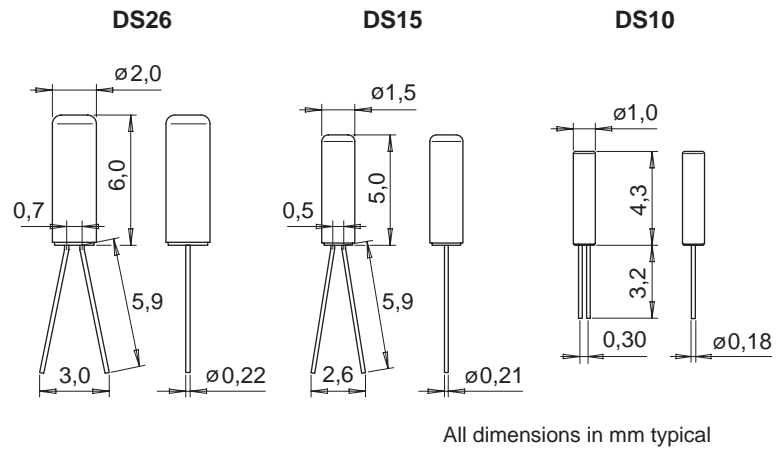




### DIMENSIONS



### APPLICATIONS

IoT  
Watches  
Industrial  
Consumer Electronics  
Timers and Clock Sources

### DESCRIPTION

The DS – Series are low frequency through-hole technology Watch Quartz Crystal Units which incorporate a tuning fork Quartz Crystal Resonator. They operate under vacuum in a hermetically sealed tubular metal can package.

### FEATURES

High stability is guaranteed by the hermetic sealed package.  
High shock and vibration resistant.  
Smallest available tubular package DS10 with Ø 1.0 mm.  
Very price competitive product.  
RoHS-compliant. 100% Pb-free available.

### ELECTRICAL CHARACTERISTICS AT 25°C

Package Size		DS26	DS15	DS10	
Standard frequency	$F_L$	32.768			kHz
Load capacitance	$C_L$	7.0 / 8.2 / 9.0 / 12.5			pF
Frequency tolerance	$\Delta F/F$	±20			ppm
	$\Delta F/F$	±30			ppm
	$\Delta F/F$	±100			ppm
Series resistance typ./max.	$R_S$	30 / 42	35 / 50	40 / 60	kΩ
Motional capacitance typ.	$C_1$	2.25	2.25	2.4	fF
Static capacitance typ.	$C_0$	0.9			pF
Drive level max.	P	1.0			μW
Insulation resistance min.	$R_i$	500			MΩ
Aging first year max.	$\Delta F/F$	±3			ppm
Turnover temperature	$T_0$	25 ±5			°C
Frequency vs. temperature	$\Delta F/F_0$	-0.035 ppm/°C² (T - T <sub>0</sub> )² ±10%			ppm

1) Other load capacitances on request.

2) Tighter and wider frequency tolerances on request.