

Panel Mounted Pi Circuit Filters

DPT

Ordering Information

e.g. **DPT643H**

Blank - UNF thread
M - Metric thread

Blank - Standard thread
L - Long thread

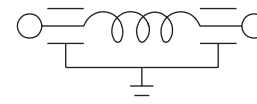
Blank - Standard tag
P - Pin

Blank - No special conditioning
Bu - Standard burn in
Bx - Burn in to cust. req.

Blank - Wavy washer & nut
T - Toothed washer & nut
N - No hardware

Blank - Tin finish
G - Gold
S - Silver

Circuit Diagram

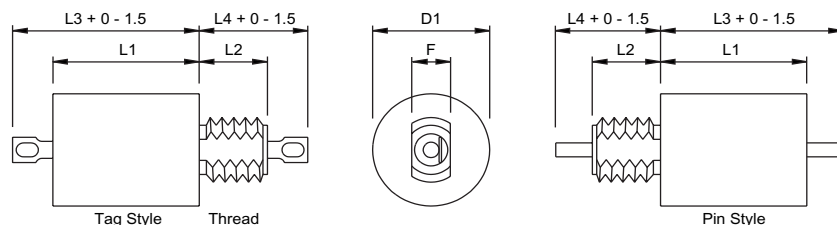


Environmental Classification 55/125/56 Hermetic

For Test Conditions see page63

Case Dimensions

All dimensions maximum unless otherwise stated, in millimetres.



Voltage Rating

DPT# _ _ _ _			
#	-55°C to +85°C V d.c.	-55°C to +125°C V d.c.	-55°C to +125°C V a.c. 400 Hz
3	80	70	50
4	100	87	62
5	150	130	90
6	200	175	125
7	300	260	185
8	450	400	280
9	600	530	375

DPT _ # # _ _						Max Panel Thickness	
#	D1	L1	Tag L3	Pin L3	Mounting Style	Std. Thread	Long Thread
31	9.78	14.7	18.9	27.2	B or C	1.5	3.0
33	9.78	16.3	20.4	28.7	B or C	1.5	3.0
43	17.53	24.85	30.1	36.8	B or C	3.0	—

D1 Case Dia.	Thread		F max	L2 max.		Tag L4		Pin L4		Tag Hole	Pin Dia
	UNF 2A	Metric		Std.	Long	Std.	Long	Std.	Long		
9.78	1/4"-28	M6×0.75	5.08	4.83	7.92	8.9	12.0	17.2	20.3	1.27×1.78	1.55
17.53	5/16"-24	M8×1.0	6.58	8.0	—	14	—	20	—	1.45×3.0	2.15

Characteristics

Part Number	Rated Current (Amps)	Typical Weight (g)	Min. Cap. (μF)	Max Series R (Ω)	Min IR (GΩ)	Min. Insertion Loss (db) at Full Load Current -55°C to +125°C							
						30 kHz	100 kHz	150 kHz	300 kHz	1 MHz	10 MHz	1 GHz	
DPT333G	0.5	8.5	2.8	0.6	50	34	66	76	80	80	80	80	
DPT333H	1.0	8.5	2.8	0.25	50	22	58	68	80	80	80	80	
DPT333K	3.0	8.5	2.8	0.06	50	-	40	50	70	80	80	80	
DPT333M	5.0	8.5	2.8	0.015	50	-	14	33	60	80	80	80	
DPT333N	10.0	8.5	2.8	0.005	50	21	30	30	40	50	68	80	
DPT431B	0.1	8.5	1.4	1.7	250	34	67	72	80	80	80	80	
DPT431E	0.3	8.5	1.4	0.75	250	29	60	70	80	80	80	80	
DPT431G	0.5	8.5	1.4	0.36	250	21	54	67	78	80	80	80	
DPT431H	1.0	8.5	1.4	0.14	250	-	39	56	69	80	80	80	
DPT431J	2.0	8.5	1.4	0.07	250	-	31	45	63	80	80	80	
DPT431M	5.0	8.5	1.4	0.015	250	-	-	-	50	80	80	80	
DPT433G	0.5	8.5	1.4	0.6	250	23	57	65	80	80	80	80	
DPT433H	1.0	8.5	1.4	0.25	250	3	47	55	75	80	80	80	
DPT433K	3.0	8.5	1.4	0.06	250	10	25	40	58	80	80	80	

Part Number	Rated Current (Amps)	Typical Weight (g)	Min. Cap. (μF)	Max Series R (Ω)	Min IR (GΩ)	Min. Insertion Loss (db) at Full Load Current -55°C to +125°C						
						30 kHz	100 kHz	150 kHz	300 kHz	1 MHz	10 MHz	1 GHz
DPT433M	5.0	8.5	1.4	0.015	250	14	-	-	44	75	80	80
DPT433N	10.0	8.5	1.4	0.005	250	15	22	25	20	44	62	80
DPT533G	0.5	8.5	0.66	0.6	500	6	39	50	68	80	80	80
DPT533H	1.0	8.5	0.66	0.25	500	-	28	40	59	80	80	80
DPT533K	3.0	8.5	0.66	0.06	500	-	5	20	41	75	80	80
DPT533M	5.0	8.5	0.66	0.015	500	-	-	-	26	63	80	80
DPT533N	10.0	8.5	0.66	0.005	500	8	12	18	27	38	58	80
DPT633G	0.5	8.5	0.2	0.6	500	-	21	35	49	80	80	80
DPT633H	1.0	8.5	0.2	0.25	500	-	5	17	39	70	80	80
DPT633K	3.0	8.5	0.2	0.06	500	-	-	-	18	53	80	80
DPT633M	5.0	8.5	0.2	0.015	500	-	-	-	-	43	80	80
DPT633N	10.0	8.5	0.2	0.005	500	-	9	12	18	28	45	75
DPT733G	0.5	8.5	0.12	0.6	500	-	7	15	25	54	80	80
DPT733H	1.0	8.5	0.12	0.25	500	-	-	-	13	45	80	80
DPT733K	3.0	8.5	0.12	0.06	500	-	-	-	-	27	80	80
DPT733M	5.0	8.5	0.12	0.015	500	-	-	-	-	10	70	80
DPT733N	10.0	8.5	0.12	0.005	500	-	-	-	5	14	34	80
DPT833G	0.5	8.5	0.04	2.0	500	-	5	11	26	57	80	80
DPT833H	1.0	8.5	0.04	0.5	500	-	-	-	16	46	80	80
DPT833K	3.0	8.5	0.04	0.05	500	-	-	-	-	29	76	80
DPT833M	5.0	8.5	0.04	0.02	500	-	-	-	-	13	65	80
DPT833N	10.0	8.5	0.04	0.005	500	-	-	-	-	12	51	80
DPT933G	0.5	8.5	0.02	2.0	500	-	3	8	20	48	79	80
DPT933H	1.0	8.5	0.02	0.5	500	-	-	-	9	38	80	80
DPT933K	3.0	8.5	0.02	0.05	500	-	-	-	-	30	78	80
DPT933M	5.0	8.5	0.02	0.02	500	-	-	-	-	5	57	80
DPT933N	10.0	8.5	0.02	0.005	500	-	-	-	-	8	43	80
DPT933G2	0.5	8.5	0.01	2.0	1000	-	3	6	13	33	62	80
DPT933H2	1.0	8.5	0.01	0.5	1000	-	-	-	4	22	66	80
DPT933K2	3.0	8.5	0.01	0.05	1000	-	-	-	-	4	58	80
DPT933M2	5.0	8.5	0.01	0.02	1000	-	-	-	-	-	46	80
DPT933N2	10.0	8.5	0.01	0.005	1000	-	-	-	-	-	31	80
DPT343G	0.5	21	3.0	0.3	100	35	70	70	70	70	70	70
DPT343H	1.0	21	3.0	0.21	100	33	65	70	70	70	70	70
DPT343K	3.0	21	3.0	0.03	100	-	45	55	65	70	70	70
DPT343M	5.0	21	3.0	0.03	100	-	40	52	68	70	70	70
DPT343N	10.0	21	3.0	0.005	100	-	12	20	50	70	70	70
DPT543G	0.5	21	2.1	0.3	150	34	65	75	80	80	80	80
DPT543H	1.0	21	2.1	0.21	150	27	60	69	80	80	80	80
DPT543H1	1.0	21	2.8	0.21	100	35	68	-	80	80	80	80
DPT543K	3.0	21	2.1	0.03	150	12	36	48	66	80	80	80
DPT543M	5.0	21	2.1	0.02	260	9	12	35	57	80	80	80
DPT543M1	5.0	21	2.8	0.007	100	-	26	-	63	80	80	80
DPT543N	10.0	21	2.1	0.005	150	18	21	17	36	70	80	80
DPT643G	0.5	21	0.9	0.3	250	18	51	61	78	80	80	80
DPT643H	1.0	21	0.9	0.21	250	12	48	57	76	80	80	80
DPT643K	3.0	21	0.9	0.03	250	7	23	36	55	80	80	80
DPT643M	5.0	21	0.9	0.02	250	-	8	17	43	73	80	80
DPT643N	10.0	21	1.5	0.005	100	14	15	17	33	68	70	70
DPT743G	0.5	21	0.5	0.3	500	8	41	52	68	80	80	80
DPT743H	1.0	21	0.5	0.21	500	-	38	49	67	70	70	70
DPT743K	3.0	21	0.5	0.03	500	4	6	20	42	72	80	80
DPT743M	5.0	21	0.5	0.02	500	-	-	6	32	65	70	70
DPT743N	10.0	21	0.5	0.005	500	5	12	14	12	46	80	80
DPT843G	0.5	22	0.21	0.3	1000	-	30	41	58	70	70	70
DPT843H	1.0	22	0.21	0.25	1000	-	27	38	56	80	80	80
DPT843H1	1.0	22	0.5	0.25	500	-	38	49	67	70	70	70
DPT843K	3.0	22	0.21	0.03	1000	-	-	6	27	60	70	70
DPT843M	5.0	22	0.21	0.01	1000	-	7	8	15	51	70	70
DPT843N	10.0	22	0.21	0.005	1000	-	9	12	14	39	70	70

Part Number	Rated Current (Amps)	Typical Weight (g)	Min. Cap. (μF)	Max Series R (Ω)	Min IR (GΩ)	Min. Insertion Loss (db) at Full Load Current -55°C to +125°C						
						30 kHz	100 kHz	150 kHz	300 kHz	1 MHz	10 MHz	1 GHz
DPT943G	0.5	22	0.14	0.3	800	-	21	31	48	70	70	70
DPT943H	1.0	22	0.14	0.21	800	-	15	25	43	70	70	70
DPT943K	3.0	22	0.14	0.03	800	-	-	-	20	52	70	70
DPT943M	5.0	22	0.14	0.01	800	-	-	-	6	44	70	70
DPT943N	10.0	22	0.14	0.005	800	-	-	6	11	25	70	70

Pi Circuit

DPT

Ordering Information

e.g. DPT660N   40N0

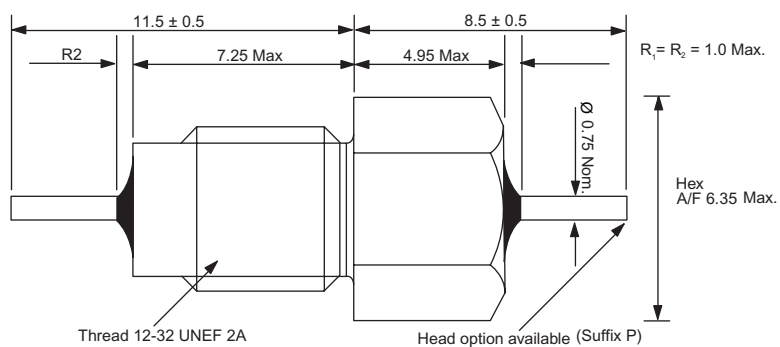
Blank=Plain leads

P=Headed leads

Blank - Wavy washer & nut
T - Toothed washer & nut
N - No hardwareBlank - Tin finish
S - Silver

Case Dimensions

All dimensions maximum unless otherwise stated, in millimetres.



Characteristics

Part Number Cap + Suffix	Rated Current (Amps)	Rated Voltage		Max. Series $R\Omega$	Min. IR $G\Omega$	Typical No Load Insertion Loss (db) at 25°C			
		-55°C to +85°C V d.c.	-55°C to +125°C V d.c.			3 MHz	10 MHz	100 MHz	1 GHz
DPT660N-40N0	10	200	175	0.005	5	26	56	75	75
DPT660N-P40N0	10	200	175	0.005	5	26	56	75	75

Panel Mounted T Circuit Filters

DTT

Ordering Information

e.g. **DTT643N**

Blank - UNF thread
M - Metric thread

Blank - Standard thread
L - Long thread

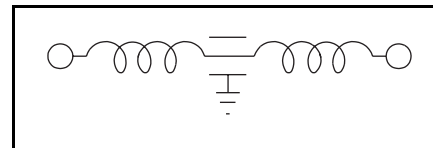
Blank - Standard tag
P - Pin

Blank - No special conditioning
Bu - Standard burn in
Bx - Burn in to cust. req.

Blank - Wavy washer & nut
T - Toothed washer & nut
N - No hardware

Blank - Tin finish
G - Gold
S - Silver

Circuit Diagram

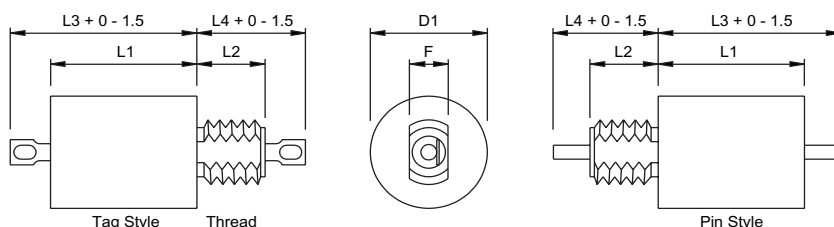


Environmental Classification 55/125/56 Hermetic

For Test Conditions see page63

Case Dimensions

All dimensions maximum unless otherwise stated, in millimetres.



Voltage Rating

DTT# _ _ _ _			
#	-55°C to +85°C V d.c.	-55°C to +125°C V d.c.	-55°C to +125°C V a.c. 400 Hz
3	80	70	50
4	100	87	62
5	150	130	90
6	200	175	125
7	300	260	185
8	450	400	280
9	600	530	375

DTT _ # # _							Max. Panel Thickness
#	D1	L1	Tag L3	Pin L3	Mounting Style	Std. Thread	Long Thread
34	9.78	26.0	30.1	38.4	B or C	1.5	3.0
43	17.53	24.85	30.1	36.8	B or C	3.0	—

D1 Case Dia.	Thread		F max	L2 max		Tag L4		Pin L4		Tag Hole		Pin Dia.
	UNF 2A	Metric		Std.	Long	Std.	Long	Std.	Long	Std.	Long	
9.78	¼"-28	M6 × 0.75	5.08	4.83	7.92	8.9	12.0	17.2	20.3	1.27 × 1.78	1.55	
17.53	5/16"-24	M8 × 1.0	6.35	8.0	—	14	—	20	—	1.45 × 3.0	2.15	

Characteristics

Part Number	Rated Current (Amps)	Typical Weight (g)	Min. Cap. (µF)	Max Series R (Ω)	Min IR (MΩ)	Min. Insertion Loss (db) at Full Load Current -55°C to +125°C						
						30 kHz	100 kHz	150 kHz	300 kHz	1 MHz	10 MHz	1 GHz
DTT334H	1.0	10	1.4	0.5	100	16	32	40	57	75	75	75
DTT334J	2.0	10	1.4	0.09	100	15	26	31	37	61	75	75
DTT334L	4.0	10	1.4	0.03	100	15	25	29	34	47	75	75
DTT334N	10.0	10	1.4	0.005	100	15	25	28	34	44	60	75
DTT434H	1.0	10	0.75	0.5	1000	10	25	34	49	75	75	75
DTT434J	2.0	10	0.75	0.09	1000	10	19	25	32	56	75	75
DTT434L	4.0	10	0.75	0.03	1000	10	19	22	29	42	75	75
DTT434N	10.0	10	0.75	0.005	1000	9	19	22	28	39	58	75
DTT534H	1.0	10	0.6	0.5	400	10	24	32	47	70	75	75
DTT534J	2.0	10	0.6	0.09	400	9	20	25	34	57	80	80
DTT534L	4.0	10	0.6	0.025	400	9	19	21	27	39	70	75
DTT534N	10.0	10	0.33	0.005	1000	5	14	16	21	31	54	75
DTT634H	1.0	10	0.18	0.5	500	-	16	21	38	65	75	75
DTT634J	2.0	10	0.1	0.09	1000	-	-	9	14	34	75	75
DTT634J1	2.0	10	0.2	0.09	1000	-	11	17	29	57	75	75

Part Number	Rated Current (Amps)	Typical Weight (g)	Min. Cap. (µF)	Max Series R (Ω)	Min IR (MΩ)	Min. Insertion Loss (db) at Full Load Current -55°C to +125°C						
						30 kHz	100 kHz	150 kHz	300 kHz	1 MHz	10 MHz	1 GHz
DTT634L	4.0	10	0.18	0.025	500	-	9	11	17	30	75	75
DTT634N	10.0	10	0.1	0.005	1000	-	5	8	11	21	41	75
DTT734H	1.0	10	0.12	0.5	500	-	11	20	36	66	75	75
DTT734J	2.0	10	0.12	0.09	500	-	6	10	18	41	75	75
DTT734L	4.0	10	0.12	0.03	500	-	6	9	15	27	62	75
DTT734N	10.0	10	0.12	0.005	500	-	6	9	15	25	45	75
DTT834H	1.0	10	0.04	0.5	500	-	-	-	16	46	80	80
DTT834J	2.0	10	0.04	0.1	500	-	-	-	6	26	73	80
DTT834L	4.0	10	0.04	0.03	500	-	-	-	5	19	60	75
DTT834N	10.0	10	0.04	0.005	500	-	-	-	5	15	39	75
DTT934H	1.0	10	0.02	0.5	500	-	-	-	20	51	75	75
DTT934J	2.0	10	0.02	0.1	500	-	-	-	2	22	68	75
DTT934L	4.0	10	0.02	0.03	500	-	-	-	2	12	48	75
DTT934N	10.0	10	0.02	0.005	500	-	-	-	2	11	31	75
DTT934H1	1.0	10	0.008	0.5	1000	-	-	-	6	40	74	75
DTT934J1	2.0	10	0.008	0.1	1000	-	-	-	-	17	71	75
DTT934L1	4.0	10	0.008	0.03	1000	-	-	-	-	3	43	75
DTT934N1	10.0	10	0.008	0.005	1000	-	-	-	-	-	23	75
DTT934H2	1.0	10	0.01	0.5	1000	-	-	-	7	42	75	75
DTT934J2	2.0	10	0.01	0.1	1000	-	-	-	-	19	74	75
DTT934L2	4.0	10	0.01	0.03	1000	-	-	-	-	4	45	75
DTT934N2	10.0	10	0.01	0.005	1000	-	-	-	-	3	26	75
DTT343H	1.0	21	3.0	0.42	100	26	51	60	70	70	70	70
DTT343J	2.0	21	3.0	0.21	100	21	37	45	60	70	70	70
DTT343K	3.0	21	3.0	0.06	100	20	32	36	46	65	70	70
DTT343L	4.0	21	3.0	0.045	100	20	31	35	44	63	70	70
DTT343M	5.0	21	3.0	0.06	100	21	32	36	44	64	70	70
DTT543H	1.0	21	1.4	0.42	300	21	49	59	75	75	75	75
DTT543H1	1.0	21	0.7	0.5	1000	14	42	52	69	75	75	75
DTT543J	2.0	21	1.4	0.21	300	14	30	38	53	70	70	70
DTT543J1	2.0	21	0.7	0.09	1000	9	21	30	38	66	75	75
DTT543K	3.0	21	1.4	0.06	300	13	24	29	39	64	70	70
DTT543L	4.0	21	1.4	0.06	300	13	24	28	37	59	70	70
DTT543M	5.0	21	1.4	0.04	300	14	24	28	34	48	75	75
DTT543N	10.0	21	1.4	0.01	500	14	24	28	34	44	60	75
DTT543N1	10.0	21	0.7	0.01	1000	9	19	22	29	39	58	75
DTT643H	1.0	21	0.45	0.42	500	10	38	49	67	70	70	70
DTT643J	2.0	21	0.45	0.21	500	4	20	28	45	70	70	70
DTT643K	3.0	21	0.8	0.06	250	9	20	25	35	60	70	70
DTT643L	4.0	21	0.45	0.03	500	5	14	18	26	40	70	70
DTT643M	5.0	21	0.80	0.02	250	9	19	23	30	45	70	70
DTT643N	10.0	21	0.45	0.01	500	5	15	19	24	35	50	75
DTT743H	1.0	22	0.25	0.42	1000	3	30	41	57	75	75	75
DTT743J	2.0	22	0.25	0.21	1000	-	15	23	39	68	70	70
DTT743K	3.0	22	0.25	0.06	1000	-	10	15	25	50	70	70
DTT743K1	3.0	22	0.28	0.15	1000	2	12	17	30	57	80	80
DTT743L	4.0	22	0.25	0.03	1000	-	9	13	20	38	70	70
DTT743M	5.0	22	0.25	0.04	1000	2	10	13	19	35	75	75
DTT743N	10.0	22	0.25	0.01	1000	-	12	14	19	30	54	75
DTT843H	1.0	22	0.12	0.42	1000	-	27	37	56	70	75	75
DTT843J	2.0	22	0.12	0.21	1000	-	8	16	33	60	70	70
DTT843K	3.0	22	0.12	0.06	1000	-	4	8	18	44	70	70
DTT843L	4.0	22	0.12	0.03	1000	-	4	7	14	33	70	70
DTT843M	5.0	22	0.12	0.02	1000	-	4	7	13	29	70	70
DTT843N	10.0	22	0.1	0.01	1000	-	6	7	12	23	40	75
DTT943H	1.0	22	0.07	0.42	1200	-	17	28	46	70	70	70
DTT943J	2.0	22	0.07	0.21	1200	-	-	10	27	57	70	70
DTT943K	3.0	22	0.07	0.06	1200	-	-	3	13	39	70	70
DTT943L	4.0	22	0.07	0.03	1200	-	-	-	11	34	70	70
DTT943M	5.0	22	0.07	0.02	1200	-	-	-	8	19	52	70

Panel Mounted Twin T and Twin Pi Filters

DXT, DYT

Ordering Information

e.g. **DXT645H**

Blank - UNF thread
M - Metric thread

Blank - Standard thread
L - Long thread

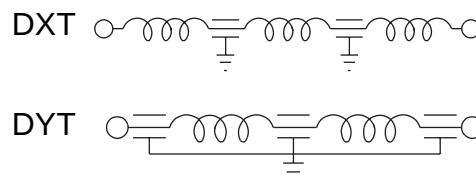
Blank - Standard tag
P - Pin

Blank - No special conditioning
Bu - Standard burn in
Bx - Burn in to cust. req.

Blank - Wavy washer & nut
T - Toothed washer & nut
N - No hardware

Blank - Tin finish
G - Gold
S - Silver

Circuit Diagram

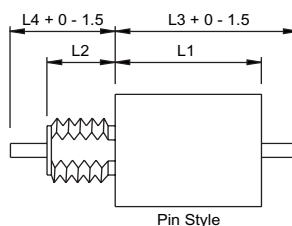
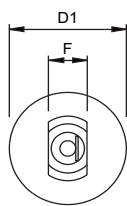
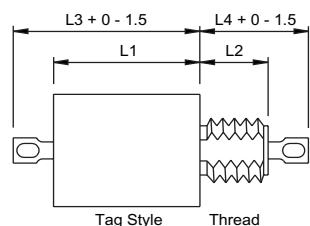


Environmental Classification 55/125/56 Hermetic

For Test Conditions see page63

Case Dimensions

All dimensions maximum unless otherwise stated, in millimetres.



D_T_#_#_—						Max. Panel Thickness	
# #	D1	L1	Tag L3	Pin L3	Mounting Style	Std. Thread	Long Thread
34	9.78	26.0	30.1	38.4	B or C	1.5	3.0
35	9.78	30.2	34.3	42.6	B or C	3.0	3.0
44	17.53	34.15	39.2	46.1	B or C	3.0	—
45	17.53	39.25	44.3	51.2	B or C	3.0	—

D1 Case Dia.	Thread		F Max.	L2 Max.		Tag L4		Pin L4		Tag Hole		Pin Dia.
	UNF 2A	Metric		Std.	Long	Std.	Long	Std.	Long	1.27 × 1.78	1.55	
9.78	¼"-28	M6 × 0.75	5.08	4.83	7.92	8.9	12.0	17.2	20.3	1.27 × 1.78	1.55	1.55
17.53	5/16"-24	M8 × 1.0	6.58	8.0	—	14	—	20	—	1.45 × 3.0	2.15	2.15

Voltage Rating

D_T#_#_—			
#	-55°C to +85°C V d.c.	-55°C to +125°C V d.c.	-55°C to +125°C V a.c. 400 Hz
3	80	70	50
5	150	130	90
6	200	175	125
7	300	260	185
8	450	400	280
9	600	530	375

Characteristics

Part Number	Rated Current (Amps)	Typical Weight (g)	Min. Cap. (µF)	Max Series R (Ω)	MinIR (MΩ)	Min. Insertion Loss (db) at Full Load Current -55°C to +125°C						
						30 kHz	100 kHz	150 kHz	300 kHz	1 MHz	10 MHz	1 GHz
DXT635H	1.0	15	0.18	0.6	500	-	-	19	48	90	90	90
DXT635L	4.0	15	0.18	0.05	500	-	-	-	-	42	90	90
DXT345H	1.0	30	3.0	0.42	100	35	70	70	70	70	70	70
DXT345L	4.0	30	3.0	0.045	100	10	42	55	70	70	70	70
DXT545H	1.0	30	2.1	0.63	150	35	70	70	70	70	70	70
DXT545L	4.0	30	2.1	0.06	150	-	36	50	65	70	70	70
DXT645H	1.0	30	1.5	0.63	100	23	65	70	70	70	70	70
DXT745H	1.0	30	0.5	0.63	500	-	49	66	90	90	90	90
DXT745L	4.0	30	0.5	0.05	500	3	9	5	28	68	90	90
DXT845H	1.0	30	0.21	0.63	500	-	33	49	80	80	80	80
DXT845L	4.0	30	0.21	0.045	500	-	-	-	22	60	70	70
DXT945H	1.0	30	0.14	0.42	800	-	6	18	43	70	70	70
DXT945L	4.0	30	0.14	0.045	800	-	-	-	8	50	70	70
DYT534H	1.0	13	0.9	0.5	250	-	-	63	90	90	90	90
DYT534L	4.0	13	0.9	0.025	250	-	-	-	21	85	90	90

Part Number	Rated Current (Amps)	Typical Weight (g)	Min. Cap. (μ F)	Max Series R (Ω)	MinIR (M Ω)	Min. Insertion Loss (db) at Full Load Current -55°C to +125°C						
						30 kHz	100 kHz	150 kHz	300 kHz	1 MHz	10 MHz	1 GHz
DYT344H	1.0	28	4.0	0.42	100	45	70	70	70	70	70	70
DYT344M	5.0	28	4.0	0.06	100	6	45	65	70	70	70	70
DYT544H	1.0	28	2.1	0.42	140	34	90	90	90	90	90	90
DYT544M	5.0	28	2.1	0.04	170	9	15	28	70	90	90	90
DYT644H	1.0	28	1.5	0.42	100	22	70	70	70	70	70	70
DYT744H	1.0	28	0.5	0.42	500	-	3	27	60	70	70	70
DYT744M	5.0	30	0.25	0.04	500	-	-	-	25	70	70	70
DYT844H	1.0	28	0.21	0.42	500	-	33	50	70	70	70	70
DYT844M	5.0	28	0.21	0.02	500	-	4	4	8	60	70	70
DYT944H	1.0	28	0.21	0.42	500	-	10	32	65	70	70	70
DYT944M	5.0	28	0.21	0.03	400	-	-	-	6	33	70	70

Panel Mounted Multiway L and C Circuit Filters

MLT

Ordering Information

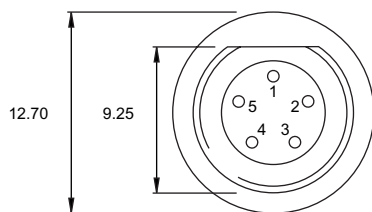
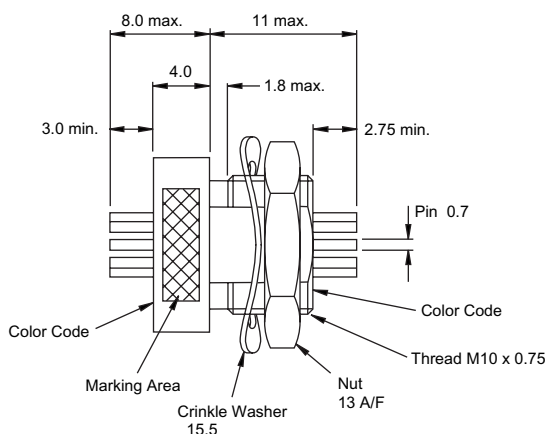
Please state Part Number and quantity.
Nut and washer supplied as standard.

Materials

Case and nut: Brass, silver finish
Feedthrough terminations: Copper alloy, tin lead or silver finish.

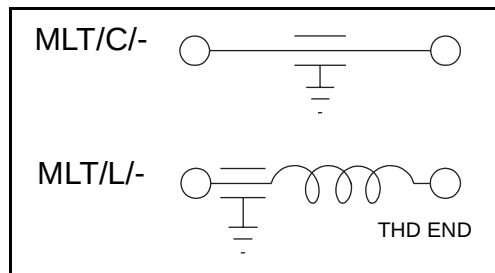
Case Dimensions

All dimensions in millimetres.



Pin Number	Position	
	X mm	Y mm
1	0.000	2.286
2	1.981	1.143
3	1.143	-1.981
4	1.143	-1.981
5	-1.981	1.143

Circuit Diagram



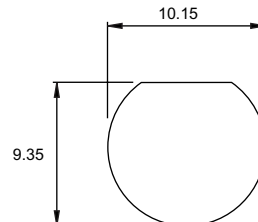
Voltage Rating

-55°C to +85°C.	+125°C.
200 V d.c.	100 V d.c.

Linearly derate between 85°C and 125°C

Thread	M10 × 0.75
Min. Pitch	14.60 mm
Min. Chassis Thickness	2.25 mm
Max Chassis Thickness	5.0 mm

Mounting Details



For Test Conditions see pa ge63

Characteristics (Each Line)

Part Number	Cap. (pF) (-20% +80%)	Single Line Current Rating (A d.c.)	Bunched Current Rating (A d.c.)	Typical Insertion Loss (dB) (50 Ω system)					Color Code* Top/Threaded end	Code/ Color* marking
				1 MHz	10 MHz	100 MHz	1 GHz	10 GHz		
MLT/C/330/5	330	10	5	—	2	18	35	60	Green/White	OX C3 30
MLT/C/680/5	680	10	5	1	4	22	35	70	Grey/White	OX C6 80
MLT/C/1000/5	1000	10	5	1	9	26	40	70	Brown/White	OX C1 n0
MLT/C/4700/5	4700	10	5	3	20	36	50	70	Red/White	OX C4 n7
MLT/C/10000/5	10000	10	5	8	27	44	63	70	Black/White	OX C1 0n
MLT/C/22000/5	22000	10	5	12	30	50	68	70	Blue/White	OX C2 2n
MLT/L/330/5	330	10	5	—	2	20	38	60	Green/Red	OX L3 30
MLT/L/680/5	680	10	5	1	4	24	38	70	Grey/Red	OX L6 80
MLT/L/1000/5	1000	10	5	1	9	28	43	70	Brown/Red	OX L1 n0
MLT/L/4700/5	4700	10	5	3	21	38	56	70	Red/Red	OX L4 n7
MLT/L/10000/5	10000	10	5	8	28	48	70	70	Black/Red	OX L1 0n
MLT/L/22000/5	22000	10	5	12	31	54	70	70	Blue/Red	OX L2 2n

* Color code at manufacturer's discretion.

Product Installation

Due to the nature of the components used in the assembly of ceramic filters, great care must be taken to avoid damage either by mechanical or thermal stress during the installation or termination of the device. Bending or cropping of terminal wires should not be carried out unless adequate support of the wire can be provided to eliminate the possibility of mechanical stress or shock during the cutting operation.

To achieve optimum insertion loss performance, the design of the equipment must be such that it allows for the component to be mounted to a bulkhead of minimal impedance. Co-axial earthing over a full 360° must be achieved and input and output connections should be screened from each other.

Lead Wire Attachment

1. To eliminate the risk of thermal shock, the filter assembly should be preheated to 120°C (248°F) for 5 minutes.
2. Joints should be effected using a soldering iron with a bit temperature not exceeding 300°C (572°F). To minimize the heat transfer to the filter elements, the solder joint should be completed within a period not exceeding 10 seconds, 60/40 or 62/36/2 solders should be used.
3. The assembly should be allowed to cool at a rate not exceeding 100°C (212°F) per minute.
4. In subsequent degreasing operations, care must be taken to avoid any thermal shock.

Component Mounting

Solder Style

1. Mounting of the filter should be achieved using either 60/40 or 62/36/2 cream or solder preform.
2. The filter and mounting plate must be preheated together to eliminate thermal shock on the ceramic elements. This assembly should be allowed to increase in temperature gradually by soaking in an ambient of 120°C (248°F) for a period of up to 5 minutes where possible. Heat must not be applied directly to the filter body and the temperature on the filter surface should not be allowed to increase faster than by 100°C (212°F) per minute.
3. After the preheat cycle, the mounting plate temperature should be raised to achieve solder flow. The solder flow state should be maintained for a minimum period, consistent with a good joint (normally less than 10 seconds).

Threaded Style

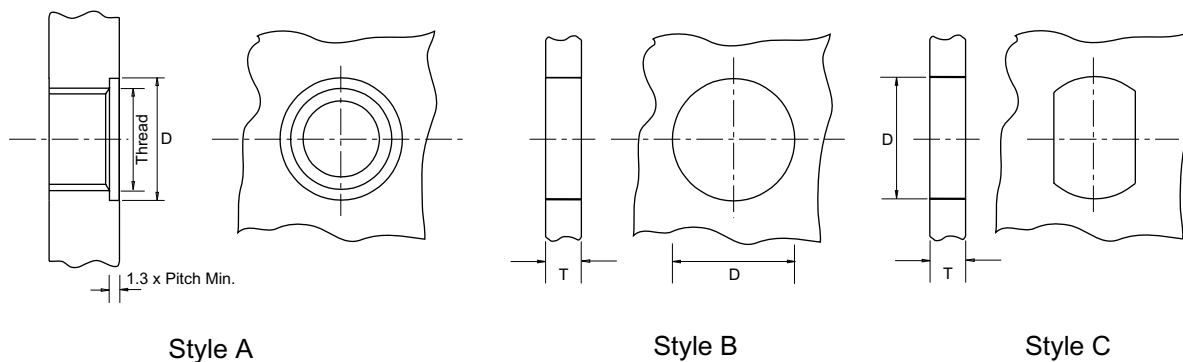
1. All thread area and mating surfaces must be clean and dry prior to assembly.
2. If a washer is used, this must be fitted between the nut and ground plane. The selection of the washer style - either internal toothed or wavy, must take into consideration the material of the bulkhead. It is recommended that toothed washers should not be used in conjunction with protective finishes such as alochrome.
3. If mounting in a threaded hole, the form of the hole should be as style A, which is designed to ensure efficient RF sealing of the assembly by maximizing the mating surface area. For mounting in a plain hole by the use of the supplied mounting hardware, the clearance hole should be as style B.
4. The maximum panel thickness as detailed for the particular device must not be exceeded. The mounting torque as defined below for the particular style of hole and thread diameter must be observed. No strain should be exerted on the cylindrical part of the filter body or on any of the terminal/seal areas.
5. Locking compounds, if used, should be applied after the device has been installed to the correct mounting torque to avoid the danger of mating surface contamination and the subsequent increase in the resistance of the filter to the bulkhead joint (resulting in serious insertion loss degradation).

6. When mounting into a threaded hole, the maximum permissible mounting torque applied must be limited to half the value defined for mounting into a non-threaded hold (Table 2.).

Thread	Clearance Mounting Hole D + 0.2 - 0.0 mm	Max. Torque Clearance Hole (Nm)	Max. Torque Threaded Hole (Nm)
4-4 UNC 2A	2.95	0.4	0.2
6-32 UNC 2A	3.6	0.4	0.2
6-40 UNF 2A	3.6	0.4	0.2
8-32 UNC 2A	4.3	0.4	0.2
12-28 UNF 2A	5.6	0.6	0.3
12-32 UNEF 2A	5.6	0.6	0.3
1/4"-28 UNF 2A	6.6	1.0	0.5
5/16"-24 UNF 2A	8.2	1.2	0.6
5/16"-32 UNEF 2A	8.2	1.4	0.7
3/8"-32 UNEF 2A	9.8	1.8	0.9
M3	3.1	0.4	0.2
M3.5 x 0.6	3.6	0.4	0.2
M4 x 0.5	4.1	0.6	0.3
M5 x 0.5	5.1	0.8	0.4
M5 x 0.8	5.1	0.8	0.4
M6 x 0.75	6.1	1.0	0.5
M8 x 1.0	8.2	1.4	0.7
M10	10.1	1.8	0.9
2BA	5.1	0.6	0.3

**Table 2 - Permissible mounting torques
(unless otherwise stated on data sheet)**

Bulkhead Mounting Details



Application Notes

Performance Measurement and Calculations

Insertion Loss

The performance of low pass filters is often characterized in terms of an insertion loss curve. Insertion loss can be described as the ratio of voltages across the load with and without the filter in the circuit. This is generally defined using a 50Ω input and load impedance, and given in decibels (dB).

$$\text{Insertion Loss (dB)} = 20 \log_{10} (V_1/V_2)$$

Where V_1 is the signal voltage without the filter present and V_2 is the voltage after the filter has been put into the circuit.

Example: $V_1 = 100$ millivolts, $V_2 = 1$ millivolt

The filter is providing an insertion loss of:

$$\text{Insertion Loss (dB)} = 20 \log_{10} \frac{100}{1}$$

$$\therefore \text{Insertion Loss} = 40 \text{ dB}$$

All insertion loss figures shown in this catalogue are measured in a 50Ω system.

Where the effect of temperature and load currents on the insertion loss has been taken into account in the filter design this is stated in the data table headings.

All values claimed have been inset to cover measurement uncertainties and together with production component spreads, actual measured values will exceed the claims by typically 3 dB.

Since load current increase and temperature excursion reduce the insertion loss of any filter, operation at lower load current and/or temperature excursion than defined in the data tables will result in further gains of insertion loss of typically 3 to 6 dB.

To achieve optimum insertion loss, the filter should be mounted on a bulkhead of minimal RF impedance and provide co-axial earthing over 360°. The bulkhead should offer effective screening between input and output connections. (See "Bulkhead Mounting Details" on page 58.)

Insertion Loss Characteristics

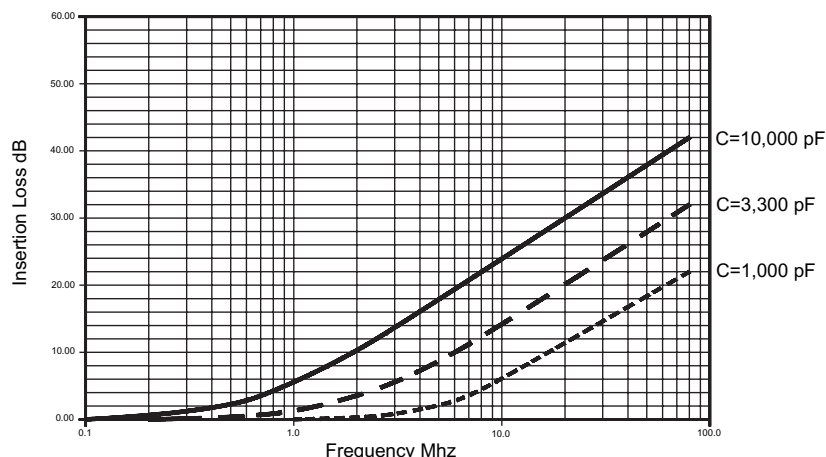


Figure 4 - Insertion Loss of feedthrough capacitor filters