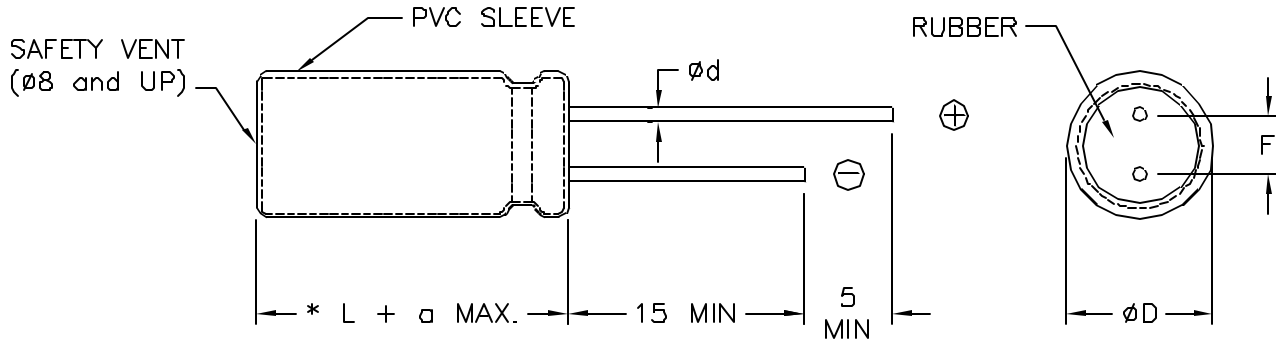


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REVISIONS			DDC. NO. SPC-F004 * Effective: 12/21/98 * DCP No: 680					
DCP #	REV	DESCRIPTION	DRAWN	DATE	CHECKD	DATE	APPRVD	DATE
745	C	ADDED MISSING PARTS	DJC	4/22/99	JC	4/22/99	JC	4/22/99
1114	D	ADDED NEW PARTS	HYD	7/18/01	JC	7/18/01	JC	7/18/01

FEATURES:

1. WIDE CV VALUE RANGE FOR GENERAL PURPOSE.
2. SAFETY VENT CONSTRUCTION.
3. 2000 HOURS AT 105°.



* $L \leq 16 \dots a = 1$
 * $L > 16 \dots a = 2$

Multicomp Type No.	Working Voltage (V)	Capacitance (µF)	Max. Ripple Current (mA) @ 105°C, 120 Hz	Case Size (mm)		Lead Diameter (d)	Lead Spacing (F)
				Length (L)	Diameter (D)		
MCRH10V226M5X11	10	22	49	11	5	0.5	2
MCRH10V336M5X11	10	33	60	11	5	0.5	2
MCRH10V476M5X11	10	47	70	11	5	0.5	2
MCRH10V107M5X11	10	100	105	11	5	0.5	2
MCRH10V227M6.3X11	10	220	175	11	6.3	0.5	2.5
MCRH10V337M8X11	10	330	245	11	8	0.6	3.5
MCRH10V477M8X11	10	470	290	11	8	0.6	3.5
MCRH10V108M10X16	10	1000	550	16	10	0.6	5
MCRH10V228M13X21	10	2200	860	21	13	0.6	5
MCRH10V338M13X21	10	3300	1100	21	13	0.6	5
MCRH10V478M16X26	10	4700	1400	26	16	0.8	7.5
MCRH16V106M5X11	16	10	35	11	5	0.5	2
MCRH16V226M5X11	16	22	54	11	5	0.5	2
MCRH16V336M5X11	16	33	64	11	5	0.5	2
MCRH16V476M5X11	16	47	99	11	5	0.5	2
MCRH16V107M6.3X11	16	100	125	11	6.3	0.5	2.5
MCRH16V227M8X11	16	220	215	11	8	0.6	3.5

SPC-F004.DWG

DISCLAIMER:
 ALL STATEMENTS AND TECHNICAL INFORMATION CONTAINED HEREIN ARE BASED UPON INFORMATION AND/OR TESTS WE BELIEVE TO BE ACCURATE AND RELIABLE. SINCE CONDITIONS OF USE ARE BEYOND OUR CONTROL, THE USER SHALL DETERMINE THE SUITABILITY OF THE PRODUCT FOR THE INTENDED USE AND ASSUME ALL RISK AND LIABILITY WHATSOEVER IN CONNECTION THEREWITH.

multicomp

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE FOR REFERENCE PURPOSES ONLY.	DRAWN BY:	DATE:	DRAWING TITLE:			
	DANIEL CAREY	8/4/98	HIGH TEMPERATURE RADIAL CAPACITORS			
	CHECKED BY:	DATE:	SIZE	DWG. NO.	ELECTRONIC FILE	REV
	JOHN COLE	8/11/98	A	TA-137	TA-137.DWG	D
	APPROVED BY:	DATE:	SCALE: NTS		U.O.M.: MILLIMETERS	SHEET: 1 OF 4
	JEFF MCVICKER	8/12/98				

Multicomp Type No.	Working Voltage (V)	Capacitance (µF)	Max. Ripple Current (mA) @ 105°C, 120 Hz	Case Size (mm)		Lead Daimeter (d)	Lead Spacing (F)
				Length (L)	Daimeter (D)		
MCRH16V337M8X11	16	330	260	11	8	0.6	3.5
MCRH16V477M10X13	16	470	370	13	10	0.6	5
MCRH16V108M10X21	16	1000	640	21	10	0.6	5
MCRH16V228M13X21	16	2200	1000	21	13	0.6	5
MCRH16V338M13X26	16	3300	1300	26	13	0.6	5
MCRH16V478M16X32	16	4700	1600	32	16	0.8	7.5
MCRH25V336M5X11	25	33	69	11	5	0.5	2
MCRH25V476M5X11	25	47	82	11	5	0.5	2
MCRH25V107M6.3X11	25	100	135	11	6.3	0.5	2.5
MCRH25V227M8X11	25	220	230	11	8	0.6	3.5
MCRH25V337M10X13	25	330	335	13	10	0.6	5
MCRH25V477M10X16	25	470	440	16	10	0.6	5
MCRH25V108M13X21	25	1000	770	21	13	0.6	5
MCRH25V228M13X26	25	2200	1170	26	13	0.6	5
MCRH25V338M16X32	25	3300	1460	32	16	0.8	7.5
MCRH35V106M5X11	35	10	41	11	5	0.5	2
MCRH35V226M5X11	35	22	61	11	5	0.5	2
MCRH35V336M5X11	35	33	75	11	5	0.5	2
MCRH35V476M6.3X11	35	47	100	11	6.3	0.5	2.5
MCRH35V107M8X11	35	100	170	11	8	0.6	3.5
MCRH35V227M10X13	35	220	300	13	10	0.6	5
MCRH35V337M10X16	35	330	400	16	10	0.6	5
MCRH35V477M10X21	35	470	520	21	10	0.6	5
MCRH35V108M13X21	35	1000	920	21	13	0.6	5
MCRH35V228M16X32	35	2200	1340	32	16	0.8	7.5
MCRH35V475M5X11	35	4.7	28	11	5	0.5	2
MCRH50V474M5X11	50	0.47	8	11	5	0.5	2
MCRH50V105M5X11	50	1	12	11	5	0.5	2
MCRH50V225M5X11	50	2.2	17	11	5	0.5	2
MCRH50V475M5X11	50	4.7	30	11	5	0.5	2
MCRH50V106M5X11	50	10	46	11	5	0.5	2
MCRH50V226M5X11	50	22	68	11	5	0.5	2
MCRH50V476M6.3X11	50	47	110	11	6.3	0.5	2.5
MCRH50V107M8X11	50	100	180	11	8	0.6	3.5
MCRH50V227M10X16	50	220	345	16	10	0.6	5
MCRH50V477M13X21	50	470	610	21	13	0.6	5
MCRH50V108M16X26	50	1000	1080	26	16	0.8	7.5
MCRH63V105M5X11	63	1	12	11	5	0.5	2
MCRH63V225M5X11	63	2.2	17	11	5	0.5	2
MCRH63V335M5X11	63	3.3	21	11	5	0.5	2
MCRH63V475M5X11	63	4.7	32	11	5	0.5	2
MCRH63V106M5X11	63	10	50	11	5	0.5	2
MCRH63V226M6.3X11	63	22	82	11	6.3	0.5	2.5

SIZE A	DWG. NO. TA-137	ELECTRONIC FILE TA-137.DWG	REV D
SCALE: NTS		U.O.M.: MILLIMETERS	SHEET: 2 OF 4

Multicomp Type No.	Working Voltage (V)	Capacitance (μ F)	Max. Ripple Current (mA) @ 105°C, 120 Hz	Case Size (mm)		Lead Daimeter (d)	Lead Spacing (F)
				Length (L)	Daimeter (D)		
MCRH63V336M6.3X11	63	33	100	11	6.3	0.5	2.5
MCRH63V476M8X11	63	47	135	11	8	0.6	3.5
MCRH63V227M10X21	63	220	400	21	10	0.6	5
MCRH63V337M13X21	63	330	540	21	13	0.6	5
MCRH63V477M13X26	63	470	700	26	13	0.6	5
MCRH63V108M16X32	63	1000	1210	32	16	0.8	7.5
MCRH100V474M5X11	100	0.47	10	11	5	0.5	2
MCRH100V105M5X11	100	1	15	11	5	0.5	2
MCRH100V225M5X11	100	2.2	23	11	5	0.5	2
MCRH100V335M5X11	100	3.3	29	11	5	0.5	2
MCRH100V475M5X11	100	4.7	34	11	5	0.5	2
MCRH100V106M6.3X11	100	10	56	11	6.3	0.5	2.5
MCRH100V226M8x11	100	22	96	11	8	0.6	3.5
MCRH100V336M10X13	100	33	140	13	10	0.6	5
MCRH100V476M10X16	100	47	180	16	10	0.6	5
MCRH100V107M13x21	100	100	320	21	13	0.6	5
MCRH100V227M16X26	100	220	570	26	16	0.8	7.5
MCRH100V337M16X26	100	330	700	26	16	0.8	7.5

SIZE	DWG. NO.	ELECTRONIC FILE	REV
A	TA-137	TA-137.DWG	D
SCALE: NTS		U.O.M.: MILLIMETERS	SHEET: 3 OF 4

CHARACTERISTICS

ITEM	PERFORMANCE																																																																				
Operating Temperature Range	-40°C to 105°C	-25°C to 105°C																																																																			
Rated Working Voltage Range	6.3 - 100 VDC	160 - 450 VDC																																																																			
Nominal Capacitance Range	0.1 - 15000 μ F	0.47 - 330 μ F																																																																			
Capacitance Tolerance	$\pm 20\%$ (at 20°C, 120 Hz)																																																																				
Leakage Current	$I \leq 0.01CV$ or 3 μ A, whichever is greater after 3 minutes.	$I \leq 0.03CV + 20 \mu$ A Max.																																																																			
	where I = Leakage Current in μ A; C = Rated capacitance in μ F V = Working voltage in V																																																																				
Dissipation Factor (Tan δ) (At 20°C, 120 Hz)	<table border="1"> <thead> <tr> <th>Working Voltage</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>160</th> <th>200</th> <th>250</th> <th>350</th> <th>400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>Tan δ Max.</td> <td>0.22</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.10</td> <td>0.07</td> <td>0.15</td> <td>0.15</td> <td>0.15</td> <td>0.20</td> <td>0.24</td> <td>0.24</td> </tr> </tbody> </table>														Working Voltage	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	Tan δ Max.	0.22	0.19	0.16	0.14	0.12	0.10	0.10	0.07	0.15	0.15	0.15	0.20	0.24	0.24																									
	Working Voltage	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450																																																						
Tan δ Max.	0.22	0.19	0.16	0.14	0.12	0.10	0.10	0.07	0.15	0.15	0.15	0.20	0.24	0.24																																																							
For capacitors whose capacitance exceeds 1,000 μ F, the specification of Tan δ is increased by 0.02 for every addition of 1,000 μ F.																																																																					
Maximum Permissible Ripple Current	Refer to standard products table (120 Hz, +105°). Correction factor for frequency.																																																																				
	<table border="1"> <thead> <tr> <th rowspan="2">W.V. (VDC)</th> <th colspan="5">Freq. (Hz)</th> </tr> <tr> <th>60</th> <th>120</th> <th>1K</th> <th>10K</th> <th>100K</th> </tr> </thead> <tbody> <tr> <td rowspan="3">6.3-50</td> <td>0.1 - 330</td> <td>0.85</td> <td>1</td> <td>1.30</td> <td>1.40</td> <td>1.55</td> </tr> <tr> <td>470 - 3300</td> <td>0.95</td> <td>1</td> <td>1.15</td> <td>1.20</td> <td>1.25</td> </tr> <tr> <td>≥ 4700</td> <td>0.95</td> <td>1</td> <td>1.10</td> <td>1.20</td> <td>1.20</td> </tr> <tr> <td rowspan="3">63-100</td> <td>0.47 - 33</td> <td>0.75</td> <td>1</td> <td>1.55</td> <td>1.65</td> <td>1.80</td> </tr> <tr> <td>47 - 220</td> <td>0.75</td> <td>1</td> <td>1.40</td> <td>1.60</td> <td>1.65</td> </tr> <tr> <td>≥ 330</td> <td>0.80</td> <td>1</td> <td>1.30</td> <td>1.35</td> <td>1.40</td> </tr> <tr> <td>≥ 160</td> <td>1 - 220</td> <td>0.70</td> <td>1</td> <td>1.30</td> <td>1.70</td> <td>1.70</td> </tr> </tbody> </table>														W.V. (VDC)	Freq. (Hz)					60	120	1K	10K	100K	6.3-50	0.1 - 330	0.85	1	1.30	1.40	1.55	470 - 3300	0.95	1	1.15	1.20	1.25	≥ 4700	0.95	1	1.10	1.20	1.20	63-100	0.47 - 33	0.75	1	1.55	1.65	1.80	47 - 220	0.75	1	1.40	1.60	1.65	≥ 330	0.80	1	1.30	1.35	1.40	≥ 160	1 - 220	0.70	1	1.30	1.70
W.V. (VDC)	Freq. (Hz)																																																																				
	60	120	1K	10K	100K																																																																
6.3-50	0.1 - 330	0.85	1	1.30	1.40	1.55																																																															
	470 - 3300	0.95	1	1.15	1.20	1.25																																																															
	≥ 4700	0.95	1	1.10	1.20	1.20																																																															
63-100	0.47 - 33	0.75	1	1.55	1.65	1.80																																																															
	47 - 220	0.75	1	1.40	1.60	1.65																																																															
	≥ 330	0.80	1	1.30	1.35	1.40																																																															
≥ 160	1 - 220	0.70	1	1.30	1.70	1.70																																																															
Low Temperature Characteristics (at 120 Hz)	For capacitance value > 1000 μ F: Add 0.5 per 1000 μ F for -25°C/+25°C. Add 1.0 per 1000 μ F for -40°C/+20°C.																																																																				
	<table border="1"> <thead> <tr> <th>Working Voltage</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>160</th> <th>200</th> <th>250</th> <th>350</th> <th>400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>-25°C/+20°C</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>3</td> <td>3</td> <td>3</td> <td>6</td> <td>6</td> <td>15</td> </tr> <tr> <td>-40°C/+20°C</td> <td>8</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>														Working Voltage	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	-25°C/+20°C	4	3	2	2	2	2	2	2	3	3	3	6	6	15	-40°C/+20°C	8	6	4	3	3	3	3	3																
Working Voltage	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450																																																							
-25°C/+20°C	4	3	2	2	2	2	2	2	3	3	3	6	6	15																																																							
-40°C/+20°C	8	6	4	3	3	3	3	3																																																													
High Temperature Loading	After 2000 hrs application of DC rated working voltage at +105°C, the capacitor shall meet the following limits: Post test requirements at +20°C.																																																																				
	<table border="1"> <tbody> <tr> <td>Leakage Current</td> <td colspan="13">\leq the initial specified value</td> </tr> <tr> <td>Capacitance change</td> <td colspan="13">$\leq \pm 20\%$ of initial specified value</td> </tr> <tr> <td>Dissipation Factor (Tan δ)</td> <td colspan="13">$\leq 200\%$ of initial specified value</td> </tr> </tbody> </table>														Leakage Current	\leq the initial specified value													Capacitance change	$\leq \pm 20\%$ of initial specified value													Dissipation Factor (Tan δ)	$\leq 200\%$ of initial specified value																									
Leakage Current	\leq the initial specified value																																																																				
Capacitance change	$\leq \pm 20\%$ of initial specified value																																																																				
Dissipation Factor (Tan δ)	$\leq 200\%$ of initial specified value																																																																				
Shelf Life	After storage at 105°C for 1000 hours with no voltage applied. Post test requirements at 20°C same limits for high temperature loading.																																																																				

SIZE	DWG. NO.	ELECTRONIC FILE	REV
A	TA-137	TA-137.DWG	D
SCALE: NTS	U.O.M.: MILLIMETERS	SHEET: 4	OF 4