

HC-49USM Crystal (TWO PADS)

Part Number Guide

T-M-FF.FFFM-LC-FTFS-OT-ESR

T (Type型号): M=HC-49USM with height of 4.0mm Max
M2=HC-49USM with height of 3.5mm Max
M3=HC-49USM with height of 3.2mm Max
M4=HC-49USM with height of 3.0mm Max

M (Mode of Operation振荡模式): F=Fundamental T=Third Overtone, etc

F (Frequency标称频率): Normal - 5 digitals of Frequency, e.g. 8.0000M, 12.000M
Special - All digitals of Frequency, e.g. 13.225625M

LC (Load Capacitance负载电容): 20=20pf 00=series, etc

FT (Frequency Tolerance调整频差): 30=±30 ppm, etc

FS (Frequency Stability温度频差): 50=±50 ppm, etc

OT (Operating Temperature工作温度): 1060=-10°C to +60°C 4085=-40°C to +85°C, etc

ESR (Equivalent Series Resistance等效阻抗)

A (Automotive车载应用)

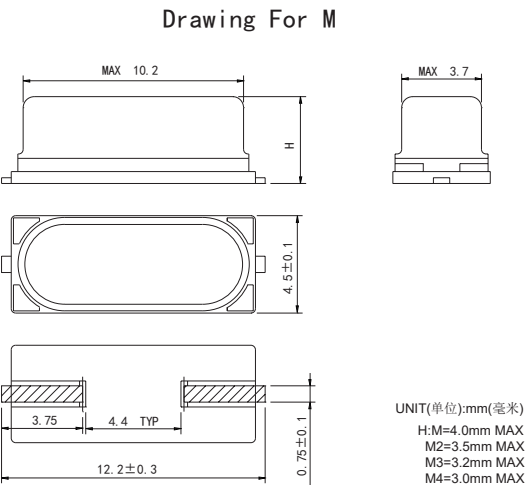
Electrical Specifications 电气参数

Item 项目	Spec 规格		Condition 条件
Frequency Range 频率范围	3.2768MHz~40.68MHz		For further questions regarding specifications, please feel free to contact us. 对于超出标准的规格, 请联系我们
Operating Temperature 工作温度	-40~85℃, -55~125℃		
Drive Level 激励功率	100 μw max		It is recommended to use 1 μw~100 μw 推荐1 μw~100 μw
Load Capacitance 负载电容	7pF~∞		For further questions regarding specifications, please feel free to contact us. 对于超出标准的规格, 请联系我们
Frequency Tolerance 调整频差	±30ppm Standard (±10~±50ppm Available)		
Frequency Stability 温度频差	±30ppm@-40~85℃ ±50ppm@-55~125℃		
Aging 老化率	±5ppm		
Storage Temperature 储存温度	-55~125℃		
ESR 等效阻抗 (Ω)	3.2768MHz≤F0<4MHz	150 Ω	For further questions regarding specifications, please feel free to contact us. 对于超出标准的规格, 请联系我们
	4MHz≤F0<5MHz	120 Ω	
	5MHz≤F0<6MHz	100 Ω	
	6MHz≤F0<7MHz	80 Ω	
	7MHz≤F0<10MHz	60 Ω	
	10MHz≤F0<14MHz	50 Ω	
	14MHz≤F0<20MHz	40 Ω	
	20MHz≤F0<40.68MHz	30 Ω	



Pb Free RoHS Compliant

Mechanical Dimensions 外型尺寸



HC-49USM Crystal (FOUR PADS)

Part Number Guide

T-M-FF.FFFM-LC-FTFS-OT-ESR

T (Type型号): MB=HC-49USM 4 Pads with height of 5.0mm Max
MB2=HC-49USM 4 Pads with height of 4.5mm Max
M (Mode of Operation振荡模式): F=Fundamental T=Third Overtone, etc
F (Frequency标称频率): Normal - 5 digitals of Frequency, e.g. 8.0000M, 12.000M
Special - All digitals of Frequency, e.g. 13.225625M
LC (Load Capacitance负载电容): 20=20pf 00=series, etc
FT (Frequency Tolerance调整频差): 30=±30 ppm, etc
FS (Frequency Stability温度频差): 50=±50 ppm, etc
OT (Operating Temperature工作温度): 1060=-10°C to +60°C 4085=-40°C to +85°C, etc
ESR (Equivalent Series Resistance等效阻抗)
A (Automotive车载应用)

Electrical Specifications 电气参数

Item 项目	Spec 规格	Condition 条件
Frequency Range 频率范围	3.2768MHz~40.68MHz	For further questions regarding specifications, please feel free to contact us. 对于超出标准的规格, 请联系我们
Operation Temperature 工作温度	-40~85°C, -55~125°C	
Drive Level 激励功率	100 μw max	It is recommended to use 1 μw~100 μw 推荐1 μw~100 μw
Load Capacitance 负载电容	7pF~∞	For further questions regarding specifications, please feel free to contact us. 对于超出标准的规格, 请联系我们
Frequency Tolerance 调整频差	±30ppm Standard (±10~±50ppm Available)	
Frequency Stability 温度频差	±30ppm@-40~85°C ±50ppm@-55~125°C	
Aging 老化率	±5ppm	
Storage Temperature 储存温度	-55~125°C	
ESR 等效阻抗 (Ω)	3.2768MHz≤F0<4MHz	150 Ω
	4MHz≤F0<5MHz	120 Ω
	5MHz≤F0<6MHz	100 Ω
	6MHz≤F0<7MHz	80 Ω
	7MHz≤F0<10MHz	60 Ω
	10MHz≤F0<14MHz	50 Ω
	14MHz≤F0<20MHz	40 Ω
	20MHz≤F0<40.68MHz	30 Ω



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Mechanical Dimensions 外型尺寸

Drawing For MB

