

SMD QUARTZ CRYSTAL

SERIES “SMD01210/4” (4pad housing 1.2x1.0mm / LOW ESR)

FEATURES

- + Smallest ceramic packaged low cost MHz quartz crystal
- + Ultra low profile
- + Standard operating temperature range of -40/+85°C, others available on request
- + Excellent clock generator for CPU's, Wireless, Mobile Comm., IoT, IoT, WIFI, Industrial, etc.
- + LRT-TECHNOLOGY Inside (LRT is our unique Low ESR Resonator-Technology)
- + Our top quality promise / depth of production:
 - Only use of crystal blanks from our in-house production, based on our unique LRT-Technology
 - Excellent product features guaranteed by multiple 100% tests and 100% end-test
 - 100% quality monitoring from crystal raw material to the end product
 - Excellent quality, performance and reliability is guaranteed.



GENERAL DATA

PB FREE / ROHS COMPLIANT

PARAMETERS	PRODUCT FEATURES AND CONDITIONS
SMD-CRYSTAL SERIES	SMD01210/4
NUMBER OF SOLDER PINS	4
FREQUENCY RANGE	24.0 ~ 285.0 MHz Fundamental
DEVELOPED STANDARD FREQUENCIES	24.0 MHz / 25.0 MHz / 26.0 MHz / 32.0 MHz / 38.4 MHz / 40.0 MHz / 48.0 MHz / 50.0 MHz
FREQUENCY TOLERANCES AT 25°C	±10 ppm ~ ±50 ppm
LOAD CAPACITANCE [C _L]	6 ~ 50 pF (8 pF standard), or Series Resonance
WORKING TEMPERATURE RANGES	-10/+60°C ~ -40/+85°C
TEMPERATURE STABILITY	±10 ppm ~ ±50 ppm (see FREQUENCY STABILITY VS. TEMPERATURE table)
SHUNT CAPACITANCE [C ₀]	1 pF max.
DRIVE LEVEL	100 µW type. / 200 µW max.
AGING	±1 ppm ~ ±3 ppm max. per year
INSULATION RESISTANCE	>500 MΩ DC/100V ±10%
STORAGE TEMPERATURE	-55°+125°C
PRODUCT WEIGHT	0.0008 g
MSL LEVEL	1
DELIVERY FORM	Tape and Reel (3.000 pcs reel)
RoHS	Lead free and RoHS compliant
POP (EU)2019/1021	No POP substances
PFAS	No PFAS present
PROP 65	Compliant to PROP 65
TSCA	Compliant to TSCA

[SELECT YOUR REQUIRED CRYSTAL \(PRODUCT CONFIGURATOR\)](#)

[REQUEST CRYSTAL SAMPLES \(SAMPLE CONFIGURATOR\)](#)

Note:

1. LRT is optimized low ESR resonator design for fast and secure oscillation start-up.
2. The reference temperature for all specified values and tests is +25°C.
3. Do not use cleaning baths operating at ultrasonic frequencies or ultrasonic welding processes.
4. Do not solder by hot air gun.

FREQUENCY STABILITY VS. TEMPERATURE

	±10 ppm	±15 ppm	±20 ppm	±30 ppm	±50 ppm
-10°/+60°C	+	+	+	+	+
0°/+70°C	+	+	+	+	+
-20°/+70°C	+	+	+	+	+
-30°/+85°C		+	+	+	+
-40°/+85°C		+	+	+	+

RESONANCE RESISTANCE

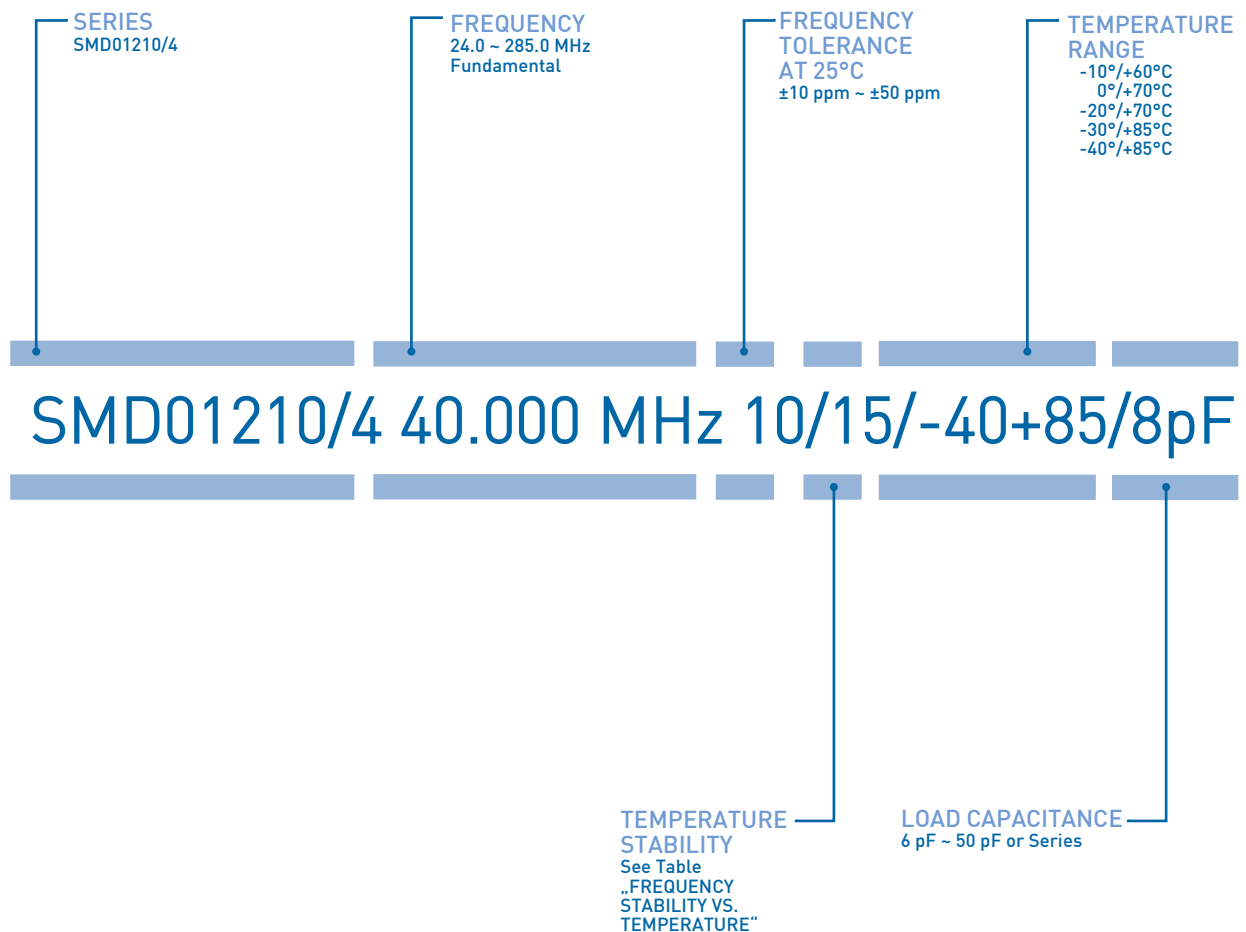
FREQUENCY IN MHz	VIBRATION MODE	ESR MAX. IN Ω
24.0 ~ 32.0 MHz	Fundamental	200
32.0 ~ 38.0 MHz	Fundamental	100
38.0 ~ 80.0 MHz	Fundamental	80
80.0 ~ 285.0 MHz	Fundamental	80

LIST OF STANDARD FREQUENCIES

24.0 MHz	25.0 MHz	26.0 MHz	32.0 MHz
38.4 MHz	40.0 MHz	48.0 MHz	50.0 MHz
others will follow soon			

IPC/JEDEC Standard	IPC/JEDEC J-STD-020
Moisture Sensitivity Level	Level 1
TS MAX to TL (Ramp-up Rate)	3°C/second Maximum
Preheat	
- Temperature Minimum (TS MIN)	150°C
- Temperature Typical (TS TYP)	175°C
- Temperature Maximum (TS MAX)	200°C
- Time (tS)	60 - 180 seconds
Ramp-up Rate (TL to TP)	3°C/second Maximum
Time Maintained Above:	
- Temperature (TL)	217°C
- Time (TL)	60 - 150 seconds
Peak Temperature (TP)	265°C Maximum
Target Peak Temperature (TP Target)	255°C
Time within 5°C of actual peak (tP)	20 - 40 seconds
Max. Number of Reflow Cycles	2
Ramp-down Rate	6°C/second Maximum
Time 25°C to Peak Temperature (t)	8 minutes Maximum

ORDERING INFORMATION



EXAMPLE: SMD01210/4 40.000 MHz 10/15/-40+85/8pF

PLEASE INDICATE YOUR REQUIRED PARAMETERS



PREMIUM QUALITY BY PETERMANN-TECHNIK



OUR COMPANY IS CERTIFIED ACCORDING TO ISO 9001:2015 AND 14001:2015

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

CLOCKING YOUR WORLD

RELIABLE · COST-EFFECTIVE · COMPETENT

DESIGN SMARTER – WE MAKE GREAT IDEAS REALITY

FOR ALMOST 30 YEARS, WE HAVE BEEN YOUR SPECIALIST FOR CRYSTALS AND OSCILLATORS – FROM PROVEN STANDARDS TO CUSTOM-TAILORED SOLUTIONS.

YOU DEVELOP WITH THE HIGHEST STANDARDS – WE DELIVER THE COMPONENTS TO MATCH: INNOVATIVE, RELIABLE, AND COST-EFFICIENT.

CHOOSE OUR PRODUCTS AND BENEFIT FROM TOP-TIER QUALITY, INNOVATION, STABLE AND INDEPENDENT SUPPLY CHAINS AND PARTNERSHIP ON HIGHEST LEVEL.

SUSTAINABLE SUCCESS FOR YOU AND YOUR PRODUCTS!

DECLARATION OF CONFORMITY

PRODUCT TYPE	SERIES PETERMANN-TECHNIK P/N CUSTOMER P/N	ROHS 2015/863 COMPLIANT	CHINA ROHS COMPLIANT	ROHS EXEMPTION	REACH (251) SVHC-FREE	SVHC SUBSTANCES	SCIP Nr.	POP (EU) 2019/1021	PFAS	PROP 65	TSCA
SMD Quartz Crystal	Series: SMD01210/4	Yes	Yes	No	Yes	-	-	Yes (no POP substances)	Yes (no PFAS present)	Yes, compliant to PROP 65	Yes, compliant to TSCA

*PETERMANN-TECHNIK GmbH – your clocking experts since 1996. Driven by technology, top quality and security of supply!
Frequency controlled product – Crafted for Excellence – Timing for Future*



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