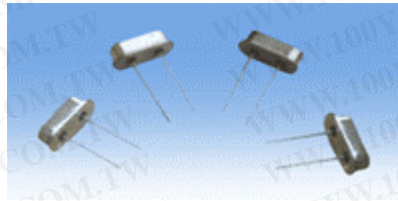


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QUARTS CRYSTAL UNITS HC-49/S

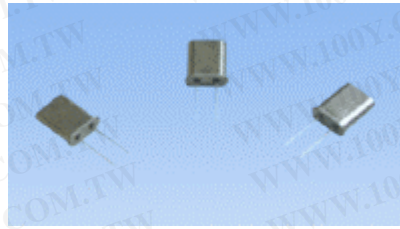
SPECIFICATIONS

ITEM	SPECIFICATIONS
Frequency range	3.200MHZ to 70.000MHZ
Frequency tolerance(at 25°C)	± 30ppm
Tolerance over	± 30ppm(standard)
Operating temperature range	-10°C to 60°C
Shunt capacitance(Co)	7PF MAX
Insulation resistance	500M Ω min at DC 100v
Drive level	1000uw Max
(CL)load capacitance	Customer assign
Aging(at 25°C)	± 5ppm/year Max

ESR/MODE/CUT

Frequency Range	ESR	MODE	CUT
3.0--4.0MHZ	150--100 Ω	Fund	AT
4.0--5.0MHZ	100--70 Ω	Fund	AT
5.0--8.0MHZ	80--60 Ω	Fund	AT
8.0--12.0MHZ	60--40 Ω	Fund	AT
12.0--28.0MHZ	40--20 Ω	Fund	AT
>21.0MHZ	60--80 Ω	3rd	AT
21.0MHZ--30MHZ	40--20 Ω	Fund	BT

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QUARTS CRYSTAL UNITS HC-49/U

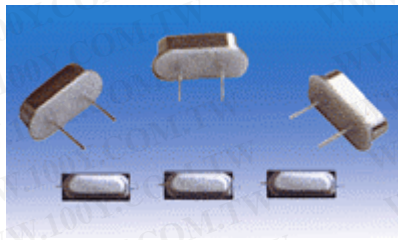
SPECIFICATIONS

ITEM	SPECIFICATIONS
Frequency range	1.800MHZ to 100.MHZ
Frequency tolerance(at 25°C)	± 30ppm
Tolerance over	± 30ppm
Operating temperature range	-10°C to 60°C
Shunt capacitance(Co)	7PF MAX
Insulation resistance	500M Ω min at DC 100v
Drive level	1000uw Max
(CL)load capacitance	5PF to ∞ Customer assign
Aging(at 25°C)	5ppm/year Max

ESR/MODE/CUT

Frequency Range	ESR	MDOE	CUT
1.800--3.000MHZ	300--60 Ω	Fund	AT
3.000--4.000MHZ	150--60 Ω	Fund	AT
4.000--8.000MHZ	60--40 Ω	Fund	AT
8.000--12.000MHZ	40--25 Ω	Fund	AT
12.000--30.000MHZ	25--20 Ω	Fund	AT
>21.0MHZ	40--25 Ω	3rd	AT
21.0MHZ--30MHZ	25 Ω	Fund	BT

QUARTS CRYSTAL UNITS



HC-49/SMD HC-49/SP

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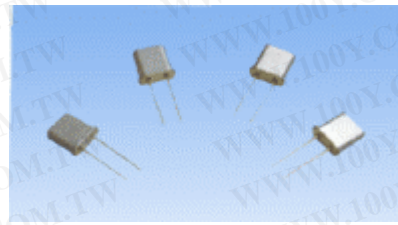
SPACIFICATIONS

ITEM	SPECIFICATIONS
Frequency range	3.200MHZ to 70.000MHZ
Frequency tolerance(at 25°C)	± 30ppm
Tolerance over	± 30ppm
Operating temperature range	-10°C to 60°C
Shunt capacitance(Co)	7PF MAX
Insulation resistance	500M Ω min at DC 100v
Drive level	1000uw Max
(CL)load capacitance	Customer assign
Aging(at 25°C)	± 5ppm/year Max

ESR/MODE/CUT

Frequency Range	ESR	MODE	CUT
3.0--4.0MHZ	150--100 Ω	Fund	AT
4.0--5.0MHZ	100--70 Ω	Fund	AT
5.0--8.0MHZ	80--60 Ω	Fund	AT
8.0--12.0MHZ	60--40 Ω	Fund	AT
12.0--28.0MHZ	40--20 Ω	Fund	AT
>21.0MHZ	60--80 Ω	3rd	AT
21.0MHZ--30MHZ	40--20 Ω	Fund	BT

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QUARTS CRYSTAL UNITS UM-1 UM-5

SPECIFICATIONS

ITEM	SPECIFICATIONS
Frequency range	8.0--150MHZ
Frequency tolerance(at 25°C)	± 30ppm ±20ppm ±10ppm
Tolerance over	± 30ppm ±20ppm ±10ppm
Operating temperature range	-10°C to 60°C
Shunt capacitance(Co)	7PF MAX
Insulation resistance	500M Ω min at DC 100v
Drive level	1000uw Max
(CL)load capacitance	5PF to ∞ Customer assign
Aging(at 25°C)	5ppm/year Max

ESR/MODE/CUT

Frequency Range	ESR	MODE	CUT
8--30MHZ	80--25 Ω	Fund	AT
24--90MHZ	40--60 Ω	overtone	AT
60--150MHZ	60--100 Ω	overtone	AT