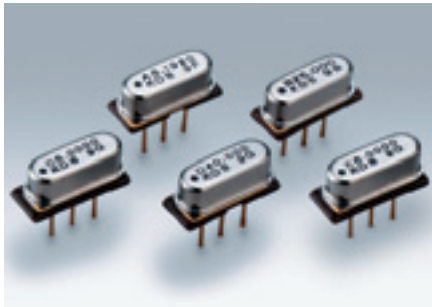


SMD Crystal Oscillators

DOC-49S SERIES



■ Features

- High precision, miniature crystal resonator with built in C-MOS oscillation circuit inside an AT-49 package.
- S1: Low power consumption and low harmonic type
- S2: High frequency type
- S3: High drive (CL=50pF) type
- S4: TTL SYM level compatible
- S5: High speed and high drive operation
- Highly reliable hermetically sealed and grounded metal package.

■ Applications

- PC, peripherals, and gaming equipment

■ Standard Specification

Item	Type	Legend	DOC-49S1	DOC-49S2	DOC-49S3	DOC-49S4	DOC-49S5
Output Frequency Range		fo	156.25kHz~20.0MHz	20.1~70MHz	1.25~20MHz	1.25~50MHz	1.25~50MHz
Frequency Tolerance		f_tol	±50×10 ⁻⁶ , ±100×10 ⁻⁶				
Operating Temperature Range		T_use	-10~+70°C				
Storage Temperature Range		T_stg	-20~+80°C				
Output Characteristics	0 Level Output Voltage	Vol	10%V _{dd} max.			+0.5V max.	10%V _{dd} max.
	1 Level Output Voltage	Voh	90%V _{dd} min.			+2.4V min.	90%V _{dd} min.
	Symmetry	SYM	40~60% (fo≥10MHz) 45~55% (fo<10MHz)	40~60%	40~60% (fo≥10MHz) 45~55% (fo<10MHz)	40~60% (+1.4Vdc)	40~60% (fo≥20MHz) 45~55% (fo<20MHz)
	Rise and Fall Time	tr, tf	50nsec. max. (fo<2MHz) 20nsec. max. (fo≥2MHz)	10nsec. max. (fo≤50MHz) 8nsec. max. (fo≤70MHz)	15nsec. max.	8nsec. max. (fo<29MHz) 5nsec. max. (29MHz≤fo≤50MHz)	8nsec. max.
Supply Voltage		Vdd	+5.0V DC±10%				
Current Consumption		I _{dd}	5mA max. (No Load)	20mA max. (fo≤50MHz, No Load) 45mA max. (fo≤70MHz, No Load)	10mA max. (No Load)	10mA max. (fo≤20MHz, No Load) 35mA max. (20MHz<fo≤50MHz, No Load)	
Load Condition (TTL)		L_TTL	2LS-TTL	2LS-TTL	10LS-TTL	10TTL	10TTL
Load Condition (C-MOS)		L_COMS	15pF	15pF	50pF	—	50pF
Packing Unit			50pcs. / stick, 1000pcs. / case				

Consult our sales representative for other specifications.

■ Dimensions[mm]

