

- Surge-proof capacitor in aluminium can with insulation sleeve.
- Heavy charge/discharge duty.
- To be mounted with ring clips or with threaded stud.

APPLICATIONS

Extreme application welding.
Strobe applications.

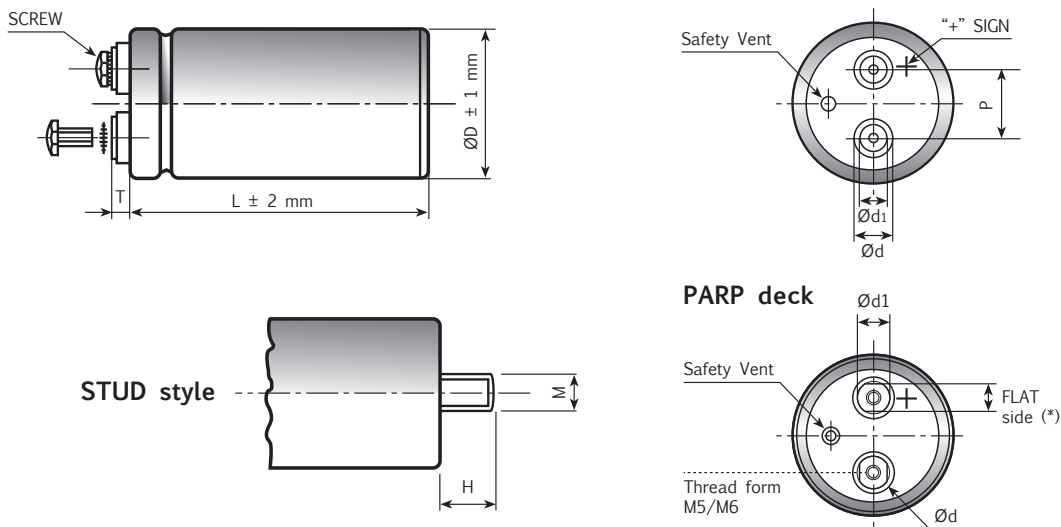


Diagram of dimensions (unit=mm) - Insert and screw threads: Metric (mm), UNF (inches)

ØD	d ±0.3	d1 ±0.3	P ±0.5	T ±2.0	STUD		INSERT	SCREW	INSERT STYLE CODE
					M	H			
35	11.6	7.9	12.7	6.5	M8	12	M5	5MA x 9.5	0
51	18.2	13	22.2	5	M12	16	M5	5MA x 9.5	H
63	18.2	13	28.5	5	M12	16	M5	5MA x 9.5	H
76	18.2	13	31.8	4.5	M12	16	M5	5MA x 9.5	H
76	18.2	13	31.8	6.5	M12	16	M5 long	5MA x 9.5	L
76	23.2	17.7	31.8	5	M12	16	M6	6MA x 10	6
90	23.2	17.7	31.8	5	M12	16	M6	6MA x 10	H
51	13	13(10)*	22.2	5	M12	16	PARP M5	5MA x 9.5	K
63	13	13(10)*	28.5	5	M12	16	PARP M5	5MA x 9.5	B
63	19	15(13)*	28.5	6	M12	16	PARP M5	5MA x 9.5	K
76	19	15(13)*	31.8	6	M12	16	PARP M5	5MA x 9.5	K
76	19	15(13)*	31.8	6	M12	16	PARP M6	6MA x 10	Q
90	19	15(13)*	31.8	6	M12	16	PARP M6	6MA x 10	Q
35	11.6	7.9	12.7	6.5	M12	16	UNF 10-32 High Post	10-32 x 3/8"	U
63	17.3	17.3	28.5	2.5	M12	16	UNF 1/4-28 Low Post	1/4-28 x 3/8"	W
63	17.3	17.3	28.5	6	M12	16	UNF 1/4-28 High Post	1/4-28 x 1/2"	R
63	7.9	7.9	28.5	2	M12	16	UNF 10-32 Low Post	10-32 x 1/4"	Z
63	12	7.9	28.5	6.5	M12	16	UNF 10-32 High Post	10-32 x 3/8"	U
76	17.3	17.3	31.8	2.5	M12	16	UNF 1/4-28 Low Post	1/4-28 x 3/8"	W
76	17.3	17.3	31.8	6	M12	16	UNF 1/4-28 High Post	1/4-28 x 1/2"	R
76	7.9	7.9	31.8	2	M12	16	UNF 10-32 Low Post	10-32 x 1/4"	Z
76	12	7.9	31.8	6.5	M12	16	UNF 10-32 High Post	10-32 x 3/8"	U

Note: (*) quote on the PARP deck of the flat side (PARP = Protection Against Reverse Polarity).

K03 TYPE SPECIFICATIONS

Temperature Range	Operating: -20°C +70°C Storage : Preferably below +25°C, not exceeding +40°C
Rated Voltage Range (V_r)	from 400V to 500V DC
Surge Voltage (V_p)	V _p = 1.05 V _r (V _r ≥ 475V DC) V _p = 1.10 V _r (V _r > 250V DC)
Rated Capacitance Range	from 560 μF to 3300 μF
Capacitance Tolerance	±20% at 100 Hz, 20°C [M class IEC-62] on request: -10% +30% at 100 Hz, 20°C [Q class IEC-62]
Leakage Current (I_L) (5 min, 20°C)	max I _L = 0.006 C _r V _r + 4 μA
Insulation Resistance	At 100V DC for 1 min is >100 M Ω across insulating sleeve and terminals.
Vibration Resistance	Frequency range: 10 Hz to 55 Hz Capacitor length ≤ 143 : max acceleration 0.75mm or 10g for 3x2 h Capacitor length > 143 : max acceleration 0.35mm or 5g for 3x0.5 h
Withstand voltage (between terminals bundled and plate)	2500 VAC for 1 min
Discharge Life	Test conditions: 10000 times at room temperatures (5-35°C) Charge and Discharge cycles: 30 sec Cap change ≤ 10% tan δ ≤ 150% Leakage current (I _L) < 150% of initial limit Impedance (Z) ≤ 200%
Shelf life	After leaving capacitors under no load for 500 hours at 55°C when restored at 20°C meet specifications aside Cap change ≤ ±15% tan δ ≤ 150% Leakage current (I _L) < initial limit
Failure percentage Failure rate	≤ 1% (during useful life) ≤ 33 fit (33 10 ⁻⁹ /h) (V _r > 160V DC)
Self inductance	Approx. 20 nH
Damp heat test (V_n applied, 2000 hours, 85% RH)	Stable electrical parameters in humidity ambient condition 85°C
Electrolyte	All the capacitors of this series have self-extinguishing electrolyte in accordance with IEC EN 60695-11-10
Reference standards	CECC 30.300 IEC 60384-4 LONG LIFE GRADE

K03 TYPE STANDARD RATINGS

Cap μ F	\varnothing x L mm	Tan δ MAX 100 Hz 20°C	PART NUMBER stud and insert style excluded
680	51x105	0.10	K03400681_MOG105
820	51x105	0.10	K03400821_MOG105
1000	63x105	0.10	K03400102_MOH105
1200	63x105	0.10	K03400122_MOH105
1500	76x105	0.10	K03400152_MOJ105
2200	76x143	0.10	K03400222_MOJ143
3300	90x145	0.10	K03400332_MOL145

**RATED
VOLTAGE
VDC**

400V

Cap μ F	\varnothing x L mm	Tan δ MAX 100 Hz 20°C	PART NUMBER stud and insert style excluded
680	51x105	0.10	K03450681_MOG105
820	51x105	0.10	K03450821_MOG105
1000	63x105	0.10	K03450102_MOH105
1200	63x105	0.10	K03450122_MOH105
1500	76x105	0.10	K03450152_MOJ105
2200	76x143	0.10	K03450222_MOJ143
3300	90x145	0.10	K03450332_MOL145

**RATED
VOLTAGE
VDC**

450V

Cap μ F	\varnothing x L mm	Tan δ MAX 100 Hz 20°C	PART NUMBER stud and insert style excluded
560	51x105	0.15	K03475561_MOG105
680	51x105	0.15	K03475681_MOG105
820	51x105	0.15	K03475821_MOG105
1000	63x105	0.15	K03475102_MOH105
1000	63x105	0.15	K03475102_MOH105
1000	76x105	0.15	K03475102_MOJ105
1000	76x143	0.15	K03475102_MOJ143
1500	76x143	0.15	K03475152_MOJ143
2200	90x145	0.15	K03475222_MOL145

**RATED
VOLTAGE
VDC**

475V

Cap μ F	\varnothing x L mm	Tan δ MAX 100 Hz 20°C	PART NUMBER stud and insert style excluded
560	51x105	0.15	K03500581_MOG105
680	63x105	0.15	K03500681_MOH105
820	63x105	0.15	K03500821_MOH105
1000	63x105	0.15	K03500102_MOH105
1000	63x105	0.15	K03500102_MOH105
1000	63x143	0.15	K03500102_MOH143
1500	76x143	0.15	K03500152_MOJ143
2200	90x145	0.15	K03500222_MOL145

**RATED
VOLTAGE
VDC**

500V

- Extended life.
- Surge-proof capacitor in aluminium can with insulation sleeve.
- To be mounted with ring clips or with threaded stud.
- Designed for high resistances to voltage spikes.

APPLICATIONS

Power supplies, motor drives, welding, energy storage.

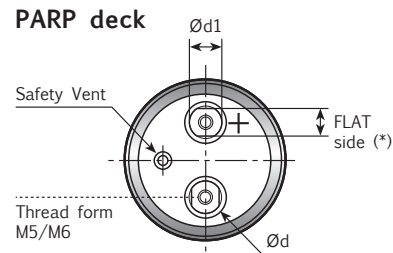
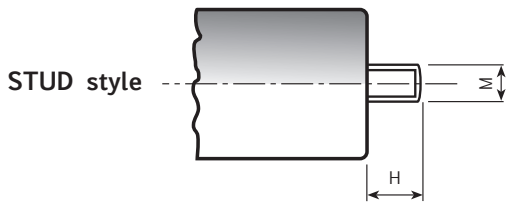
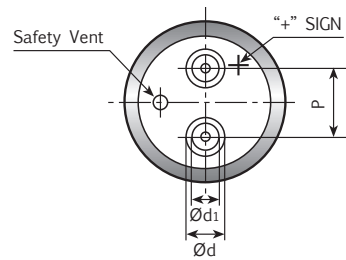
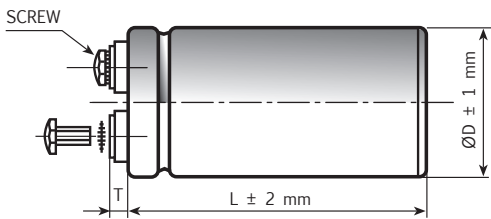


Diagram of dimensions (unit=mm) - Insert and screw threads: Metric (mm), UNF (inches)

ØD	d ±0.3	d1 ±0.3	P ±0.5	T ±2.0	STUD		INSERT	SCREW	INSERT STYLE CODE
					M	H			
35	11.6	7.9	12.7	6.5	M8	12	M5	5MA x 9.5	0
51	18.2	13	22.2	5	M12	16	M5	5MA x 9.5	H
63	18.2	13	28.5	5	M12	16	M5	5MA x 9.5	H
76	18.2	13	31.8	4.5	M12	16	M5	5MA x 9.5	H
76	18.2	13	31.8	6.5	M12	16	M5 long	5MA x 9.5	L
76	23.2	17.7	31.8	5	M12	16	M6	6MA x 10	6
90	23.2	17.7	31.8	5	M12	16	M6	6MA x 10	H
51	13	13(10)*	22.2	5	M12	16	PARP M5	5MA x 9.5	K
63	13	13(10)*	28.5	5	M12	16	PARP M5	5MA x 9.5	B
63	19	15(13)*	28.5	6	M12	16	PARP M5	5MA x 9.5	K
76	19	15(13)*	31.8	6	M12	16	PARP M5	5MA x 9.5	K
76	19	15(13)*	31.8	6	M12	16	PARP M6	6MA x 10	Q
90	19	15(13)*	31.8	6	M12	16	PARP M6	6MA x 10	Q
35	11.6	7.9	12.7	6.5	M12	16	UNF 10-32 High Post	10-32 x 3/8"	U
63	17.3	17.3	28.5	2.5	M12	16	UNF 1/4-28 Low Post	1/4-28 x 3/8"	W
63	17.3	17.3	28.5	6	M12	16	UNF 1/4-28 High Post	1/4-28 x 1/2"	R
63	7.9	7.9	28.5	2	M12	16	UNF 10-32 Low Post	10-32 x 1/4"	Z
63	12	7.9	28.5	6.5	M12	16	UNF 10-32 High Post	10-32 x 3/8"	U
76	17.3	17.3	31.8	2.5	M12	16	UNF 1/4-28 Low Post	1/4-28 x 3/8"	W
76	17.3	17.3	31.8	6	M12	16	UNF 1/4-28 High Post	1/4-28 x 1/2"	R
76	7.9	7.9	31.8	2	M12	16	UNF 10-32 Low Post	10-32 x 1/4"	Z
76	12	7.9	31.8	6.5	M12	16	UNF 10-32 High Post	10-32 x 3/8"	U

Note: (*) quote on the PARP deck of the flat side (PARP = Protection Against Reverse Polarity).

K04 TYPE SPECIFICATIONS

Temperature Range	Operating: -40°C +85°C [Environmental classification 40/85/56 IEC-68] Storage : Preferably below +25°C, not exceeding +40°C																																					
Rated Voltage Range (V_r)	from 350V to 600V DC																																					
Surge Voltage (V_p)	V _p = 1.10 V _r (V _r ≤ 500 V DC) V _p = 1.05 V _r (V _r > 500 V DC)																																					
Rated Capacitance Range	from 1500 µF to 15000 µF																																					
Capacitance Tolerance	±20% at 100 Hz, 20°C [M class IEC-62] on request: -10% +30% at 100 Hz, 20°C [Q class IEC-62]																																					
Leakage Current (I_L) (mA, 5 min, 20°C)	max I _L = 0.006 C _r V _r + 4 µA Kendeil product limit: I _L = 0.003 C _r V _r At 85°C max I _L = 0.04 C _r V _r µA																																					
Ripple current (I_r)	<p>Refer to table at 85°C and 100Hz:</p> <table border="1"> <thead> <tr> <th>FREQUENCY</th> <th>50Hz</th> <th>100 Hz</th> <th>500Hz</th> <th>1000Hz</th> <th>>10kHz</th> </tr> </thead> <tbody> <tr> <td>MULTIPLIER</td> <td>0.8</td> <td>1.0</td> <td>1.2</td> <td>1.3</td> <td>1.5</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>AMBIENT TEMP</th> <th>35°C</th> <th>45°C</th> <th>55°C</th> <th>65°C</th> <th>75°C</th> <th>85°C</th> <th>95°C</th> </tr> </thead> <tbody> <tr> <td>MULTIPLIER</td> <td>2.2</td> <td>2.1</td> <td>1.8</td> <td>1.6</td> <td>1.4</td> <td>1.0</td> <td>0.5</td> </tr> </tbody> </table> <p>Due to the current load capability of the contact elements, the following limits must not be exceeded:</p> <table border="1"> <thead> <tr> <th>CAPACITOR DIAMETER</th> <th>63mm</th> <th>76mm</th> <th>90mm</th> </tr> </thead> <tbody> <tr> <td>Maximum current</td> <td>40A</td> <td>50A</td> <td>70A</td> </tr> </tbody> </table>		FREQUENCY	50Hz	100 Hz	500Hz	1000Hz	>10kHz	MULTIPLIER	0.8	1.0	1.2	1.3	1.5	AMBIENT TEMP	35°C	45°C	55°C	65°C	75°C	85°C	95°C	MULTIPLIER	2.2	2.1	1.8	1.6	1.4	1.0	0.5	CAPACITOR DIAMETER	63mm	76mm	90mm	Maximum current	40A	50A	70A
FREQUENCY	50Hz	100 Hz	500Hz	1000Hz	>10kHz																																	
MULTIPLIER	0.8	1.0	1.2	1.3	1.5																																	
AMBIENT TEMP	35°C	45°C	55°C	65°C	75°C	85°C	95°C																															
MULTIPLIER	2.2	2.1	1.8	1.6	1.4	1.0	0.5																															
CAPACITOR DIAMETER	63mm	76mm	90mm																																			
Maximum current	40A	50A	70A																																			
Insulation Resistance	At 100V DC for 1 min is >100 MΩ across insulating sleeve and terminals.																																					
Vibration Resistance	Frequency range: 10 Hz to 55 Hz Capacitor length ≤ 143 : max acceleration 0.75mm or 10g for 3x2 h Capacitor length > 143 : max acceleration 0.35mm or 5g for 3x0.5 h																																					
Withstand voltage (between terminals bundled and plate)	2500 VAC for 1 min																																					
Life test	After 4,000 hours application of rated voltage at 85°C capacitors meet characteristics aside	Cap change ≤ 10% tan δ ≤ 130% Leakage current (I _L) < initial limit Impedance (Z) ≤ 130%																																				
Shelf life	After leaving capacitors under no load for 2000 hours at 85°C, when restored at 20°C meet specifications aside	Cap change ≤ ±15% tan δ ≤ 150% Leakage current (I _L) < initial limit																																				
Useful life (V_n, Temp rated I ripple applied)	> 20000 h 85°C for V ≤ 450V > 15000 h for V ≤ 500V > 12000 h for V = 550V > 6000 h for V = 600V	Cap change ≤ ±25% tan δ ≤ 300% Leakage current (I _L) < initial limit																																				
Failure percentage Failure rate	≤ 1% (during working life) ≤ 33 fit (33 10 ⁻⁹ /h)																																					
Self inductance	Approx. 20 nH																																					
Damp heat test (V_n applied, 2000 hours, 85% RH)	Stable electrical parameters in humidity ambient condition 85°C																																					
Electrolyte	All the capacitors of this series have self-extinguishing electrolyte in accordance with IEC EN 60695-11-10																																					
Reference standards	CECC 30.300 IEC 60384-4 LONG LIFE GRADE																																					

K04 TYPE STANDARD RATINGS

Cap μF	$\varnothing \times L$ mm	Tan δ MAX 100 Hz 20°C	ESR TYP m Ω 100 Hz 20°C	Z TYP m Ω 10 kHz 20°C	I _r a.c. A max 100 Hz 85°C	PART NUMBER stud and insert style excluded
2200	63x105	0.13	42	30	11.0	K04350222_M0H105
3300	63x105	0.13	30	22	12.6	K04350332_M0H105
3300	76x105	0.13	30	22	13.8	K04350332_M0J105
4700	76x105	0.13	23	15	16.1	K04350472_M0J105
4700	76x143	0.13	23	15	18.5	K04350472_M0J143
5600	76x143	0.15	19	14	20.0	K04350562_M0J143
6800	76x143	0.15	15	11	21.8	K04350682_M0J143
8200	76x143	0.15	13	9	23.6	K04350822_M0J143
10000	76x214	0.17	11	8	31.7	K04350103_M0J214
15000	90x220	0.18	7	5	42.0	K04350153_M0L220

**RATED
VOLTAGE
VDC**

350V

Cap μF	$\varnothing \times L$ mm	Tan δ MAX 100 Hz 20°C	ESR TYP m Ω 100 Hz 20°C	Z TYP m Ω 10 kHz 20°C	I _r a.c. A max 100 Hz 85°C	PART NUMBER stud and insert style excluded
1500	63x105	0.15	105	85	7.5	K04400152_M0H105
2200	63x105	0.15	80	63	8.8	K04400222_M0H105
2200	76x105	0.15	80	63	10.2	K04400222_M0J105
3300	63x105	0.15	50	40	10.7	K04400332_M0H105
3300	76x143	0.15	50	40	14.1	K04400332_M0J143
4700	76x105	0.17	40	32	14.7	K04400472_M0J105
4700	76x143	0.17	40	32	17.7	K04400472_M0J143
6800	76x143	0.17	27	22	18.0	K04400682_M0J143
10000	76x214	0.20	20	17	27.8	K04400103_M0J214

**RATED
VOLTAGE
VDC**

400V

Cap μF	$\varnothing \times L$ mm	Tan δ MAX 100 Hz 20°C	ESR TYP m Ω 100 Hz 20°C	Z TYP m Ω 10 Hz 20°C	I _r a.c. A max 100 Hz 85°C	PART NUMBER stud and insert style excluded
1500	63x105	0.15	105	85	7.5	K04420152_M0H105
2200	63x105	0.15	80	63	8.8	K04420222_M0H105
2200	76x105	0.15	80	63	10.2	K04420222_M0J105
3300	63x105	0.15	50	40	10.7	K04420332_M0H105
3300	76x143	0.15	50	40	14.1	K04420332_M0J143
4700	76x105	0.17	40	32	14.7	K04420472_M0J105
4700	76x143	0.17	40	32	17.7	K04420472_M0J143
6800	76x143	0.17	27	22	18.0	K04420682_M0J143
10000	76x214	0.20	20	17	27.8	K04420103_M0J214

**RATED
VOLTAGE
VDC**

420V

K04 TYPE STANDARD RATINGS

Cap μF	\varnothing x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP m Ω 100 Hz 20°C	Z TYP m Ω 10 Hz 20°C	I _r a.c. A max 100 Hz 85°C	PART NUMBER stud and insert style excluded
1500	63x105	0.15	105	85	7.5	K04450152_M0H105
2200	63x105	0.15	80	63	8.8	K04450222_M0H105
2200	76x105	0.15	80	63	10.2	K04450222_M0J105
3300	63x105	0.15	50	40	10.7	K04450332_M0H105
3300	76x143	0.15	50	40	14.1	K04450332_M0J143
4700	76x105	0.17	40	32	14.7	K04450472_M0J105
4700	76x143	0.17	40	32	17.7	K04450472_M0J143
6800	76x143	0.17	27	22	18.0	K04450682_M0J143
10000	76x214	0.20	20	17	27.8	K04450103_M0J214
12000	90x220	0.20	15	11	34.5	K04450123_M0L220

**RATED
VOLTAGE
VDC**

450V

Cap μF	\varnothing x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP m Ω 100 Hz 20°C	Z TYP m Ω 10 Hz 20°C	I _r a.c. A max 100 Hz 85°C	PART NUMBER stud and insert style excluded
1500	63x105	0.15	95	76	7.7	K04500152_M0H105
2200	63x105	0.15	65	55	8.9	K04500222_M0H105
2200	76x105	0.15	65	55	10.0	K04500222_M0J105
2200	76x143	0.15	65	55	11.4	K04500222_M0J143
3300	76x143	0.15	40	39	13.9	K04500332_M0J143
3900	76x143	0.17	38	34	14.7	K04500392_M0J143
4700	76x143	0.17	33	33	16.1	K04500472_M0J143
5600	76x143	0.17	30	26	17.5	K04500562_M0J143
6800	76x214	0.17	27	22	23.0	K04500682_M0J214
10000	90x220	0.20	20	17	30.4	K04500103_M0L220

**RATED
VOLTAGE
VDC**

500V

Cap μF	\varnothing x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP m Ω 100 Hz 20°C	Z TYP m Ω 10 Hz 20°C	I _r a.c. A max 100 Hz 85°C	PART NUMBER stud and insert style excluded
1500	63x105	0.19	109	88	6.5	K04550152_M0H105
1800	76x105	0.19	99	80	7.6	K04550182_M0J105
2200	76x143	0.19	81	70	9.5	K04550222_M0J143
3300	76x143	0.20	59	49	10.2	K04550332_M0J143
4700	76x214	0.20	48	41	16.0	K04550472_M0J214
6800	90x220	0.21	34	28	18.1	K04550682_M0L220

**RATED
VOLTAGE
VDC**

550V

K04 TYPE STANDARD RATINGS

Cap μF	Ø x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP m Ω 100 Hz 20°C	Z TYP m Ω 10 Hz 20°C	Ir a.c. A max 100 Hz 85°C	PART NUMBER termination digit excluded
1500	63x105	0.15	71	54	7.9	K04600152__HMOH105
1800	76x105	0.15	61	47	9.5	K04600182__HMOJ105
2200	76x143	0.15	48	37	11.9	K04600222__HMOJ143
3300	76x143	0.15	36	27	14.1	K04600332__HMOJ143
3900	90x145	0.15	28	22	17.3	K04600392__HMOL145
4700	76x214	0.15	21	17	18.7	K04600472__HMOJ214
4700	90x145	0.15	23	19	20.1	K04600472__HMOL145
6800	90x220	0.15	16	13	26.9	K04600682__HMOL220

**RATED
VOLTAGE
VDC**

600V

PLEASE TO CONTACT OUR TECHNICAL SERVICE FOR MORE INFORMATION OR SPEC-IN ANALYSIS.