

LOW ESR SMD MHz QUARTZ CRYSTAL

SERIES „SMD0507/4“ (7.0x5.0mm / 4 pads)

FEATURES

- + Large frequency spectrum available
- + Standard operating temperature range of 0/+50°C to -40/+125°C
- + Excellent clock generator for CPU´s, Wireless, Mobile Comm., IoT, IIoT, WIFI Industrial, Telecom, Automotive, 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% test and 100% end-test
 - 100% quality monitoring from crystal raw material to the end product
 - Excellent quality, performance and reliability ist guaranteed



GENERAL DATA

PB FREE / ROHS COMPLIANT

PARAMETERS	PRODUCT FEATURES AND CONDITIONS
SMD-CRYSTAL SERIES	SMD0507/4
NUMBER OF SOLDER PADS	4
FREQUENCY RANGE	6.0 ~ 50.0 MHz AT-Fundamental 50.0 ~ 160.0 MHz 3 rd Overtone
FREQUENCY TOLERANCES AT 25°C	±5 ppm ~ ±50 ppm
LOAD CAPACITANCE (C _L)	6 pF ~ 50 pF, or Series Resonance
WORKING TEMPERATURE RANGES	0/+50°C ~ -40/+125°C
SHUNT CAPACITANCE (C ₀)	4 pF max.
DRIVE LEVEL	100 µW typ. / 200 µW max. (500 µW available on request)
AGING	±2 ppm per year standard (± 1 ppm per year on request)
INSULATION RESISTANCE	>500 MΩ DC/100V ±10%
STORAGE TEMPERATURE	-55°/+125°C
PRODUCT WEIGHT	121.016 mg
DELIVERY FORM	Tape and Reel (1.000 pcs per 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 ist +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

	±10ppm	±15ppm	±20ppm	±30ppm	±50ppm
0°/+50°C	+	+	+	+	+
-10°/+60°C	+	+	+	+	+
0°/+70°C	+	+	+	+	+
-20°/+70°C	+	+	+	+	+
-40°/+85°C		+	+	+	+
-40°/+105°C					+
-40°/+125°C					+

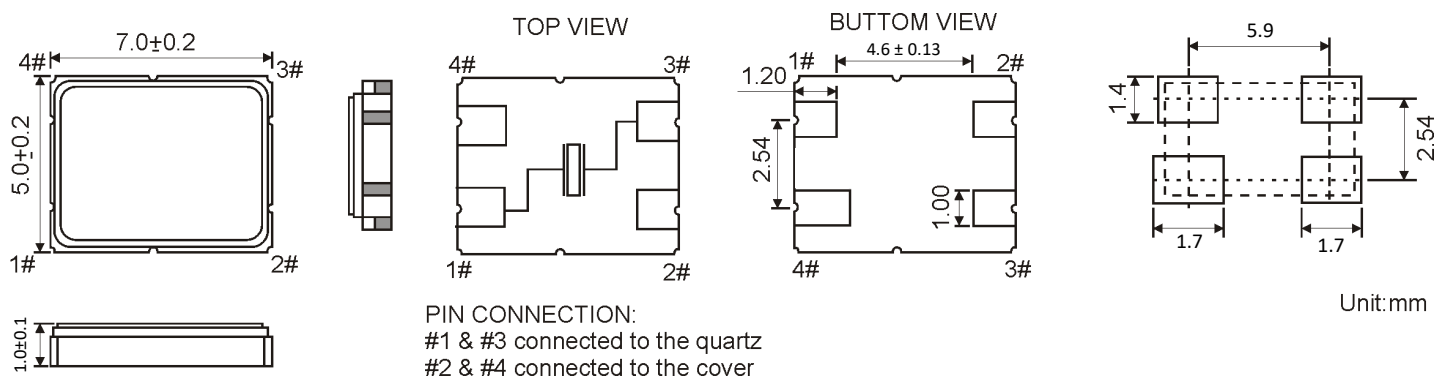
ESR (EQUIVALENT SERIES RESISTANCE)

FREQUENCY IN MHz	VIBRATION MODE	ESR MAX. IN Ω
6.0 ~ 16.0 MHz	AT Fund.	80
16.0 ~ 30.0 MHz	AT Fund.	40
30.0 ~ 50.0 MHz	AT Fund.	30
50.0 ~ 160.0 MHz	3rd OT AT	80

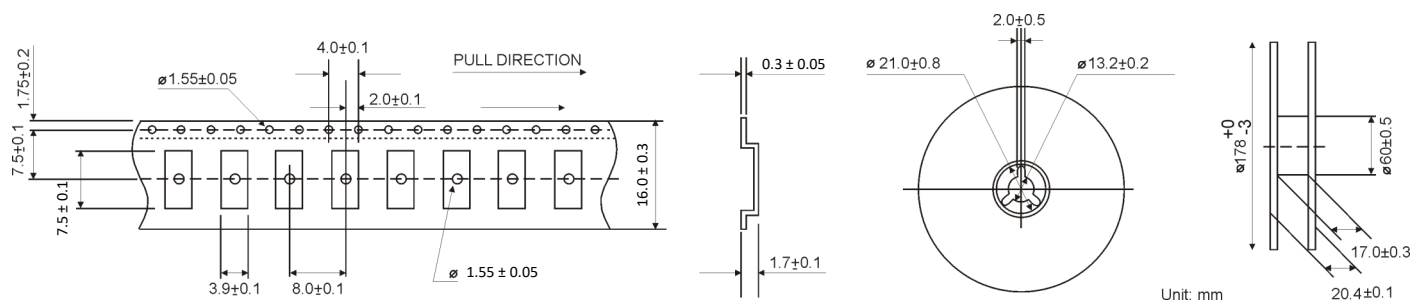
LIST OF STANDARD FREQUENCIES

6.0000 MHz	6.1440 MHz	6.5536 MHz	7,3728 MHz	7.6000 MHz	7.6800 MHz	7.969178 MHz	8.0000 MHz
8.1920 MHz	8.7040 MHz	9.50937 MHz	9.6000 MHz	9.8304 MHz	10.0000 MHz	10.2450 MHz	10.3680 MHz
10.9200 MHz	11.0592 MHz	11.2896 MHz	12.0000 MHz	12.2880 MHz	12.3520 MHz	12.5000 MHz	12.8000 MHz
13.0000 MHz	13.2256 MHz	13.225625 MHz	13.4916 MHz	13.5000 MHz	13.5600 MHz	14.31818 MHz	14.7456 MHz
15.3600 MHz	16.0000 MHz	16.3840 MHz	16.6700 MHz	16.9344 MHz	17.734475 MHz	18.0000 MHz	18.4320 MHz
19.2000 MHz	19.6608 MHz	20.0000 MHz	20.4800 MHz	20.7360 MHz	20.9500 MHz	21.2500 MHz	22.1184 MHz
24.0000 MHz	24.5760 MHz	24.7040 MHz	25.0000 MHz	26.0000 MHz	27.0000 MHz	27.1344 MHz	28.2240 MHz
28.3750 MHz	28.5938 MHz	28.636363 MHz	29.4912 MHz	29.4989 MHz	30.0000 MHz	32.0000 MHz	32.7680 MHz
33.0000 MHz	33.3300 MHz	36.0000 MHz	38.8800 MHz	40.0000 MHz	48.0000 MHz	49.1520 MHz	50.0000 MHz
64.0000 MHz	75.0012 MHz	96.0000 MHz					

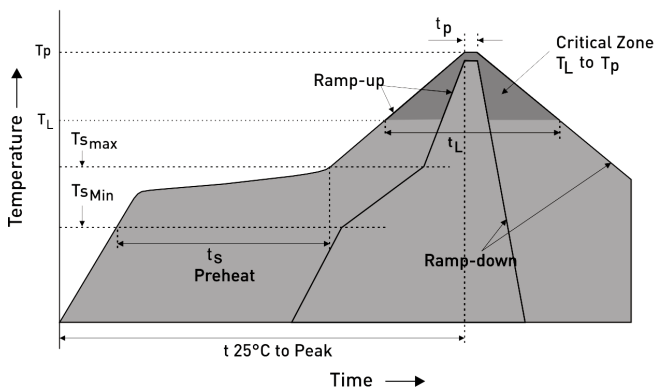
DIMENSIONS



REEL SPECIFICATION

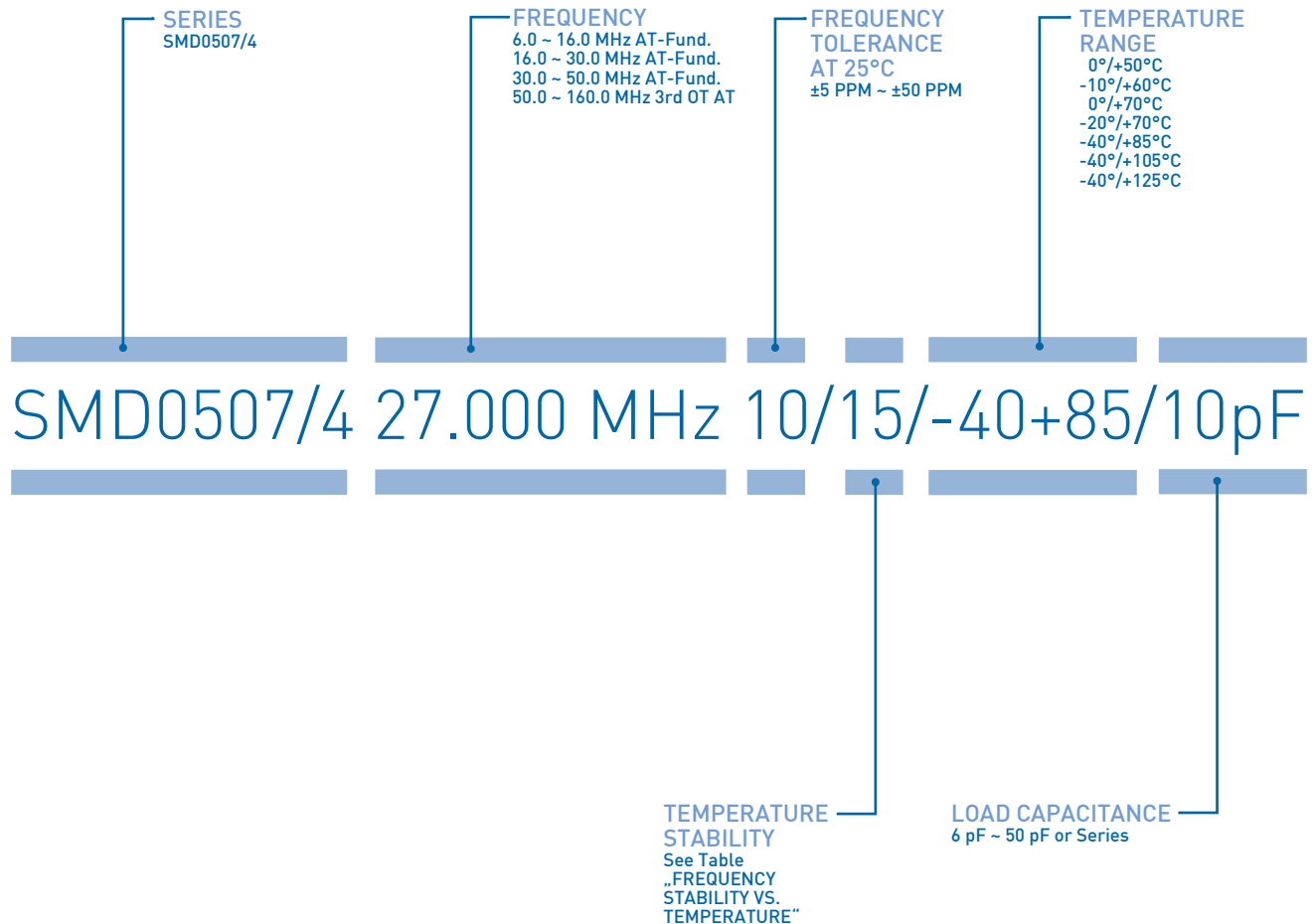


REFLOW SOLDER PROFILE



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: SMD0507/4 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 9001:2015 AND
14001:2015

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

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