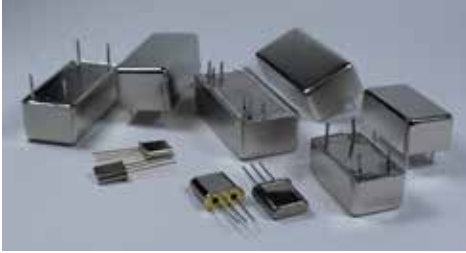


MCF-Series Crystal Filter Specifications



PDI offers a variety of Monolithic and Discrete Crystal Filters over a wide range of frequencies, and are of the highest quality for any commercial or military grade specifications. PDI's crystal filters are available in a variety of standard packages, or fabricated to our customer's specifications. Contact our Sales Department to discuss PDI's capacity to meet the demands of any customer.

ex) **MCF—T#—25000X—A—A—B—X#—X*** # (X) - Option digit (Customer assigned).
* (X) - Check digit (PDI assigned).

DESIGN TYPE

MCF = Monolithic
DCF = Discrete

PACKAGE TYPE

HA = HC-49/U
U1 = UM-1
T# = Thru Hole*
SC = Thru Hole*
FP = Flatpacks
SP = Customer's Requested Package

FREQUENCY

10700X - 99999X =
10.700MHz-99.999MHz
C10000 - C200.00 =
100.00MHz-200.00MHz

BANDWIDTH

A = ±3.75KHz
B = ±7.5KHz
C = ±15.0KHz
D = ±30.0KHz
S = Special

CASE HEIGHT

A, B, C, D, S =
(See package dwg
for preferred height)

OPERATING TEMPERATURE

A = 0 to +70°C
B = -20 to +70°C
C = -30 to +85°C
D = -40 to +85°C
E = -55 to +125°C
S = Special

Options

S = Special
X = Bulk

* Additional PDI Standard Packages Available

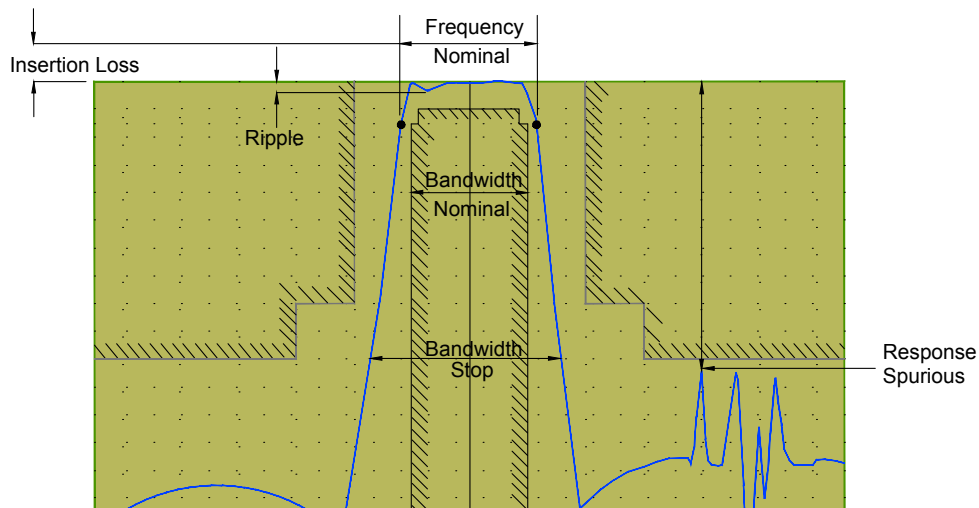
** Custom Frequencies Available upon Request

Package	Image	Frequency	Poles	Pass band	(dB)	Stopband	Ripple	Insertion Loss	Spurious	Ultimate Attenuation	Impedance Ω (Ohms)	Temp. Range	Spec File
HA		10.7 MHz	2	±3.75	3	±15.0	0.5	2.0	-10	-40	1500	B	
HA x 2			4	±3.75	3	±12.5	1.0	2.0	-20	-60	1500	B	
T2			6	±3.75	3	±12.5	2.0	3.5	-30	-60	910//25pf	B	
SC			8	±3.75	3	±8.75	2.0	3.5	-50	-60	2200//2pf	D	
HA			2	±7.50	3	±25.0	1.0	1.5	-10	-35	3000	S	
HA x 2			4	±7.50	3	±25.0	1.0	2.5	-20	-60	3000	C	
T2			6	±7.50	3	±50.0	2.0	3.0	-30	-60	500	C	
SC			8	±7.50	3	±17.0	2.0	3.5	-50	-60	3300	B	
HA			2	±15.0	3	±50.0	0.5	2.0	-10	-40	5000	B	
HA x 2			4	±15.0	3	±50.0	1.0	2.5	-20	-60	5000	B	
FP			6	±15.0	3	±45.0	1.0	2.5	-30	-90	5000	D	
SC			8	±15.0	3	±35.0	2.0	3.5	-50	-80	5000	C	
U1		21.4 MHz	2	±3.75	3	±18.0	0.5	2.0	-10	-40	850//6pf	B	
U1 x 2			4	±3.75	3	±14.0	1.0	2.5	-20	-60	850	S	
HA			2	±7.50	3	±35.0	0.5	2.0	-10	-45	1500	C	
HA x 2			4	±7.50	3	±40.0	1.0	2.0	-20	-90	1400	C	
U1			2	±15.0	3	±50.0	0.5	2.0	-10	-60	2300	A	
U1 x 2			4	±15.0	3	±50.0	1.0	2.5	-20	-35	2300	A	
T2			6	±15.0	3	±70.0	2.5	5.0	-30	-80	500	D	
T2			8	±15.0	6	±33.0	2.0	4.0	-50	-65	470	S	

MCF-Series Crystal Filter Specifications



Package	Image	Frequency	Poles	Pass band	(dB)	Stopband	Ripple	Insertion Loss	Spurious	Ultimate Attenuation	Impedance Ω (Ohms)	Temp. Range	Spec File
U1		45.0 MHz	2	± 3.75	3	± 12.5	1.0	2.0	-10	-35	2000	C	
U1 x 2			4	± 3.75	3	± 15.0	1.0	4.0	-20	-80	3000	B	
U1 x 3			6	± 3.75	3	± 18.0	1.0	3.0	-30	-75	650//5pf	S	
U1			2	± 7.50	3	± 25.0	0.5	1.0	-13	-40	2600	C	
U1 x 2			4	± 7.50	3	± 25.0	1.0	2.5	-20	-60	560	S	
T2			6	± 7.50	3	± 25.0	2.0	5.0	-30	-60	650	C	
U1			2	± 15.0	3	± 50.0	1.0	2.0	-5	-65	650//4pf	D	
U1 x 2			4	± 15.0	3	± 50.0	1.0	4.0	-20	-80	800	S	
U1		70.0 MHz	2	± 7.50	3	± 28.0	1.0	2.5	-10	-35	2000	C	
T2			4	± 7.50	3	± 25.0	2.0	6.0	-20	-70	50	B	
U1 x 2			4	± 15.0	3	± 50.0	1.0	3.0	-10	-40	4000//1pf	S	
U1		90.0 MHz	2	± 7.50	3	± 28.0	1.0	2.0	-10	-40	2000	C	
U1 x 2			4	± 7.50	3	± 25.0	1.0	3.0	-20	-80	2000//1pf	B	
T2			6	± 15.0	3	± 25.0	1.0	5.0	-30	-70	50	B	



Precision Devices Incorporated Definitions:

Nominal Frequency: The frequency at which the filter response is centered.

Insertion Loss: The insertion of a component into the transmission system causing a loss in load power.

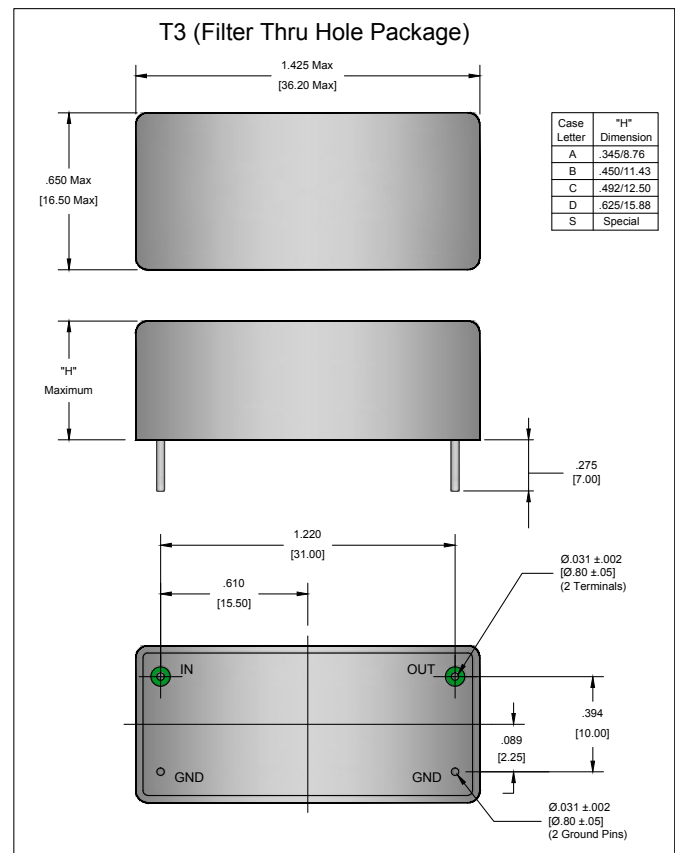
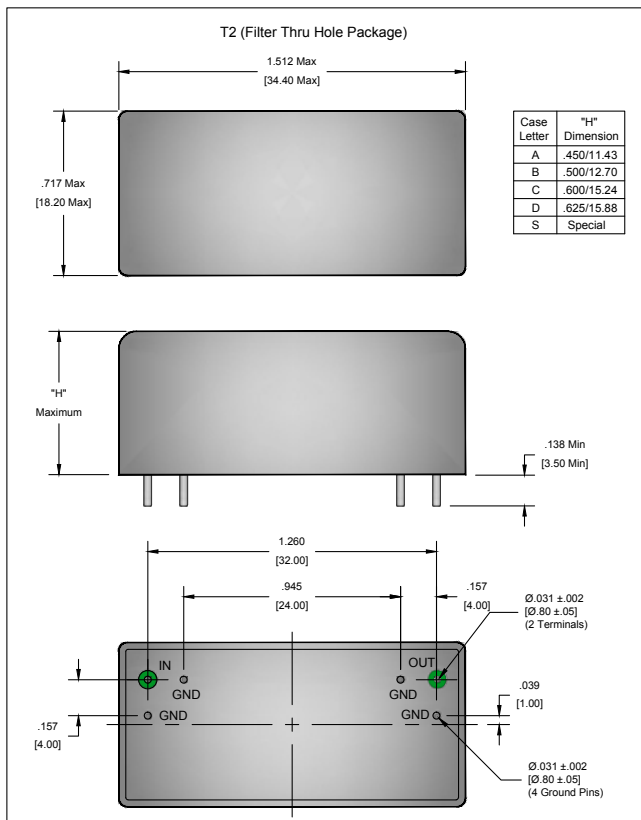
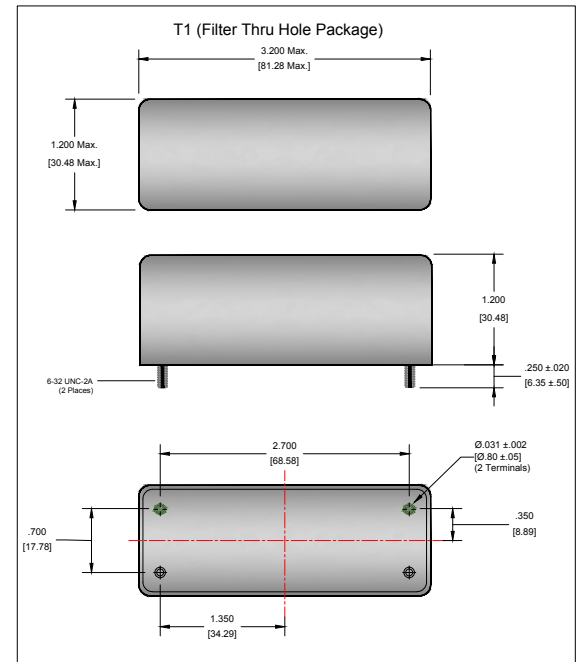
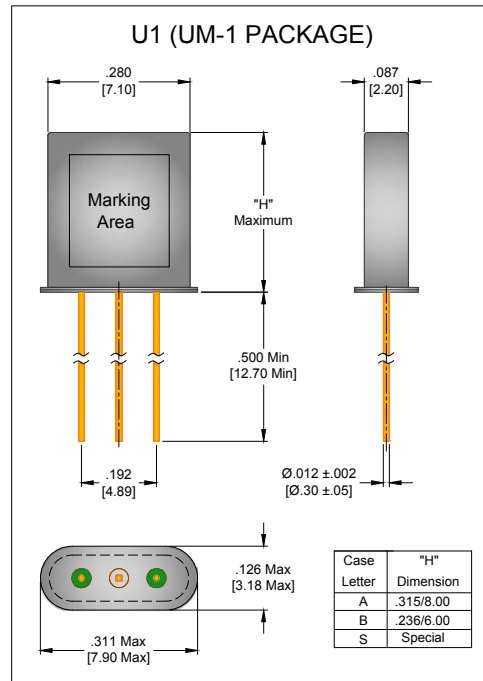
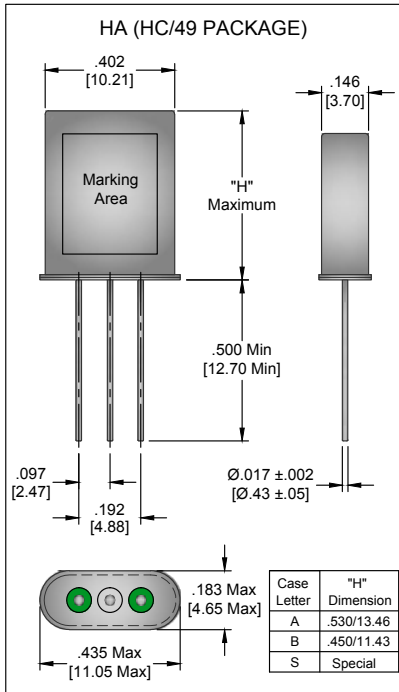
Ripple: The difference between the maximum and minimum attenuation within a passband.

Passband: The band of frequencies where the attenuation of a filter is less than half the power loss.

Stopband: Where the output power of the filter in the unwanted frequency range is below a certain level with reference to the passband power.

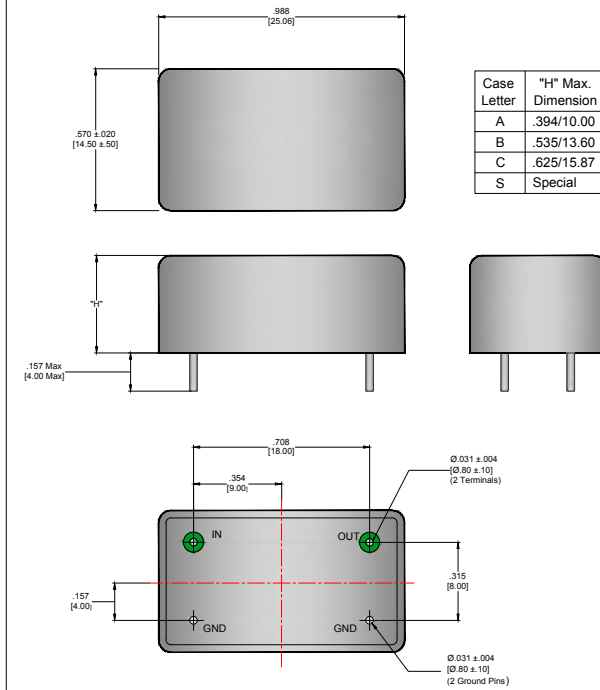
Spurious Resonse: Unwanted power responses normally above the required level.

(TX) PDI Thru Hole Crystal Filter Packages

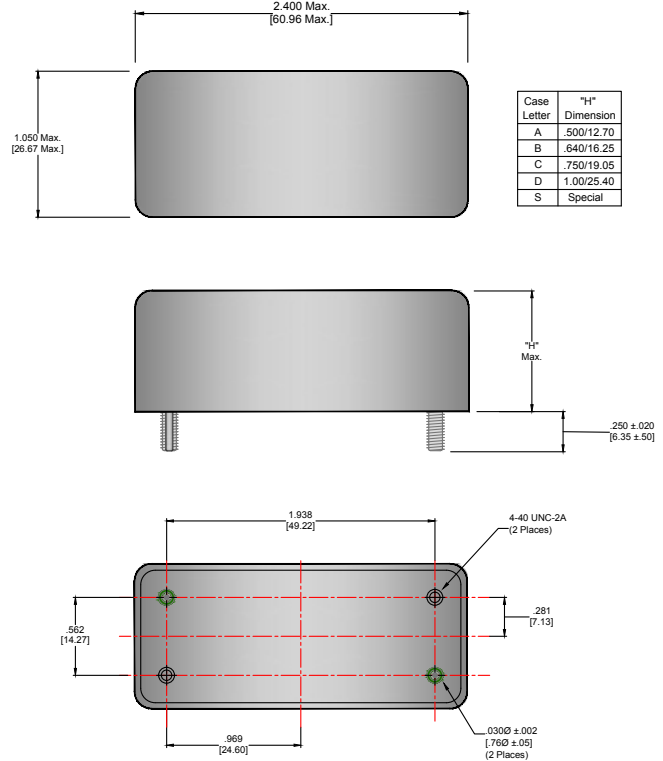


(TX) PDI Thru Hole Crystal Filter Packages

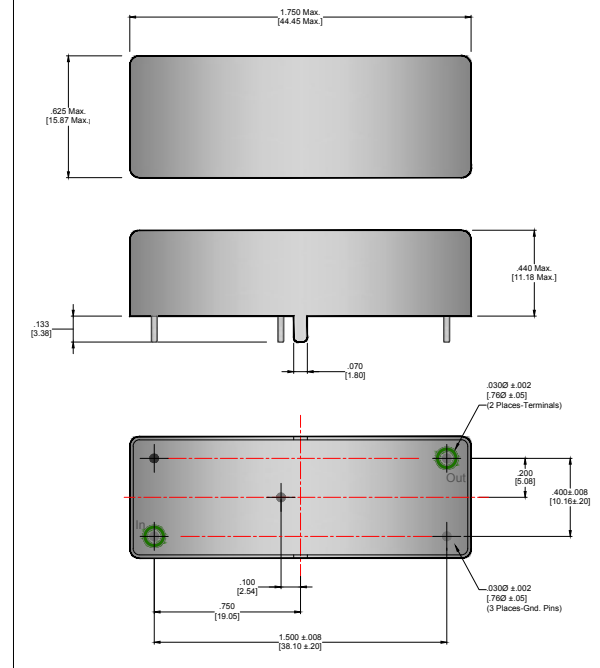
T4 (Filter Thru Hole Package)



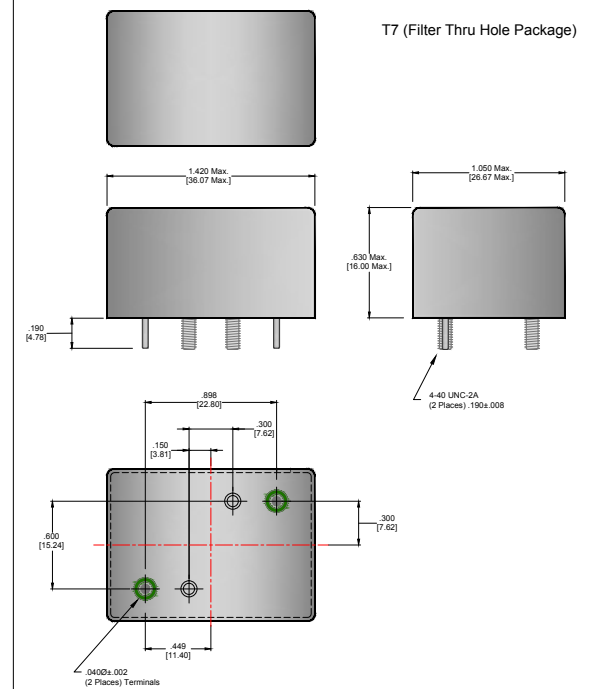
T5 (Filter Thru Hole Package)



T6 (Filter Thru Hole Package)



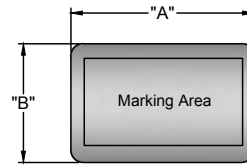
T7 (Filter Thru Hole Package)



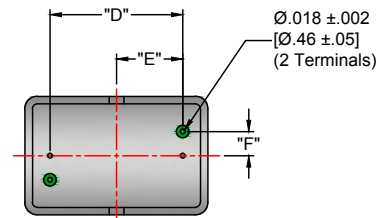
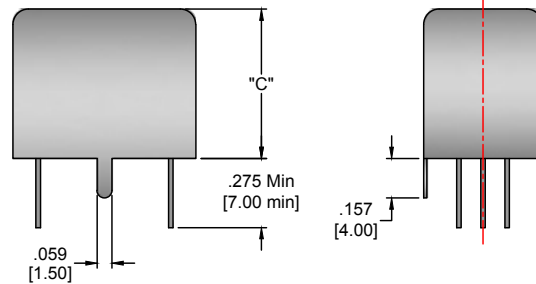
(SC) MCF Standard Crystal & (FP) MCF Flatpack Outline Drawings



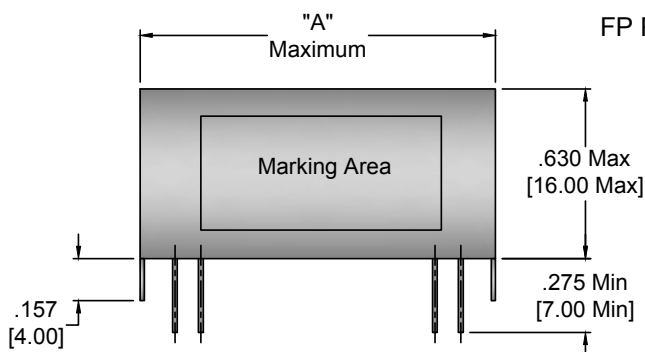
SC Package



Case Letter	"A" Dim	"B" Dim	"C" Dim	"D" Dim	"E" Dim	"F" Dim
A	.433/11.00	.335/8.50	.463/11.76	.291/7.40	.145/3.70	.074/1.88
B	.335/8.50	.335/8.50	.450/11.43	.206/5.23	.103/2.61	.074/1.88
C	.590/15.00	.472/12.00	.595/15.10	.354/9.00	.177/4.50	.096/2.44
D	.730/18.55	.472/12.00	.595/15.10	.528/13.40	.264/6.70	.096/2.44



FP PACKAGE



Case Letter	"A" Dim	"B" Dim	"C" Dim	"D" Dim	"E" Dim
A	.890/22.60	.216/5.50	.432/11.00	.312/7.92	.624/15.85
B	1.320/33.53	.435/11.05	.870/22.10	.530/13.50	1.060/27.00
C	1.750/44.45	.654/16.61	1.308/33.22	.750/19.05	1.500/38.10
D	2.180/55.37	.855/21.71	1.710/43.42	.950/24.15	1.900/48.30

