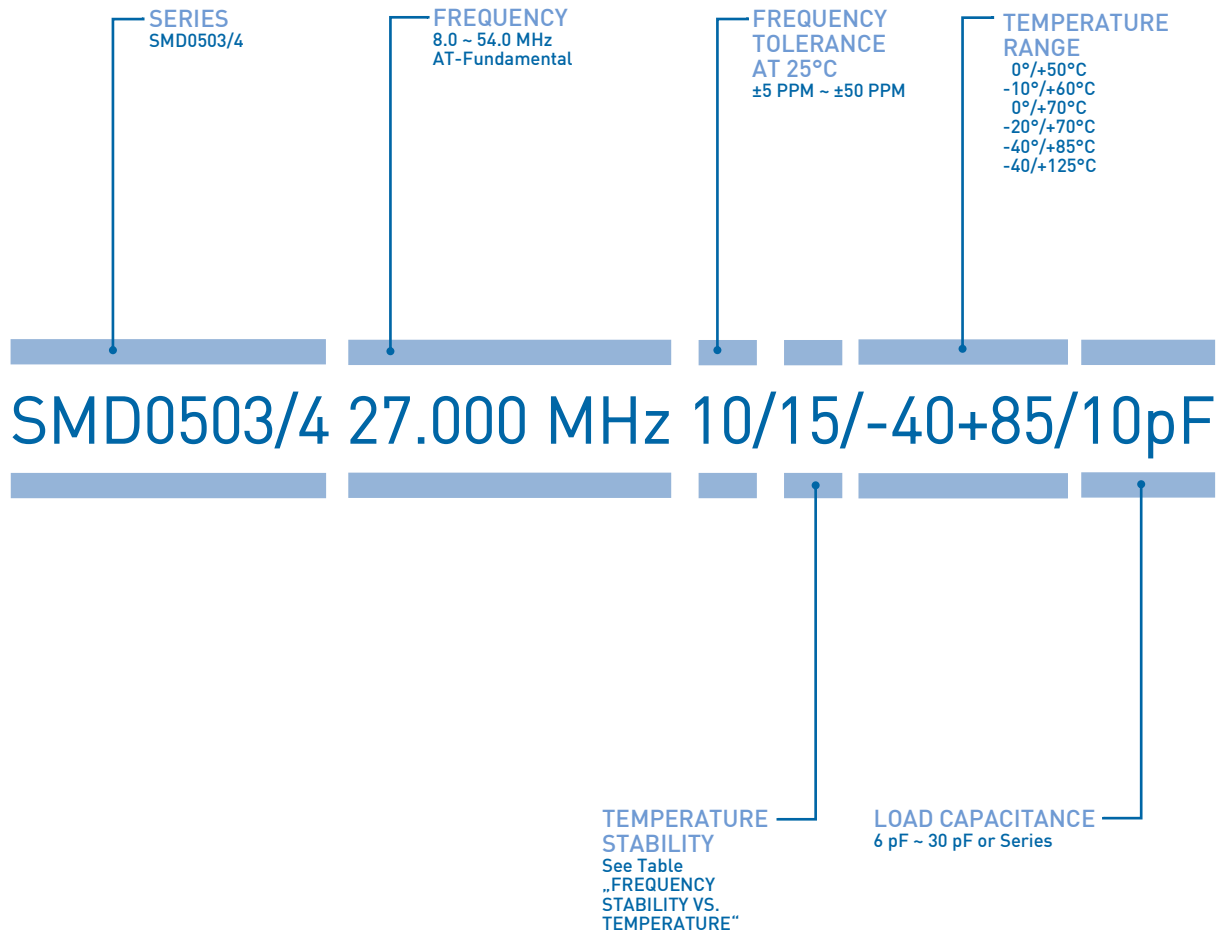


Profile Feature	Pb-Free Assembly
Average ramp-up rate (TL to TP)	3°C/second max.
Preheat:	
Temperature Min (T <sub>smin</sub> )	150°C
Temperature Max (T <sub>smax</sub> )	200°C
Time (min to max) (t <sub>s</sub> )	60-180 seconds
Time maintained above:	
Temperature (T <sub>L</sub> )	217°C
Time (t <sub>L</sub> )	60-150 seconds
Peak/Classification Temperature (T <sub>p</sub> )	260°C
Time within 5°C of actual Peak Temperature (t <sub>p</sub> )	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

## RESONANCE RESISTANCE

FREQUENCY IN MHz	VIBRATION MODE	ESR MAX. IN Ω
8.0 ~ 16.0 MHz	AT Fund.	80
16.0 ~ 25.0 MHz	AT Fund.	50
25.0 ~ 30.0 MHz	AT Fund.	40
30.0 ~ 50.0 MHz	AT Fund.	35
40.0 ~ 80.0 MHz	3rd OT AT	80-100

## ORDERING INFORMATION



EXAMPLE: SMD0503/4 27.000 MHz 10/15/-40+85/10pF  
 PLEASE INDICATE YOUR REQUIRED PARAMETERS



## PREMIUM QUALITY BY PETERMANN-TECHNIK



OUR COMPANY IS CERTIFIED ACCORDING TO ISO 9001:2008 IN OCTOBER 2013 BY THE DMSZ CERTIFIKATION GMBH.

THIS IS FOR YOU TO ENSURE THAT THE PRINCIPLES OF QUALITY MANAGEMENT ARE FULLY IMPLEMENTED IN OUR QUALITY MANAGEMENT SYSTEM AND QUALITY CONTROL METHODS ALSO DOMINATE OUR QUALITY STANDARDS.