



VISHAY INTERTECHNOLOGY, INC.



FILM CAPACITORS

- | | |
|-----------------------------|--------------|
| 303 / 304 | 1813 |
| 312 | 1820 |
| 313 | 1830 |
| 314 | 1839 |
| 338 1 | 1710 |
| 338 4 | 1773 |
| 338 6 | 1778-3 |
| 339 | 1840M |
| 365-367 | 1841 / 1841M |
| 370-373 | 1845 |
| 375 | |
| 383 | |
| 385 | |
| 386 | |
| 405 | |
| 416 - 417 - 418 - 419 - 420 | |
| 422 - 422 mini | |
| 467 - 468 - 469 | |
| 471 | |



Film Capacitors



| | | RFI | | | | | |
|-----------------------|----------------|---|--|-------------------------------------|---|---|---|
| Series | | 339 | 1778-3 / (338 4) | 1773 | 338 1 | 338 6 | 1710 |
| | | | | | | | |
| Applications | | X2 filtering of the mains (230 Vac) | X2 filtering of the mains (230 Vac) | X2 filtering of the mains (230 Vac) | X1 filtering between the lines of a three phase mains | Y2 filtering between line and earth | Y2/X1 filtering |
| Market Segments | Lighting | • | • | • | • | • | • |
| | Power Supplies | • | • | • | • | • | • |
| | Automotive | | | | | | |
| | Telecom | | | | | | |
| | White Goods | • | | • | | | |
| | Consumer | | | | | | |
| Max. Temperature | | 110 °C | 100 °C (105 °C) | 100 °C | 105 °C | 105 °C | 100 °C |
| Tolerance | | 20 %, 10 % | 20 %, 10 % | 20 %, 10 % | ±20 %, ±10 %, ±5 % | ±20 %, ±10 %, ±5 % | 20 %, 10 % |
| Technology | | MKP | MKP | MKT | MKP | MKP | MKT |
| Version | | Radial boxed | Radial boxed | Axial | Radial boxed | Radial boxed | Radial boxed |
| Voltage | | 275 Vac (X2) | 305 Vac (X2) | 253 Vac (X2) | 440 Vac (X1) | 300 Vac (Y2) | 305 Vac (Y2/X1) |
| Pulse Slope (dV/dt) | | 100 V/μs | 100 - 200 V/μs | 100 - 200 V/μs | 100 - 250 V/μs | 100 V/μs | 100 - 200 V/μs |
| Capacitance/Pitch | | 1- 68 nF: 7.5 mm 1- 100 nF: 10 mm 10- 680 nF: 15 mm 0.12- 1.5 μF: 22.5 mm 0.47- 4.7 μF: 27.5 mm | 10- 100 nF: 10 mm 10- 470 nF: 15 mm 0.15- 1 μF: 22.5 mm 0.47- 3.3 μF: 27.5 mm 2.2- 10 μF: 37.5 mm 6.8- 10 μF: 55 mm | 10 nF - 2.2 μF | 10- 100 nF: 7.5 mm (bent back) 10- 100 nF: 15 mm 0.1- 0.22 μF: 22.5 mm 0.22- 1 μF: 27.5 mm | 1- 56 nF: 7.5 mm 1- 10 nF: 10 mm 6.8- 56 nF: 15 mm 47- 150 nF: 22.5 mm 180- 470 nF: 27.5 mm | 1- 10 nF: 10 mm 1- 22 nF: 15 mm 27- 68 nF: 22.5 mm 82- 100 nF: 27.5 mm |
| Technical Information | | Approvals: ENEC, UL1414, UL1283, CSA No.1, CSA No.8, CQC | Approvals: ENEC, UL1414, UL1283, CSA No.1, CSA No.8 | Approvals: ENEC, UL1283 | Approvals: ENEC, UL1414, UL1283, CSA No.8 | Approvals: ENEC, UL1414, UL1283, CSA No.1 | Approvals: ENEC, UL1414, UL1283, CSA No.1 |



| | AC & Pulse | | | | | | |
|---|--|--|--|--|--|--|--|
| 405 | 1840M | 385 | 1841 / 1841M | 383 | 1830 | 375 | 1839 |
| | | | | | | | |
| Automotive RFI filter, capacitor varistor combination | High-voltage and high-frequency applications | High-voltage and high-frequency applications | High-voltage and high-frequency applications | High-voltage and high-frequency applications, snubber and resonant cap | High-voltage and high-frequency applications | High-voltage and high-frequency applications, unlimited dV/dt, flyback | High-voltage and high-frequency applications |
| | • | • | • | • | | • | |
| | • | • | • | • | • | • | • |
| • | | • | | • | | | |
| | | • | | • | • | | • |
| | • | • | • | • | | • | |
| | | | | | | | |
| 105 °C | 100 °C | 125 °C | 100 °C | 105 °C | 100 °C | 105 °C | 100 °C |
| 10 % | 2.5 %, 5 %, 10 % | 2 %, 5 % | 5 %, 10 % | 1 %, 2 %, 5 % | 1 %, 2.5 %, 5 %, 10 % | 3.5 %, 5 % | 1 %, 2.5 %, 5 %, 10 % |
| MKT + varistor | MKP | MKP | MMKP | MMKP | KP | KP/MKP | MKP |
| Radial boxed / radial lacquered | Radial boxed | Radial boxed | Radial boxed | Radial boxed | Radial boxed | Radial boxed | Axial |
| 18 - 42 Vdc | 250 - 2000 Vdc | 1600 - 2000 Vdc | 160 - 2000Vdc | 250 - 2500 Vdc | 63 - 630 Vdc | 630 - 2500 Vdc | 160 - 800 Vdc |
| 50 V/μs | 30 - 4100 V/μs | 2000 - 4000 V/μs | 130 - 20000 V/μs | 130 - 20000 V/μs | 1000 V/μs | 1900 - 30000 V/μs | 30 - 700 V/μs |
| 10 nF - 1.0 μF | 1000 pF - 6.8 μF 5 - 37.5 mm | 680 pF - 0.033 μF 10 - 15 mm | 470 pF - 6.8 μF 7.5 - 37.5 mm | 680 pF - 2.7 μF 15 - 27.5 mm | 100 pF - 0.033 μF 5 mm | 100 pF - 0.27 μF 10 - 27.5 mm | 1000 pF - 10 μF |
| | | Small dimensions | | | | | |



| | | Precision | | | | CDI | |
|--|-----------------------|---|---|--|--|--------------------------------|---------------------------------|
| 1845 | 386 | 416-417-418 419-420 | 422-422 mini | 1830 | 1839 | 313 | 314 |
| | | | | | | | |
| High-voltage and high-frequency applications | Snubber applications | Telecom and ADSL filtering applications | Telecom and ADSL filtering applications | High-voltage and high-frequency applications | High-voltage and high-frequency applications | Ignition system for 2 wheelers | Ignition system for 2 wheelers |
| • | • | | | • | • | | |
| • | | • | • | • | • | • | • |
| | | | | | | | |
| 100 °C | 85 °C | 85 °C | 85 °C | 100 °C | 100 °C | 85 °C | 85 °C |
| 5 %, 10 %, 20 % | 5 %, 10 % | 2 %, 5 % | 2 %, 5 % | 1 %, 2.5 %, 5 %, 10 % | 1 %, 2.5 %, 5 %, 10 % | 10 % | 10 % |
| MKP | MMKP | MKP | MKP | KP | MKP | MKP | MKT |
| Axial | Radial boxed | Radial boxed | Radial boxed | Radial boxed | Axial | Radial lacquered | Radial lacquered |
| 160 - 2000V dc | 630 - 2500Vdc | 63 - 630 Vdc | 630 Vdc | 63 - 630 Vdc | 160 - 800 Vdc | 250- 400 Vdc | 250- 400 Vdc |
| 140 - 6200 V/μs | 75 - 5500 V/μs | 20-50 V/μs | 50 V/μs | 1000 V/μs | 30 - 700 V/μs | 100 V/μs | 10 V/μs |
| 1000 pF - 4.7 μF | 0.1 μF - 4.7 μF | 1 nF - 1.1 μF | 1 - 47 nF Withstand surge voltage up to 1.5 kV | 100 pF - 0.033 μF 5 mm | 220 pF - 10.0 μF | 0.47 - 2.2 μF 27.5 mm | 0.47 - 2.2 μF 22.5 - 27.5 mm |
| | Special tab terminals | | | | | | |



Film Capacitors



| DC Applications | | | | | | | |
|-----------------------------|--|-----------------------------|-------------------------------|---|----------------------|------------------------------------|---|
| 370-373 | 1820 | 365-367 | 467-468-469 | 303 / 304 | 1813 | 471 | 312 |
| | | | | | | | |
| General applications | General applications, high temperature, automotive | General applications | General applications | General applications, minimal building height | General applications | CFL applications, high temperature | Ignition cap., xenon lamp, high temperature |
| • | • | • | • | • | • | • | |
| • | • | • | • | | • | | |
| • | • | • | • | | • | | • |
| • | • | • | • | | • | | |
| • | • | • | • | | • | | |
| | | | | | | | |
| 100 °C / 105 °C | 125 °C | 105 °C | 105 °C | 105 °C | 100 °C | 150 °C | 175 °C |
| 5 %, 10 % | 5 %, 10 % | 5 %, 10 % | 5 %, 10 % | 5 %, 10 % | 5 %, 10 % | 5 %, 10 % | 5 %, 10 % |
| MKT | MKT | MKT | MKT | MKT | MKT | MKN | MKN |
| Radial boxed | Radial boxed | Radial lacquered | Radial lacquered | Radial lacquered, naked belly | Axial | Radial lacquered | Radial lacquered, naked belly |
| 63 - 630 Vdc | 63 - 1000 Vdc | 63 - 400 Vdc | 100 - 1000 Vdc | 250 - 630 Vdc | 63 - 1000 Vdc | 700 - 1000 Vdc | 1000 Vdc |
| 4 - 630 V/μs | 2.5 - 130 V/μs | 110 - 170 V/μs | 10 - 170 V/μs | 2 - 18 V/μs | 2 - 175 V/μs | 100 V/μs | 6000 V/μs |
| 1 nF - 15 μF 5 - 27.5 mm | 1 nF - 15 μF 5 - 37.5 mm | 3.3 nF - 1 μF 5 - 7.5 mm | 1 nF - 10 μF 7.5 - 27.5 mm | 0.01 - 10 μF 7.5 - 27.5 mm | 470 pF - 22 μF | 2.2 - 8.2 nF 5 mm | 1 nF - 1 μF |
| | | | | Low building height | | | |

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