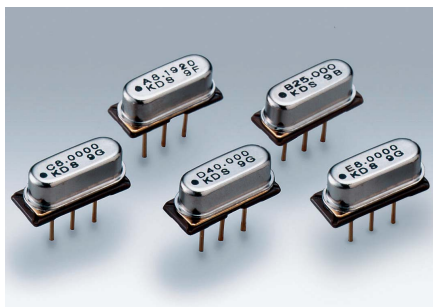


SMD Crystal Oscillators

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

- Gaming equipment

■ Standard Specification

Item	Type	Legend	DOC-49S1	DOC-49S2	DOC-49S3	DOC-49S4	DOC-49S5
Output Frequency Range		f _o	156.25kHz~20.0MHz	20.1~70MHz	1.25~20MHz	1.25~50MHz	1.25~50MHz
Frequency Tolerance		f _{tol}	$\pm 50 \times 10^{-6}$, $\pm 100 \times 10^{-6}$				
Operating Temperature Range		T _{use}	-10~+70°C				
Storage Temperature Range		T _{stg}	-20~+80°C				
0 Level Output Voltage		V _{ol}	10%V _{dd} max.			+0.5V max.	10%V _{dd} max.
1 Level Output Voltage		V _{oh}	90%V _{dd} min.			+2.4V min.	90%V _{dd} min.
Symmetry		SYM	40~60% (f _o ≥10MHz) 45~55% (f _o <10MHz)	40~60%	40~60% (f _o ≥10MHz) 45~55% (f _o <10MHz)	40~60% (+1.4Vdc)	40~60% (f _o ≥20MHz) 45~55% (f _o <20MHz)
Rise and Fall Time		t _r , t _f	50nsec. max. (f _o <2MHz) 20nsec. max. (f _o ≥2MHz)	10nsec. max. (f _o ≤50MHz) 8nsec. max. (f _o ≤70MHz)	15nsec. max.	8nsec. max. (f _o <29MHz) 5nsec. max. (29≤f _o ≤50MHz)	8nsec. max.
Supply Voltage		V _{dd}	+5.0V DC±10%				
Current Consumption		I _{dd}	5mA max. (No Load)	20mA max. (f _o ≤50MHz, No Load) 45mA max. (f _o ≤70MHz, No Load)	10mA max. (No Load)	10mA max. (f _o ≤20MHz, No Load) 35mA max. (20<f _o ≤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]

