

SMD QUARTZ CRYSTAL FOR ULTRASONIC

SERIES SMD02016/4US (4 pad housing 2.0x1.6mm)

FEATURES

- + Recommended for ultrasonic plastic case welding process
- + Tight tolerance / tight stability available
- + High reliability for low cost
- + Ultra miniature size and lightweight
- + Ideally suited for the use in electronic products, communication equipment, wearables, wireless modules, IoT, BLE, M2M, ISM band, medical applications, etc.



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

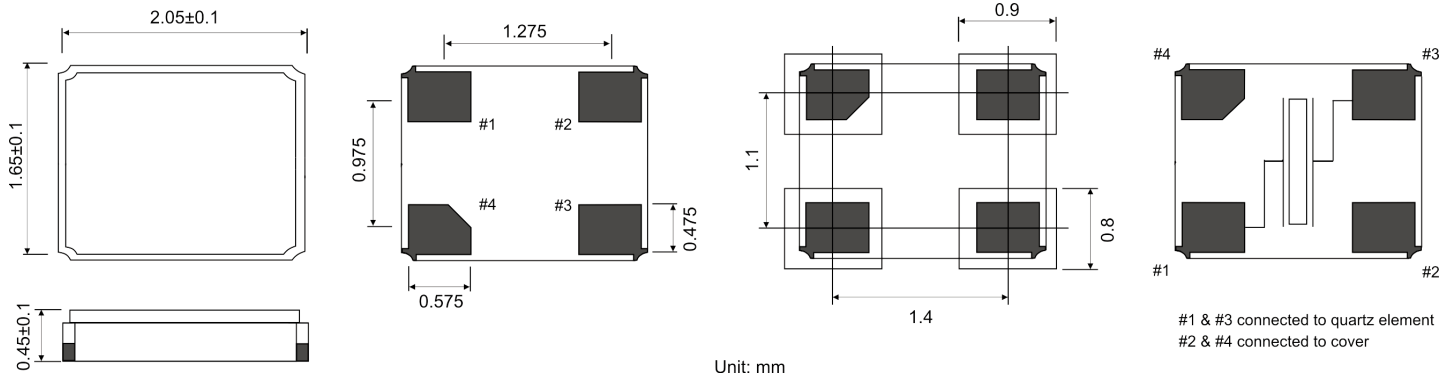
GENERAL DATA

| PARAMETERS | PRODUCT FEATURES AND CONDITIONS |
|---|--|
| SMD-CRYSTAL SERIES | SMD02016/4US |
| NUMBER OF SOLDER PADS | 4 |
| FREQUENCY RANGE | 26.0 ~ 54.0 MHz AT-Fundamental |
| FREQUENCY TOLERANCES AT 25°C | ±10 ppm ~ ±50 ppm |
| LOAD CAPACITANCE (C _L) | Series, 7 pF ~ 20 pF |
| WORKING TEMPERATURE RANGES | 0/+50°C ~ -40/+85°C |
| SHUNT CAPACITANCE (C ₀) | 2 pF max. |
| DRIVE LEVEL | 100 µW typ. / 200 µW max. |
| AGING | ±3 ppm per year standard (±1 or ±2 ppm available on request) |
| INSULATION RESISTANCE | >500 MΩ DC/100V ±10% |
| STORAGE TEMPERATURE | -55°/+125°C |
| DELIVERY FORM | Tape and Reel (3.000 pcs per reel) |
| <u>OTHER PARAMETERS ARE AVAILABLE ON REQUEST / CREATE HERE YOUR SPECIFICATION</u> | |

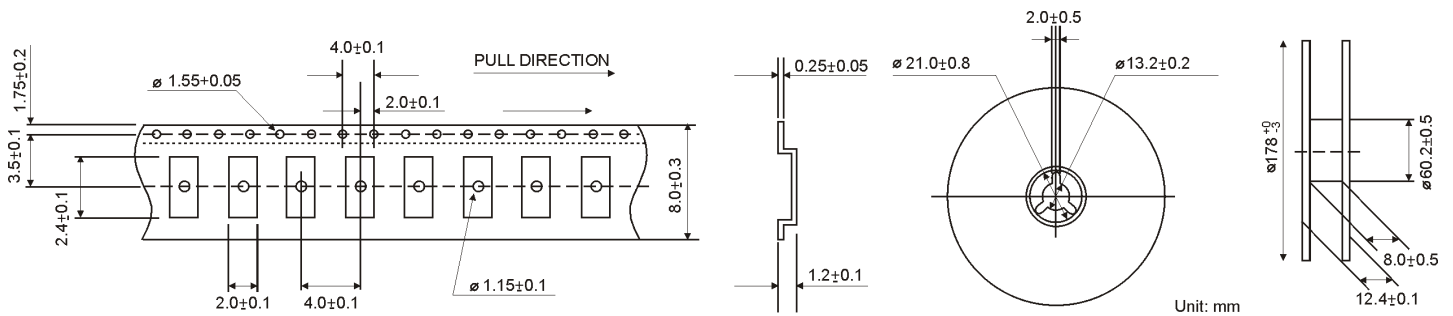
FREQUENCY STABILITY VS. TEMPERATURE

| | ±10ppm | ±12ppm | ±15ppm | ±20ppm | ±30ppm | ±50ppm |
|------------|--------|--------|--------|--------|--------|--------|
| 0°/+50°C | + | + | + | + | + | + |
| -10°/+60°C | + | + | + | + | + | + |
| 0°/+70°C | + | + | + | + | + | + |
| -20°/+70°C | | + | + | + | + | + |
| -40°/+85°C | | | + | + | + | + |

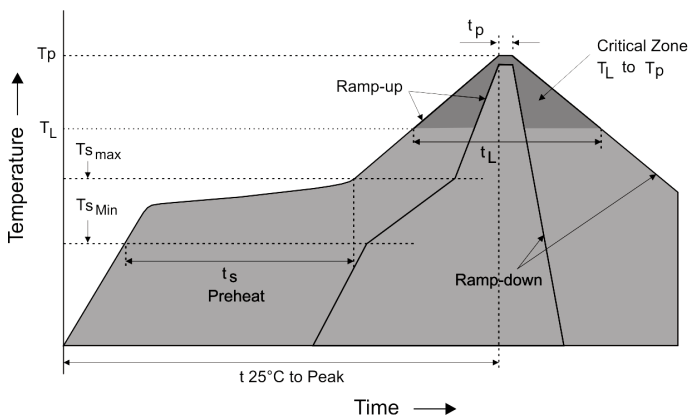
DIMENSIONS



REEL SPECIFICATION



REFLOW SOLDER PROFILE

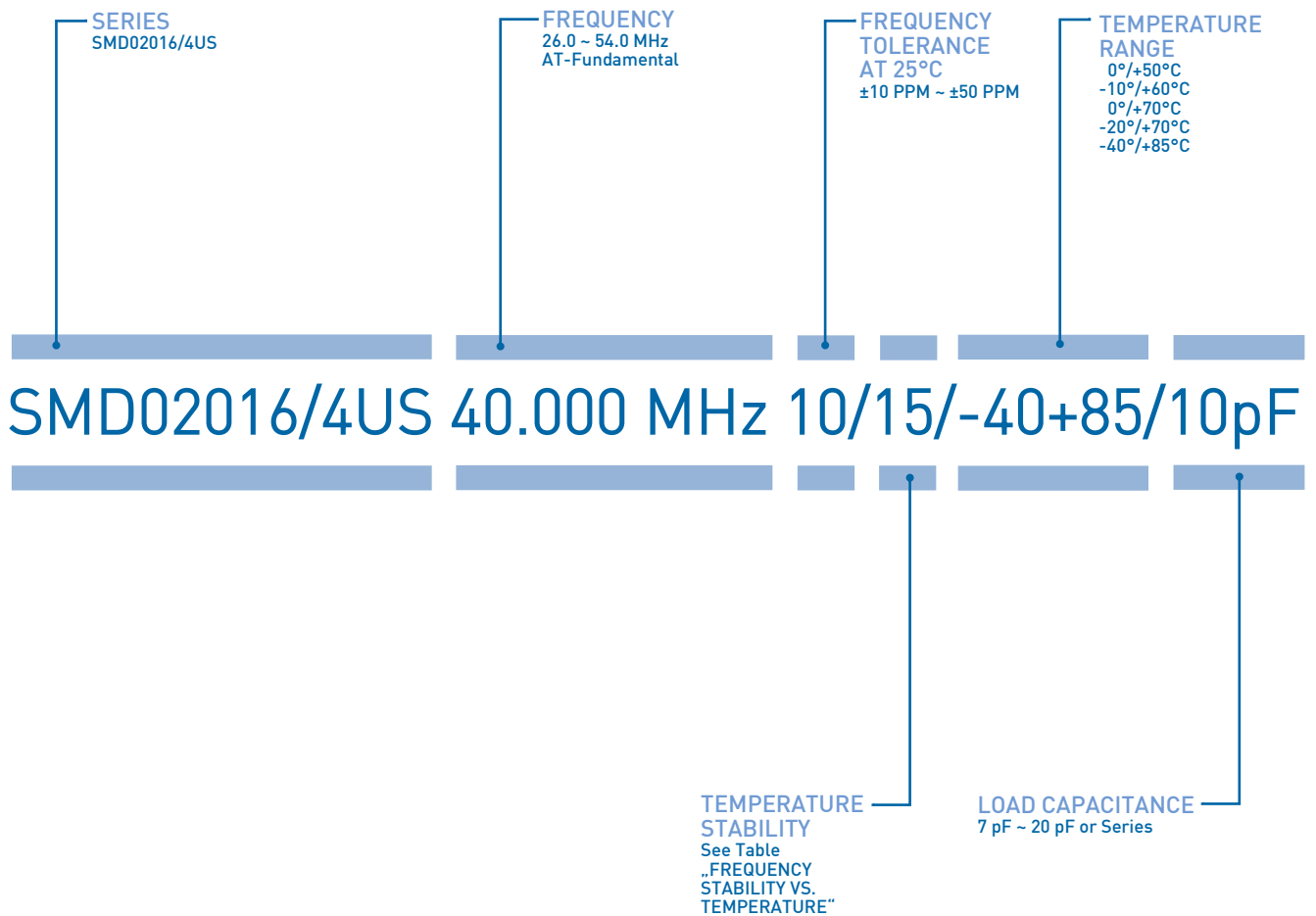


| Profile Feature | Pb-Free Assembly |
|--|------------------|
| Average ramp-up rate (TL to TP) | 3°C/second max. |
| Preheat: | |
| Temperature Min (T _{Smin}) | 150°C |
| Temperature Max (T _{Smax}) | 200°C |
| Time (min to max) (t _s) | 60-180 seconds |
| Time maintained above: | |
| Temperature (TL) | 217°C |
| Time (t _L) | 60-150 seconds |
| Peak/Classification Temperature (T _p) | 240°C |
| Time within 5°C of actual Peak Temperature (t _p) | 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 |
|------------------|----------------|----------------------|
| 26.0 ~ 32.0 MHz | AT Fund. | 100 |
| 32.0 ~ 54.0 MHz | AT Fund. | 60 |

ORDERING INFORMATION



EXAMPLE: SMD02016/4US 40.000 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 IN OCTOBER 2016 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.