

# Type 557 UHL, 125 °C Military Grade, Axial Leaded, Aluminum

## Ultra-High Temperature Capability

Designed for data and mobile communications and military applications requiring extra high temperature and longest life. Type 557 UHL is the equivalent of MIL-C-39018/01 (CU13) with high frequency vibration capabilities to 15g at 2,000 Hz.



## Highlights

- \* Long life
- \* High Temperature
- \* High Frequency Vibration Capabilities

## Specifications

<b>Operating Temperature:</b>	-55 °C to +125 °C
<b>Rated Voltage:</b>	5 to 200 Vdc (7 to 250 Vdc @ 85 °C)
<b>Capacitance:</b>	5.6 to 1000 $\mu$ F
<b>Capacitance Tolerance:</b>	5 to 60 Vdc -10 + 75%, 75 to 200 Vdc -10 + 50%
<b>Leakage Current:</b>	

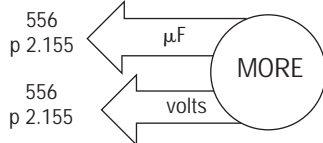
Case Size	+ 25 °C	+85/125 °C	Case Size	+25 °C	+85/125 °C
3/8 x 15/16	3 $\mu$ A	18 $\mu$ A	3/8 x 2 3/16	7 $\mu$ A	42 $\mu$ A
3/8 x 1-1/8	3 $\mu$ A	18 $\mu$ A	3/8 x 2 11/16	10 $\mu$ A	60 $\mu$ A
3/8 x 1-3/8	4 $\mu$ A	24 $\mu$ A			
3/8 x 1-5/8	5 $\mu$ A	32 $\mu$ A	Multiply by 2 for 200 & 250 Vdc		

### Ripple Current Multiplier: Ambient Temperature

45 °C	55 °C	65 °C	75 °C	85 °C	95 °C	105 °C
1.41	1.32	1.22	1.12	1.00	0.87	0.71

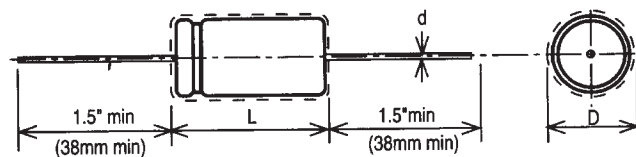
### Frequency

	50 Hz	60 Hz	120 Hz	360 Hz	1 kHz	5 kHz	10 kHz+
0-60 Vdc	0.85	1.00	1.10	1.15	1.15	1.15	1.15
61-200 Vdc	0.83	1.00	1.15	1.20	1.20	1.20	1.20



- Load Life:** 2,000 h @ +125 °C, 10,000 h @ +85 °C  
 $\Delta$  Capacitance  $\pm$ 15%  
 ESR 130% of limit  
 DCL 100% of limit
- Shelf Life:** 500 h @ +125 °C,  
 $\Delta$  Capacitance  $\pm$ 10%  
 ESR 115% of limit  
 DCL 200% of limit
- Vibration:** 10 to 2000 Hz; 0.06" and 15 g max, 2 h in each plane

## Outline Drawings



d = 20 AWG for D < 0.75"; 18 AWG for D  $\geq$  0.75"

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## Case Dimensions

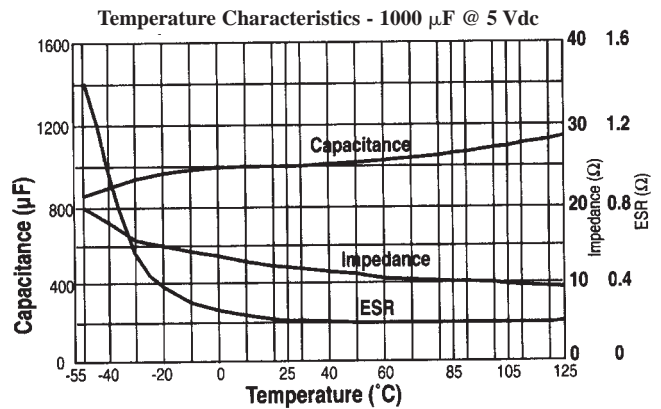
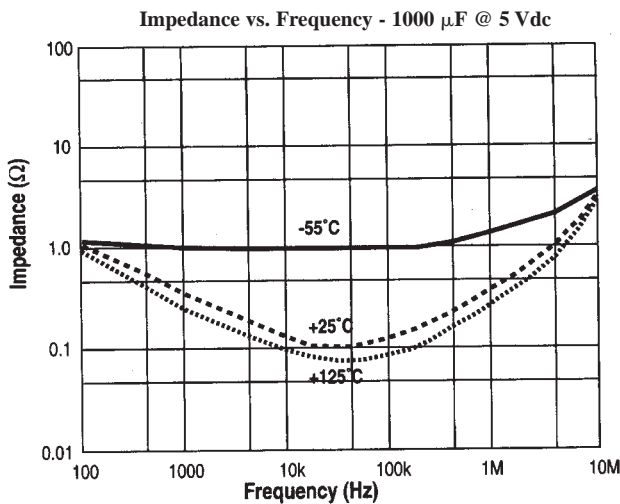
Case Code	Inches		mm		Case Code	Inches		mm	
	D ± .016	L max	D ± .41	L max		D ± .016	L max	D ± .41	L max
DC	.385	1.015	9.78	25.78	DJ	.385	1.828	9.78	46.43
DD	.385	1.140	9.78	28.96	DL	.385	2.390	9.78	60.71
DE	.385	1.328	9.78	33.73	DX	.385	2.890	9.78	73.41
DG	.385	1.578	9.78	40.08					

Insulated dimensions including sleeve and epoxy

## Part Numbering System

<b>557UHL</b>	<b>561</b>	<b>U</b>	<b>005</b>	<b>DJ</b>	<b>1</b>	<b>E</b>
↓	↓	↓	↓	↓	↓	↓
<b>Type</b>	<b>Capacitance</b>	<b>Tolerance</b>	<b>Voltage</b>	<b>Case Code</b>	<b>Insulation</b>	<b>Epoxy Endseal</b>
<b>557UHL</b>	<b>6R8</b> = 6.8 μF <b>680</b> = 68 μF <b>561</b> = 560 μF	<b>U</b> = -10% + 75% <b>T</b> = -10% + 50%	<b>005</b> = 5 Vdc <b>060</b> = 60 Vdc <b>100</b> = 100 Vdc		<b>1</b> = Polyester	<b>E</b> = epoxy

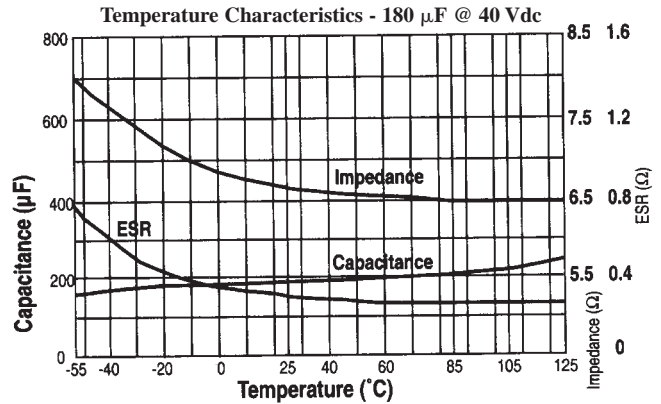
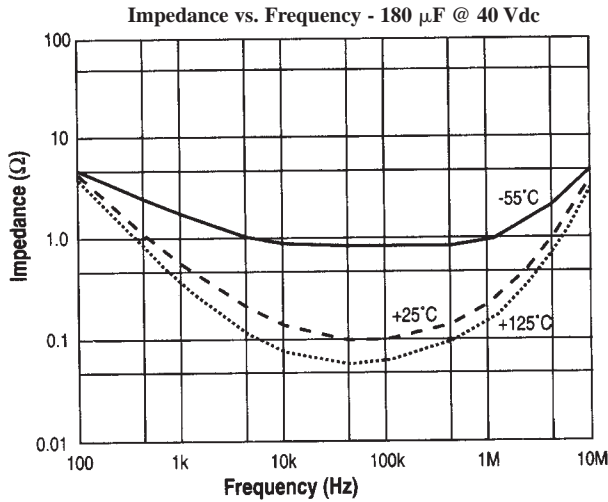
## Typical Performance Curves



Aluminum  
Axial Ledded  
Capacitors

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## Typical Performance Curves



## Ratings

Cap. μF	Catalog Number	ESR Ω	Z Max Ω	Ripple A	Nominal Size (in)
		120 Hz	-55 °C 120 Hz +25 °C 100 kHz	@ 85 °C 120 Hz 100 kHz	D x L
<b>5 Vdc (7 Vdc Surge) [85 °C; 7 Vdc (10 Vdc Surge)]</b>					
220	557UHL221U005DD1E	1	20	0.65	0.29 0.74 3/8 x 15/16
270	557UHL271U005DE1E	0.84	17	0.55	0.36 0.87 3/8 x 1 1/8
390	557UHL391U005DG1E	0.58	12	0.38	0.52 1.13 3/8 x 1 3/8
560	557UHL561U005DJ1E	0.4	8	0.26	0.75 1.46 3/8 x 1 5/8
820	557UHL821U005DL1E	0.28	5.5	0.18	1.1 2 3/8 x 2 3/16
1000	557UHL102U005DX1E	0.23	4.5	0.15	1.35 2.38 3/8 x 2 11/16
<b>7 Vdc (10 Vdc Surge) [85 °C; 10 Vdc (15 Vdc Surge)]</b>					
180	557UHL181U007DD1E	1.3	25	0.85	0.44 0.64 3/8 x 15/16
220	557UHL221U007DE1E	1	20	0.65	0.53 0.8 3/8 x 1 1/8
330	557UHL331U007DG1E	0.68	14	0.44	0.7 1.05 3/8 x 1 3/8
470	557UHL471U007DJ1E	0.48	9.6	0.31	0.89 1.34 3/8 x 1 5/8
680	557UHL681U007DL1E	0.33	6.6	0.22	1.21 1.81 3/8 x 2 3/16
820	557UHL821U007DX1E	0.28	5.5	0.18	1.5 2.17 3/8 x 2 11/16
<b>10 Vdc (15 Vdc Surge) [85 °C; 15 Vdc (20 Vdc Surge)]</b>					
150	557UHL151U010DD1E	1.3	30	0.83	0.4 0.65 3/8 x 15/16
180	557UHL181U010DE1E	1	25	0.64	0.48 0.81 3/8 x 1 1/8
270	557UHL271U010DG1E	0.69	17	0.44	0.63 1.05 3/8 x 1 3/8
390	557UHL391U010DJ1E	0.48	12	0.31	0.81 1.34 3/8 x 1 5/8
560	557UHL561U010DL1E	0.33	8	0.21	1.1 1.85 3/8 x 2 3/16
680	557UHL681U010DX1E	0.27	6.6	0.17	1.32 2.24 3/8 x 2 11/16
<b>20 Vdc (30 Vdc Surge) [85 °C; 30 Vdc (40 Vdc Surge)]</b>					
82	557UHL820U020DD1E	2.26	36	0.98	0.3 0.6 3/8 x 15/16
100	557UHL101U020DE1E	1.86	30	0.8	0.35 0.72 3/8 x 1 1/8
120	557UHL121U020DG1E	1.55	25	0.67	0.42 0.85 3/8 x 1 3/8
150	557UHL151U020DG1E	1.24	20	0.54	0.47 0.95 3/8 x 1 3/8
220	557UHL221U020DJ1E	0.84	14	0.37	0.61 1.23 3/8 x 1 5/8
330	557UHL331U020DL1E	0.56	9.1	0.25	0.85 1.7 3/8 x 2 3/16
390	557UHL391U020DX1E	0.48	7.7	0.21	1 2.01 3/8 x 2 11/16

Cap. μF	Catalog Number	ESR Ω	Z Max Ω	Ripple A	Nominal Size (in)
		120 Hz	-55 °C 120 Hz +25 °C 100 kHz	@ 85 °C 120 Hz 100 kHz	D x L
<b>40 Vdc (50 Vdc Surge) [85 °C; 50 Vdc (60 Vdc Surge)]</b>					
33	557UHL330U040DD1E	2.8	91	1.5	0.19 0.49 3/8 x 15/16
47	557UHL470U040DE1E	2	64	1.1	0.24 0.61 3/8 x 1 1/8
56	557UHL560U040DG1E	1.7	54	0.94	0.29 0.72 3/8 x 1 3/8
68	557UHL680U040DG1E	1.4	44	0.77	0.32 0.79 3/8 x 1 3/8
100	557UHL101U040DJ1E	0.93	30	0.51	0.41 1.05 3/8 x 1 5/8
150	557UHL151U040DL1E	0.62	20	0.34	0.57 1.46 3/8 x 2 3/16
180	557UHL181U040DX1E	0.5	17	0.29	0.68 1.71 3/8 x 2 11/16
<b>60 Vdc (75 Vdc Surge) [85 °C; 75 Vdc (90 Vdc Surge)]</b>					
22	557UHL220U060DDE	4.2	140	2.1	0.15 0.41 3/8 x 15/16
33	557UHL330U060DE1E	2.8	91	1.4	0.2 0.55 3/8 x 1 1/8
47	557UHL470U060DG1E	2	64	1	0.26 0.7 3/8 x 1 3/8
68	557UHL680U060DJ1E	1.4	44	0.7	0.34 0.89 3/8 x 1 5/8
100	557UHL101U060DL1E	0.93	30	0.47	0.51 1.24 3/8 x 2 3/16
120	557UHL121U060DX1E	0.77	25	0.39	0.56 1.48 3/8 x 2 11/16
<b>75 Vdc (100 Vdc Surge) [85 °C; 100 Vdc (125 Vdc Surge)]</b>					
12	557UHL120T075DD1E	7.7	250	3.5	0.11 0.32 3/8 x 15/16
15	557UHL150T075DE1E	6.2	200	2.9	0.14 0.38 3/8 x 1 1/8
22	557UHL220T075DG1E	4.2	140	1.9	0.18 0.51 3/8 x 1 3/8
33	557UHL330T075DJ1E	2.8	91	1.3	0.24 0.65 3/8 x 1 5/8
47	557UHL470T075DL1E	2	64	0.92	0.32 0.88 3/8 x 2 3/16
68	557UHL680T075DX1E	1.4	44	0.64	0.42 1.15 3/8 x 2 11/16
<b>100 Vdc (125 Vdc Surge) [85 °C; 150 Vdc (175 Vdc Surge)]</b>					
8.2	557UHL8R2T100DD1E	11.3	360	4.6	0.11 0.28 3/8 x 15/16
12	557UHL120T100DE1E	7.7	250	3.2	0.14 0.36 3/8 x 1 1/8
18	557UHL180T100DG1E	5.2	170	2.1	0.18 0.48 3/8 x 1 3/8
22	557UHL220T100DJ1E	4.2	140	1.7	0.21 0.57 3/8 x 1 5/8
33	557UHL330T100DL1E	2.8	91	1.2	0.3 0.77 3/8 x 2 3/16
56	557UHL560T100DX1E	1.7	54	0.7	0.42 1.1 3/8 x 2 11/16

Aluminum Axial Leaded Capacitors

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## Ratings

Cap. μF	Catalog Number	ESR Ω		Z Max Ω		Ripple A		Nominal Size (in) D x L
		120 Hz	120 Hz	-55 °C	+25 °C	120 Hz	100 kHz	
<b>150 Vdc (175 Vdc Surge) [85 °C; 200 Vdc (225 Vdc Surge)]</b>								
5.6	557UHL5R6T150DD1E	16.6	333	6.3	0.09	0.24		3/8 x 15/16
8.2	557UHL8R2T150DE1E	11.3	250	4.3	0.11	0.31		3/8 x 1 1/8
12	557UHL120T150DG1E	7.7	154	2.9	0.15	0.41		3/8 x 1 3/8
15	557UHL150T150DJ1E	6.2	118	2.4	0.18	0.48		3/8 x 1 5/8
27	557UHL270T150DL1E	3.4	77	1.3	0.27	0.74		3/8 x 2 3/16
39	557UHL390T150DX1E	2.4	51	0.9	0.35	0.97		3/8 x 2 11/16
<b>200 Vdc (250 Vdc Surge) [85 °C; 250 Vdc (275 Vdc Surge)]</b>								
5.6	557UHL5R6T200DD1E	16.6	540	6.3	0.09	0.24		3/8 x 15/16
6.8	557UHL6R8T200DE1E	13.6	440	5.2	0.1	0.28		3/8 x 1 1/8
10	557UHL100T200DG1E	9.3	300	3.5	0.13	0.37		3/8 x 1 3/8
12	557UHL120T200DJ1E	7.7	250	2.9	0.16	0.44		3/8 x 1 5/8
22	557UHL220T200DL1E	4.2	140	1.6	0.25	0.67		3/8 x 2 3/16
27	557UHL270T200DX1E	3.4	110	1.3	0.29	0.81		3/8 x 2 11/16

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