

+105°C Miniature Axial Lead, Aluminum Electrolytic Capacitors

Low DCL & Hi-Reliability Applications

Features-

- Extended Low Temperature Range
- High Reliability Design
- Low DCL Option
- Equivalent to MIL-C-62, CE10, CE11

General Specifications-

Operating Temperature:

-55 to +105°C

Voltage Range:

3 – 150 VDC

Capacitance Range:

1μF to 550μF

Capacitance Tolerance:

-10%/+50%

Case Size Range:

6.3 X 13.0mm – 9.5 X 38.0mm

Termination:

20 ga. Axial eads.

Life Validation Test: 2,000hrs @ 105°C

Δ CAP ≤ 20% From initial measurement.

Δ ESR ≤ 1.5X Initial specified limit.

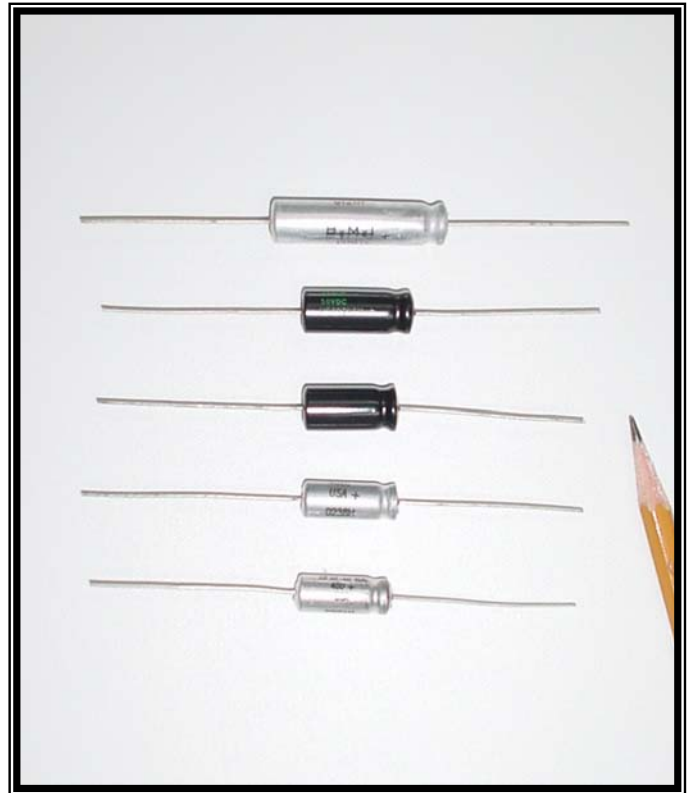
Δ DCL ≤ Initial specified limit.

Shelf Test: 1,000hrs @ 105°C

Δ CAP ≤ 20% Initial measurement.

Δ ESR ≤ 1.5X Initial specified limit.

Δ DCL ≤ 2X Initial specified limit.



DC Leakage Current:

For: 3-12VDC $I = 0.01\sqrt{CV} + 2$

For: 15-150VDC $I = 0.02\sqrt{CV} + 2$

Where:

I is in μA

C is in μF

V is in Volts

Ripple Current Multipliers:

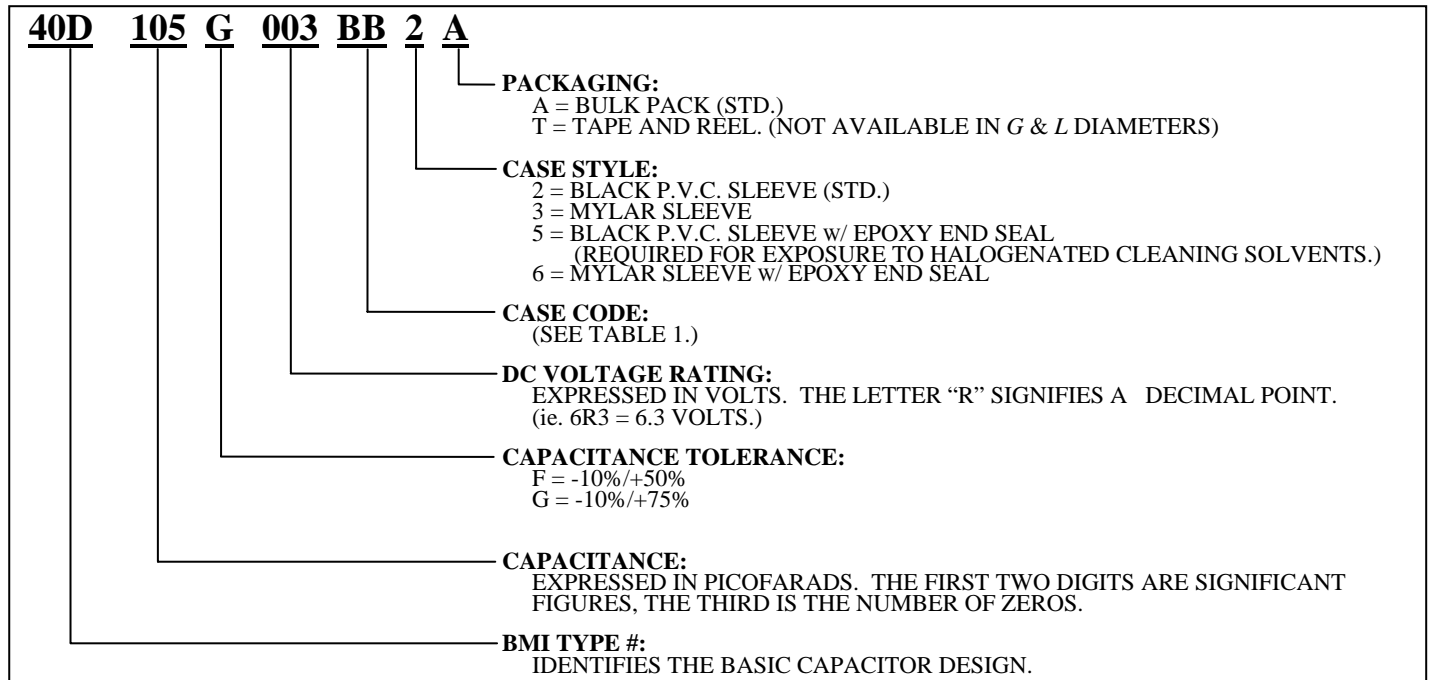
Temperature:

Ambient Temp.	+105°C	+65°C	+45°C	+25°C
Multiplier	0.5	1.5	2.5	3.0

Frequency:

VDC	50-60	100-120	300-400	1k-100k
3-50	0.9	1.0	1.1	1.4
51-150	0.8	1.0	1.3	1.6

PART NUMBER BREAK-DOWN:



Axial-Leaded Capacitor Dimensions

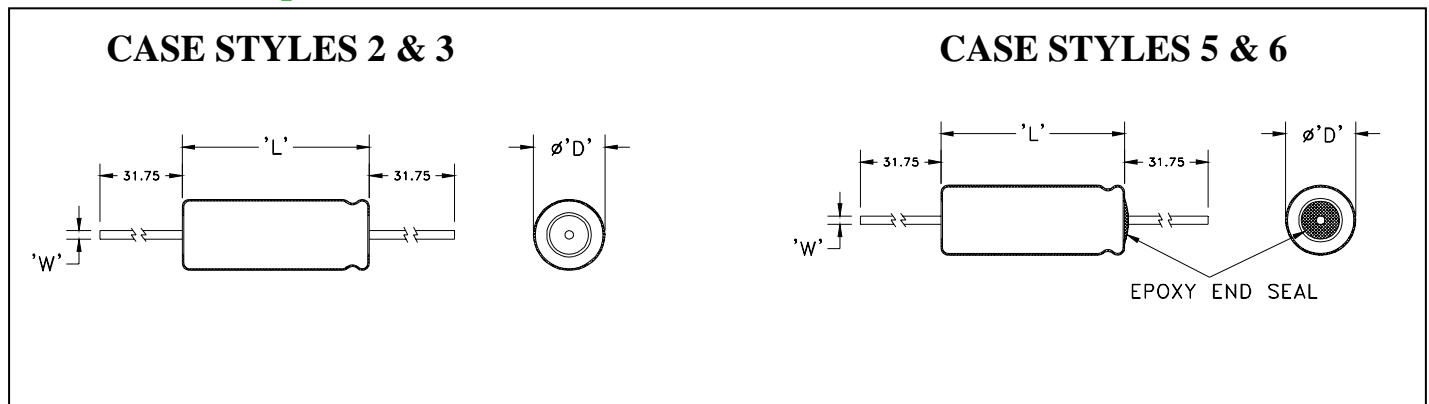


Table 1. Case Dimensions mm(in.)

CASE CODE	NOMINAL		STYLES 2& 3		STYLES 5 & 6 (w/EPOXY)		WIRE GAUGE 'W'
	'D'	'L'	'D' MAX.	'L' MAX.	'D' MAX.	'L' MAX.	
BA	6.3 (0.248)	13.0 (0.512)	7.0 (0.276)	14.4 (0.567)	7.0 (0.276)	15.9 (0.626)	No. 20 AWG (0.032)
BB	6.3 (0.248)	17.5 (0.689)	7.0 (0.276)	19.2 (0.756)	7.0 (0.276)	20.7 (0.815)	No. 20 AWG (0.032)
CB	8.0 (0.315)	17.5 (0.689)	8.6 (0.339)	19.2 (0.756)	8.6 (0.339)	20.7 (0.815)	No. 20 AWG (0.032)
CC	8.0 (0.315)	20.5 (0.807)	8.6 (0.339)	22.3 (0.878)	8.6 (0.339)	23.8 (0.937)	No. 20 AWG (0.032)
DB	9.5 (0.374)	17.5 (0.689)	10.2 (0.402)	19.2 (0.756)	10.2 (0.402)	20.7 (0.815)	No. 20 AWG (0.032)
DC	9.5 (0.374)	20.5 (0.807)	10.2 (0.402)	22.3 (0.878)	10.2 (0.402)	23.8 (0.937)	No. 20 AWG (0.032)
DD	9.5 (0.374)	24.0 (0.945)	10.2 (0.402)	25.5 (1.004)	10.2 (0.402)	27.0 (1.063)	No. 20 AWG (0.032)
DF	9.5 (0.374)	32.0 (1.260)	10.2 (0.402)	33.5 (1.319)	10.2 (0.402)	35.0 (1.378)	No. 20 AWG (0.032)
DH	9.5 (0.374)	38.0 (1.496)	10.2 (0.402)	39.8 (1.567)	10.2 (0.402)	41.3 (1.626)	No. 20 AWG (0.032)

STANDARD RATINGS FOR TYPE 40D

Rated Capacitance (μF)	Catalog Number	Nominal Case Size D x L (mm)	Maximum ESR +25°C 120Hz (Ω)	Maximum Ripple Current +85°C 120Hz (A_{rms})
3 VOLTS DC WORKING; 6 VOLTS DC SURGE				
1.0	40D105G003BB2A	6.3 x 17.5	250.0	0.017
2.0	40D205G003BB2A	6.3 x 17.5	125.0	0.024
3.0	40D305G003BB2A	6.3 x 17.5	83.00	0.030
4.0	40D405G003BB2A	6.3 x 17.5	62.00	0.035
5.0	40D505G003BB2A	6.3 x 17.5	50.00	0.039
6.0	40D605G003BB2A	6.3 x 17.5	41.00	0.043
8.0	40D805G003BB2A	6.3 x 17.5	30.00	0.050
10	40D106G003BB2A	6.3 x 17.5	25.00	0.055
15	40D156G003BB2A	6.3 x 17.5	16.00	0.069
20	40D206G003BB2A	6.3 x 17.5	12.50	0.078
25	40D256G003BB2A	6.3 x 17.5	10.00	0.087
35	40D356G003BB2A	6.3 x 17.5	7.000	0.104
45	40D456G003BB2A	6.3 x 17.5	5.500	0.118
50	40D506G003CB2A	8.0 x 17.5	5.000	0.141
75	40D756G003CB2A	8.0 x 17.5	3.300	0.174
100	40D107G003CC2A	8.0 x 20.5	2.500	0.213
130	40D137G003DB2A	9.5 x 17.5	1.900	0.254
150	40D157G003DC2A	9.5 x 20.5	1.600	0.297
200	40D207G003DC2A	9.5 x 20.5	1.250	0.336
220	40D227G003DD2A	9.5 x 24.0	1.140	0.375
250	40D257G003DD2A	9.5 x 24.0	1.000	0.400
270	40D277G003DD2A	9.5 x 24.0	0.930	0.414
550	40D557G003DH2A	9.5 x 38.0	0.460	0.595
6 VOLTS DC WORKING; 10 VOLTS DC SURGE				
1.0	40D105G006BB2A	6.3 x 17.5	250.0	0.017
2.0	40D205G006BB2A	6.3 x 17.5	125.0	0.024
3.0	40D305G006BB2A	6.3 x 17.5	83.00	0.030
4.0	40D405G006BB2A	6.3 x 17.5	62.00	0.035
5.0	40D505G006BB2A	6.3 x 17.5	50.00	0.039
6.0	40D605G006BB2A	6.3 x 17.5	41.00	0.043
8.0	40D805G006BB2A	6.3 x 17.5	30.00	0.050
10	40D106G006BB2A	6.3 x 17.5	25.00	0.055
15	40D156G006BB2A	6.3 x 17.5	16.00	0.069
20	40D206G006BB2A	6.3 x 17.5	12.50	0.078
25	40D256G006BB2A	6.3 x 17.5	10.00	0.087
30	40D306G006BB2A	6.3 x 17.5	8.300	0.097
35	40D356G006CB2A	8.0 x 17.5	7.000	0.119
50	40D506G006CB2A	8.0 x 17.5	5.000	0.141
75	40D756G006CC2A	8.0 x 20.5	3.300	0.207
90	40D906G006DB2A	9.5 x 17.5	2.800	0.210
100	40D107G006DC2A	9.5 x 20.5	2.500	0.237
140	40D147G006DC2A	9.5 x 20.5	1.790	0.281
150	40D157G006DD2A	9.5 x 24.0	1.600	0.316
180	40D187G006DD2A	9.5 x 24.0	1.380	0.340
200	40D207G006DF2A	9.5 x 32.0	1.250	0.400
250	40D257G006DF2A	9.5 x 32.0	1.000	0.450
280	40D287G006DF2A	9.5 x 32.0	0.890	0.475
370	40D377G006DH2A	9.5 x 38.0	0.675	0.595
12 VOLTS DC WORKING; 17 VOLTS DC SURGE				
1.0	40D105G012BB2A	6.3 x 17.5	250.0	0.017
2.0	40D205G012BB2A	6.3 x 17.5	125.0	0.024
3.0	40D305G012BB2A	6.3 x 17.5	83.00	0.030
4.0	40D405G012BB2A	6.3 x 17.5	62.00	0.035
5.0	40D505G012BB2A	6.3 x 17.5	50.00	0.039

STANDARD RATINGS FOR TYPE 40D

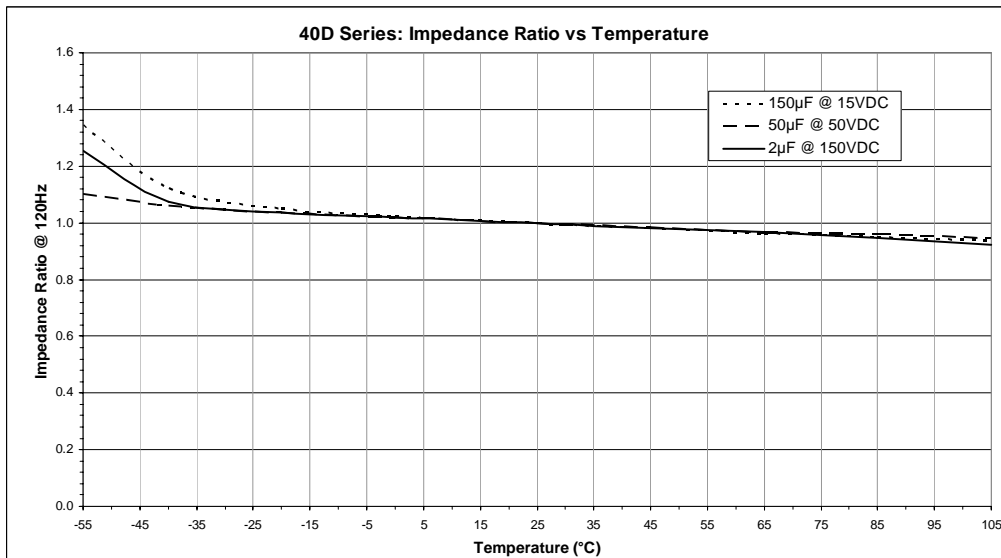
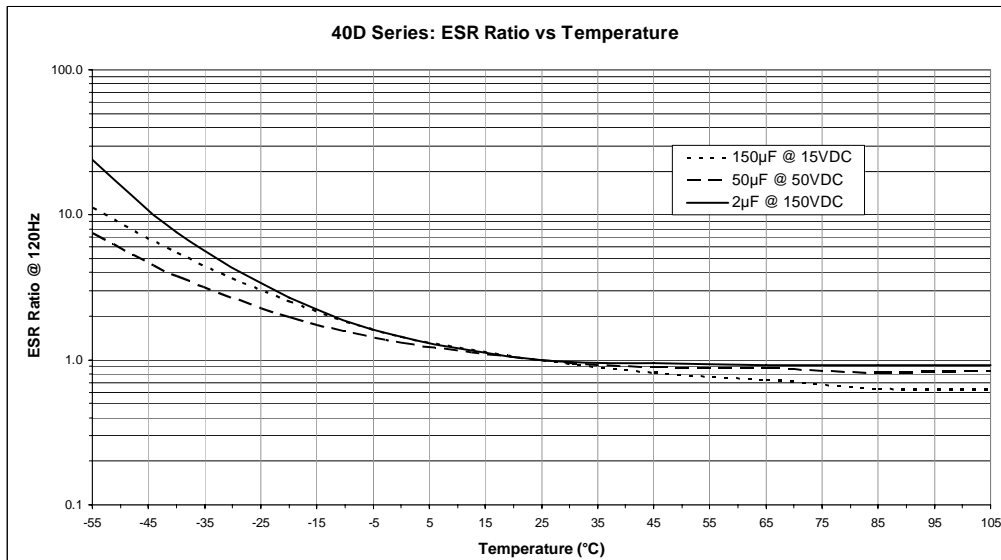
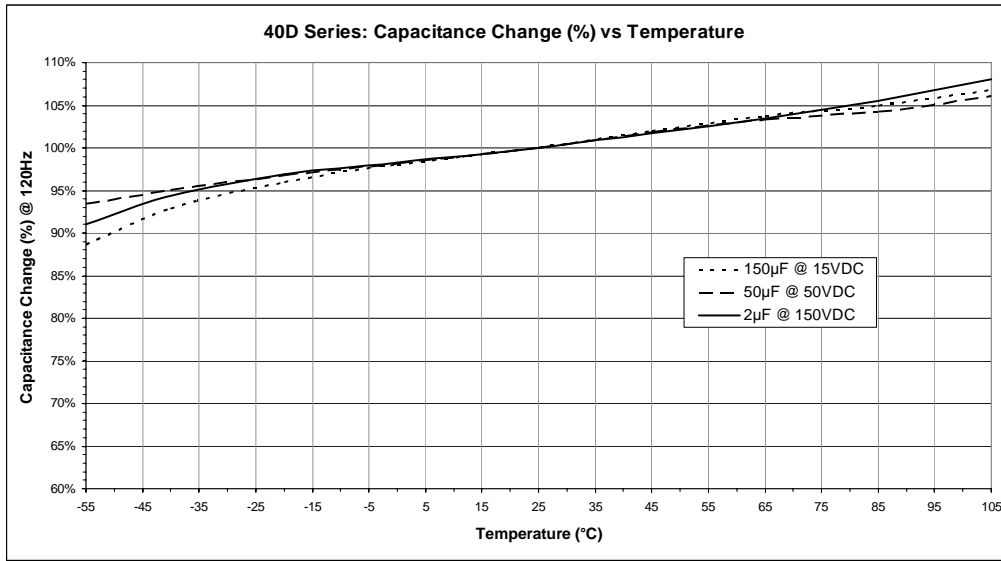
Rated Capacitance (μF)	Catalog Number	Nominal Case Size D x L (mm)	Maximum ESR +25°C 120Hz (Ω)	Maximum Ripple Current +85°C 120Hz (A_{rms})
12 VOLTS DC WORKING; 17 VOLTS DC SURGE (CONTINUED)				
6.0	40D605G012BB2A	6.3 x 17.5	41.00	0.043
8.0	40D805G012BB2A	6.3 x 17.5	30.00	0.050
10	40D106G012BB2A	6.3 x 17.5	25.00	0.055
15	40D156G012BB2A	6.3 x 17.5	16.00	0.069
20	40D206G012BB2A	6.3 x 17.5	12.50	0.078
25	40D256G012CB2A	8.0 x 17.5	10.00	0.099
35	40D356G012CB2A	8.0 x 17.5	7.000	0.119
50	40D506G012CC2A	8.0 x 20.5	5.000	0.151
70	40D706G012CC2A	8.0 x 20.5	3.600	0.178
72	40D726G012DB2A	9.5 x 17.5	3.470	0.189
75	40D756G012DC2A	9.5 x 20.5	3.300	0.207
100	40D107G012DD2A	9.5 x 24.0	2.500	0.253
150	40D157G012DD2A	9.5 x 24.0	1.600	0.316
200	40D207G012DF2A	9.5 x 32.0	1.250	0.403
300	40D307G012DH2A	9.5 x 38.0	0.830	0.536
15 VOLTS DC WORKING; 20 VOLTS DC SURGE				
1.0	40D105G015BB2A	6.3 x 17.5	250.0	0.017
2.0	40D205G015BB2A	6.3 x 17.5	125.0	0.024
3.0	40D305G015BB2A	6.3 x 17.5	83.00	0.030
4.0	40D405G015BB2A	6.3 x 17.5	62.00	0.035
5.0	40D505G015BB2A	6.3 x 17.5	50.00	0.039
6.0	40D605G015BB2A	6.3 x 17.5	41.00	0.043
8.0	40D805G015BB2A	6.3 x 17.5	30.00	0.050
10	40D106G015BB2A	6.3 x 17.5	25.00	0.055
15	40D156G015BB2A	6.3 x 17.5	16.00	0.069
20	40D206G015CB2A	8.0 x 17.5	12.50	0.089
25	40D256G015CB2A	8.0 x 17.5	10.00	0.100
30	40D306G015CB2A	8.0 x 17.5	8.300	0.109
35	40D356G015CC2A	8.0 x 20.5	7.000	0.128
50	40D506G015CC2A	8.0 x 20.5	5.000	0.151
65	40D656G015DB2A	9.5 x 17.5	3.850	0.179
75	40D756G015DC2A	9.5 x 20.5	3.500	0.200
90	40D906G015DC2A	9.5 x 20.5	2.800	0.225
100	40D107G015DD2A	9.5 x 24.0	2.500	0.253
130	40D137G015DD2A	9.5 x 24.0	1.900	0.239
150	40D157G015DF2A	9.5 x 32.0	1.600	0.355
190	40D197G015DF2A	9.5 x 32.0	1.320	0.390
260	40D267G015DH2A	9.5 x 38.0	0.960	0.500
25 VOLTS DC WORKING; 40 VOLTS DC SURGE				
1.0	40D105G025BB2A	6.3 x 17.5	200.0	0.017
2.0	40D205G025BB2A	6.3 x 17.5	100.0	0.024
3.0	40D305G025BB2A	6.3 x 17.5	66.00	0.030
4.0	40D405G025BB2A	6.3 x 17.5	50.00	0.035
5.0	40D505G025BB2A	6.3 x 17.5	40.00	0.039
6.0	40D605G025BB2A	6.3 x 17.5	33.00	0.048
8.0	40D805G025BB2A	6.3 x 17.5	25.00	0.055
10	40D106G025BB2A	6.3 x 17.5	20.00	0.062
15	40D156G025CB2A	8.0 x 17.5	13.00	0.087
20	40D206G025CC2A	8.0 x 20.5	10.00	0.107
25	40D256G025CC2A	8.0 x 20.5	10.00	0.107
30	40D306G025CC2A	8.0 x 20.5	6.600	0.130
33	40D336G025DB2A	9.5 x 17.5	6.060	0.143
35	40D356G025DC2A	9.5 x 20.5	5.700	0.158
50	40D506G025DC2A	9.5 x 20.5	4.000	0.200

STANDARD RATINGS FOR TYPE 40D

Rated Capacitance (μF)	Catalog Number	Nominal Case Size D x L (mm)	Maximum ESR +25°C 120Hz (Ω)	Maximum Ripple Current +85°C 120Hz (A_{rms})
25 VOLTS DC WORKING; 40 VOLTS DC SURGE (CONTINUED)				
70	40D706G025DD2A	9.5 x 24.0	2.900	0.234
75	40D756G025DF2A	9.5 x 32.0	2.600	0.280
100	40D107G025DF2A	9.5 x 32.0	2.000	0.318
140	40D147G025DH2A	9.5 x 38.0	1.400	0.414
50 VOLTS DC WORKING; 70 VOLTS DC SURGE				
1.0	40D105G050BB2A	6.3 x 17.5	200.0	0.020
2.0	40D205G050BB2A	6.3 x 17.5	100.0	0.027
3.0	40D305G050BB2A	6.3 x 17.5	66.00	0.034
4.0	40D405G050BB2A	6.3 x 17.5	50.00	0.039
5.0	40D505G050BB2A	6.3 x 17.5	40.00	0.044
6.0	40D605G050CB2A	8.0 x 17.5	33.00	0.055
8.0	40D805G050CB2A	8.0 x 17.5	25.00	0.063
10	40D106B050CC2A	8.0 x 20.5	20.00	0.075
15	40D156G050CC2A	8.0 x 20.5	13.00	0.093
18	40D186G050DB2A	9.5 x 17.5	11.00	0.106
20	40D206G050DC2A	9.5 x 20.5	10.00	0.126
25	40D256G050DC2A	9.5 x 20.5	8.000	0.133
30	40D306G050DD2A	9.5 x 24.0	6.600	0.155
35	40D356G050DD2A	9.5 x 24.0	5.700	0.167
50	40D506G050DF2A	9.5 x 32.0	4.000	0.225
70	40D706G050DH2A	9.5 x 38.0	2.900	0.288
100 VOLTS DC WORKING; 125 VOLTS DC SURGE				
1.0	40D105G100CB2A	8.0 x 17.5	200.0	0.022
2.0	40D205G100CB2A	8.0 x 17.5	100.0	0.032
3.0	40D305G100CC2A	8.0 x 20.5	66.00	0.039
4.0	40D405G100CC2A	8.0 x 20.5	50.00	0.045
4.7	40D475G100DB2A	9.5 x 17.5	42.50	0.054
5.0	40D505G100DC2A	9.5 x 20.5	40.00	0.059
6.0	40D605G100DC2A	9.5 x 20.5	33.00	0.066
8.0	40D805G100DC2A	9.5 x 20.5	25.00	0.075
10	40D106G100DD2A	9.5 x 24.0	20.00	0.089
15	40D156G100DF2A	9.5 x 32.0	13.00	0.125
20	40D206G100DH2A	9.5 x 38.0	10.00	0.155
150 VOLTS DC WORKING; 175 VOLTS DC SURGE				
1.0	40D105G150CB2A	8.0 x 17.5	200.0	0.022
2.0	40D205G150CC2A	8.0 x 20.5	100.0	0.034
3.0	40D305G150CC2A	8.0 x 20.5	66.00	0.039
3.5	40D355G150DB2A	9.5 x 17.5	57.00	0.047
4.0	40D405G150DC2A	9.5 x 20.5	50.00	0.053
5.0	40D505G150DC2A	9.5 x 20.5	40.00	0.059
6.0	40D605G150DD2A	9.5 x 24.0	33.00	0.069
8.0	40D805G150DF2A	9.5 x 32.0	25.00	0.090
10	40D106G150DF2A	9.5 x 32.0	20.00	0.100
15	40D156G150DH2A	9.5 x 38.0	13.00	0.135

40D TYPICAL PERFORMANCE PROFILES

TEMPERATURE CHARACTERISTICS



40D TYPICAL PERFORMANCE PROFILES

FREQUENCY CHARACTERISTICS

