

ECN/PCN No.: 5094

For Manufacturer			
Product Description: MMD-Crystal	Abracon Part Number / Part Series: F Series	☐ Documentation only ☐ ECN ☒ EOL	☒ Series ☐ Part Number
Affected Revision: REV S	New Revision: EOL	Application: ☐ Safety ☒ Non-Safety	
Prior to Change: ACTIVE			
After Change: EOL			
Cause/Reason for Change: As part of an effort to streamline our portfolio and better serve customers, we are discontinuing select products and offering a Last Time Buy period.			
Change Plan			
Effective Date: 11/27/2025		Additional Remarks:	
Change Declaration: Product Discontinuation			
Issued Date: 8/29/2025	Issued By: Stephanie Lopez	Issued Department: Engineering	
Approval: Thomas Culhane Engineering Director	Approval: Reuben Quintanilla Quality Director	Approval: Ying Huang Purchasing Director	
For Abracon EOL only			
Last Time Buy (if applicable): 2/27/2026		Alternate Part Number / Part Series: ABLS	
Additional Approval:	Additional Approval:	Additional Approval:	
Customer Approval (If Applicable)			
Qualification Status: ☐ Approved ☐ Not accepted <i>Note: It is considered approved if there is no feedback from the customer 1 month after ECN/PCN is released.</i>			
Customer Part Number:		Customer Project:	
Company Name:	Company Representative:	Representative Signature:	
Customer Remarks:			

- **HC-49/S SMD Crystal**
- **3rd Lead Ground Option Available**
- **Wide Frequency Range**
- **Fundamental or 3rd OT AT Cut**

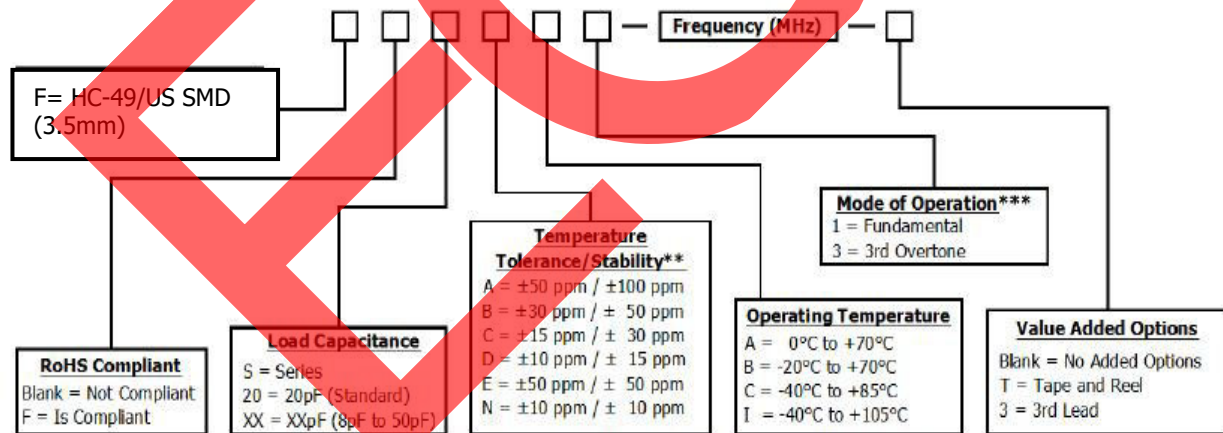


Frequency Range	3.200MHz to 80.000MHz
Frequency Tolerance / Stability	(See Part Number Guide for Options)
Operating Temperature Range	(See Part Number Guide for Options)
Storage Temperature	-55°C to +125°C
Aging	±5ppm / first year Max
Shunt Capacitance	7pF Max
Load Capacitance	20pF Standard (See Part Number Guide for Options)
Equivalent Series Resistance	See ESR Chart
Mode of Operation	See ESR Chart
Drive Level	1mW Max

ESR Chart

Frequency Range	ESR (Ohms)	Mode / Cut
3.200MHz to 3.999MHz	150 Max	Fund / AT
4.000MHz to 4.999MHz	120 Max	Fund / AT
5.000MHz to 5.999MHz	100 Max	Fund / AT
6.000MHz to 7.999MHz	90 Max	Fund / AT
8.000MHz to 9.999MHz	70 Max	Fund / AT
10.000MHz to 11.999MHz	50 Max	Fund / AT
12.000MHz to 14.999MHz	50 Max	Fund / AT
15.000MHz to 19.999MHz	40 Max	Fund / AT
20.000MHz to 33.000MHz	30 Max	Fund / AT
24.576MHz to 29.999MHz	100 Max	3 rd OT / AT
30.000MHz to 80.000MHz	80 Max	3 rd OT / AT

Part Number

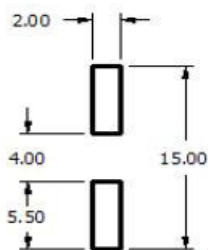
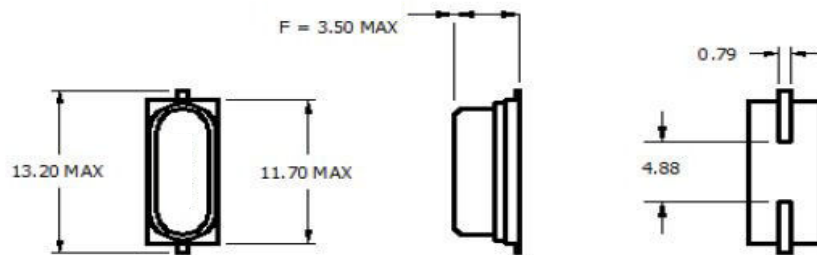


* Please consult with MMD sales department for any other parameters or options.

** Not all Frequency Tolerance/Stability options available at this temperature range.

***Mode is dependant upon Frequency. See ESR Chart

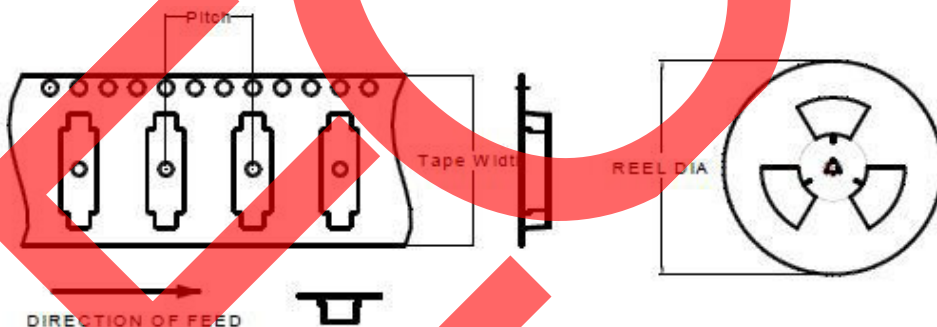
Mechanical Details



SUGGESTED
LAND PATTERN

PIN CONNECTIONS	
PIN 1	CRYSTAL
PIN 2	CRYSTAL

Tape & Reel

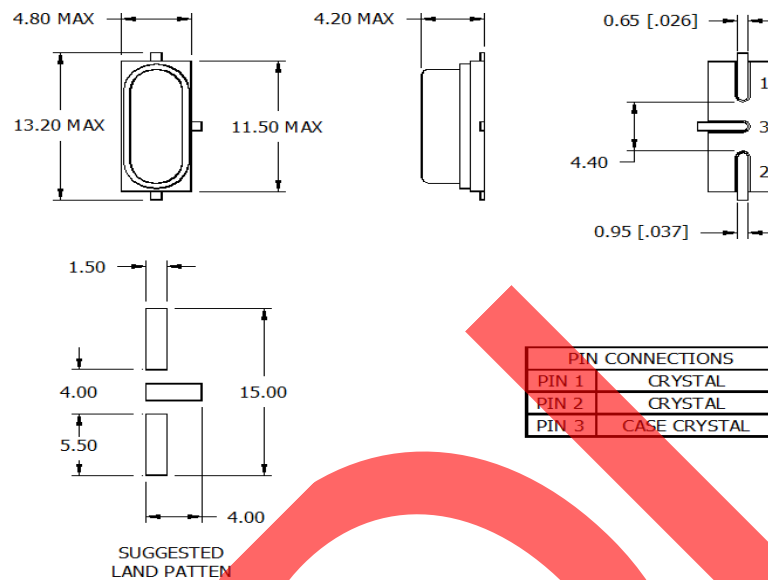


PITCH	12.00 [0.628]
TAPE WIDTH	24.00 [0.945]
REEL DIA	330 [13]
COUNT.	1000

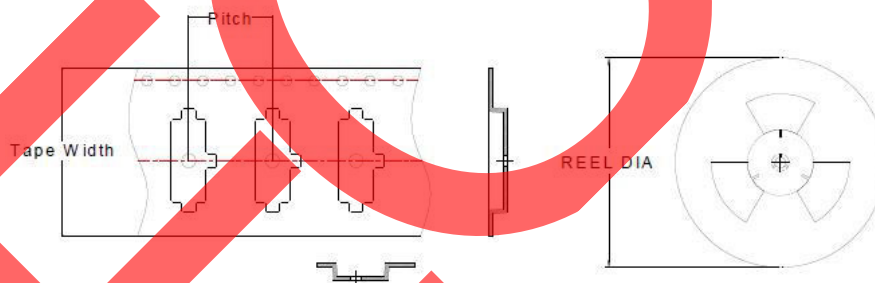
Notes: UNLESS OTHERWISE SPECIFIED

1. Applicable Standards / Specifications
ANSI Y14.5M, Dimensions and Tolerances
EIA-481-B, 8mm through 200mm Embossed Carrier Tapping and 8mm and 12mm Punched Carrier Tapping of Surface Mount Components for Automatic Handling.
2. Dimensions are in millimetres.
3. Tolerances are ± 0.1 [0.004] mm unless otherwise specified.
4. Do not scale drawing.

3rd Lead Mechanical Details



3rd Lead Tape & Reel Dimensions



PITCH	12.00 [0.471]
TAPE WIDTH	24.00 [0.942]
REEL DIA	330 [13.0]
COUNT.	1000 pcs

NOTES: UNLESS OTHERWISE SPECIFIED

5. Applicable Standards / Specifications
ANSI Y14.5M, Dimensions and Tolerances
EIA-481-B, 8mm through 200mm Embossed Carrier Tapping and 8mm and 12mm Punched Carrier Tapping of Surface Mount Components for Automatic Handling.
6. Dimensions are in millimetres.
7. Tolerances are ± 0.10 [0.004] mm unless otherwise specified.
8. Do not scale drawing.

Please find attached EOL notification attached fyr.

Note: Both part numbers are EOL & LTB is 2/27/25. Part is FF18EB1-25.000MHZ-T is tape & reel
& open order is 1k so checking to change to tape & reel.

FF18EB1-25.000MHZ
FF18EB1-25.000MHZ-T