

GPD Series

- Guaranteed short time at 150°C
- Downsized and high-ripple current version of GPA series
- For automobile modules and other high temperature applications
- Endurance with ripple current : 2,000 to 3,000 hours at 125°C to 135°C
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- RoHS2 Compliant
- AEC-Q200 compliant : Please contact Chemi-Con for more details, test data, information.

GPA → Downsized Higher ripple current → **GPD**



◆ SPECIFICATIONS

| Items | Characteristics | | | | | | | |
|--|--|--------------------------------------|----------------------------|------|------------|------|------|--|
| Category | -40 to +135°C | | | | | | | |
| Temperature Range | -40 to +135°C | | | | | | | |
| Rated Voltage Range | 25 to 100V _{dc} | | | | | | | |
| Capacitance Tolerance | ±20% (M) (at 20°C, 120Hz) | | | | | | | |
| Leakage Current | I=0.03CV or 4μA, whichever is greater. Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C, 1 minute) | | | | | | | |
| Dissipation Factor (tan δ) | Rated voltage (V _{dc}) | 25V | 35V | 50V | 63V | 80V | 100V | |
| | tan δ (Max.) | 0.14 | 0.12 | 0.10 | 0.10 | 0.08 | 0.08 | |
| | When nominal capacitance exceeds 1,000μF, add 0.02 to the value above for each 1,000μF increase. (at 20°C, 120Hz) | | | | | | | |
| Low Temperature Characteristics (Max. Impedance Ratio) | Rated voltage (V _{dc}) | 25V | 35V | 50V | 63V | 80V | 100V | |
| | Z(-25°C)/Z(+20°C) | 2 | 2 | 2 | 2 | 2 | 2 | |
| | Z(-40°C)/Z(+20°C) | 4 | 4 | 4 | 4 | 4 | 4 | |
| Endurance 1 | The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for the specified period of time at 125°C or 135°C. | | | | | | | |
| | Time | 125°C | 3,000hours | | | | | |
| | | 135°C | 25 to 50V _{dc} : | | 3,000hours | | | |
| | | | 63 to 100V _{dc} : | | 2,000hours | | | |
| | Capacitance change | ≤ ±30% of the initial value | | | | | | |
| D.F. (tan δ) | ≤300% of the initial specified value | | | | | | | |
| Leakage current | ≤The initial specified value | | | | | | | |
| Endurance 2 | The following specifications shall be satisfied when the capacitors are restored to 20°C after the test condition that the rated voltage is applied for 100 hours at 150°C and DC voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for the specified period of time at 125°C or 135°C. | | | | | | | |
| | Time | 125°C | 2,500hours | | | | | |
| | | 135°C | 25 to 50V _{dc} : | | 2,500hours | | | |
| | | | 63 to 100V _{dc} : | | 1,500hours | | | |
| | Capacitance change | ≤ ±30% of the initial value | | | | | | |
| D.F. (tan δ) | ≤300% of the initial specified value | | | | | | | |
| Leakage current | ≤The initial specified value | | | | | | | |
| Shelf Life | The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 125°C without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4. | | | | | | | |
| | Capacitance change | ≤ ±30% of the initial value | | | | | | |
| | D.F. (tan δ) | ≤300% of the initial specified value | | | | | | |
| | Leakage current | ≤The initial specified value | | | | | | |

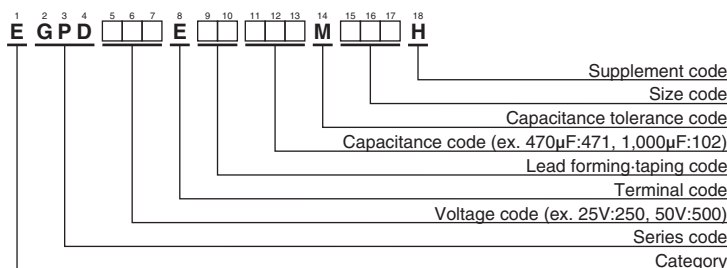
◆ DIMENSIONS [mm]

- Terminal Code : E



| φD | 12.5 | 16 | 18 |
|-----|-----------------------------------|-----|-----|
| φd | 0.6 | 0.8 | 0.8 |
| F | 5.0 | 7.5 | 7.5 |
| φD' | φD±0.5 | | |
| L' | L ^{+1.5} _{-1.0} | | |

◆ PART NUMBERING SYSTEM



Please refer to "Product code guide (radial lead type)"

GPD Series

◆ STANDARD RATINGS

| WV (V _{ac}) | Cap (μF) | Case size φD×L(mm) | tan δ | ESR (Ω max./100kHz) | | Rated ripple current (mArms/100kHz) | | Part No. |
|--------------------------|-------------|-----------------------|-------|------------------------|-------|--|--------------------|--------------------|
| | | | | 20°C | -40°C | 125°C | 135°C | |
| 25 | 2,000 | 12.5 × 20 | 0.16 | 0.042 | 0.48 | 2,760 | 1,690 | EGPD250E□□202MK20H |
| | 3,000 | 12.5 × 25 | 0.18 | 0.033 | 0.30 | 3,480 | 2,010 | EGPD250E□□302MK25H |
| | 3,300 | 16 × 20 | 0.18 | 0.035 | 0.27 | 3,040 | 1,860 | EGPD250E□□332ML20H |
| | 3,600 | 12.5 × 30 | 0.18 | 0.028 | 0.24 | 4,490 | 2,900 | EGPD250E□□362MK30H |
| | 4,300 | 18 × 20 | 0.20 | 0.034 | 0.22 | 3,250 | 1,870 | EGPD250E□□432MM20H |
| | 4,700 | 12.5 × 35 | 0.20 | 0.025 | 0.21 | 5,140 | 3,190 | EGPD250E□□472MK35H |
| | 4,700 | 16 × 25 | 0.20 | 0.028 | 0.22 | 4,260 | 2,870 | EGPD250E□□472ML25H |
| | 5,100 | 12.5 × 40 | 0.22 | 0.024 | 0.19 | 5,810 | 3,470 | EGPD250E□□512MK40H |
| | 5,600 | 16 × 30 | 0.22 | 0.023 | 0.18 | 5,480 | 3,400 | EGPD250E□□562ML30H |
| | 6,200 | 18 × 25 | 0.24 | 0.027 | 0.19 | 4,500 | 2,900 | EGPD250E□□622MM25H |
| | 7,500 | 16 × 35 | 0.26 | 0.020 | 0.14 | 6,070 | 3,630 | EGPD250E□□752ML35H |
| | 7,500 | 18 × 30 | 0.26 | 0.022 | 0.16 | 5,600 | 3,470 | EGPD250E□□752MM30H |
| 35 | 9,100 | 16 × 40 | 0.30 | 0.019 | 0.12 | 6,810 | 3,930 | EGPD250E□□912ML40H |
| | 10,000 | 18 × 35 | 0.32 | 0.019 | 0.12 | 6,280 | 3,750 | EGPD250E□□103MM35H |
| | 12,000 | 18 × 40 | 0.36 | 0.018 | 0.10 | 7,070 | 4,080 | EGPD250E□□123MM40H |
| | 1,300 | 12.5 × 20 | 0.12 | 0.042 | 0.48 | 2,760 | 1,690 | EGPD350E□□132MK20H |
| | 1,800 | 12.5 × 25 | 0.12 | 0.033 | 0.30 | 3,480 | 2,010 | EGPD350E□□182MK25H |
| | 2,000 | 16 × 20 | 0.14 | 0.035 | 0.27 | 3,040 | 1,860 | EGPD350E□□202ML20H |
| | 2,200 | 12.5 × 30 | 0.14 | 0.028 | 0.24 | 4,490 | 2,900 | EGPD350E□□222MK30H |
| | 2,400 | 18 × 20 | 0.14 | 0.034 | 0.22 | 3,250 | 1,870 | EGPD350E□□242MM20H |
| | 2,700 | 12.5 × 35 | 0.14 | 0.025 | 0.21 | 5,140 | 3,190 | EGPD350E□□272MK35H |
| | 3,000 | 16 × 25 | 0.16 | 0.028 | 0.22 | 4,260 | 2,870 | EGPD350E□□302ML25H |
| | 3,300 | 12.5 × 40 | 0.16 | 0.024 | 0.19 | 5,810 | 3,470 | EGPD350E□□332MK40H |
| | 3,600 | 16 × 30 | 0.16 | 0.023 | 0.18 | 5,480 | 3,400 | EGPD350E□□362ML30H |
| 3,900 | 18 × 25 | 0.16 | 0.027 | 0.19 | 4,500 | 2,900 | EGPD350E□□392MM25H | |
| 4,300 | 16 × 35 | 0.18 | 0.020 | 0.14 | 6,070 | 3,630 | EGPD350E□□432ML35H | |
| 4,700 | 18 × 30 | 0.18 | 0.022 | 0.16 | 5,600 | 3,470 | EGPD350E□□472MM30H | |
| 5,600 | 16 × 40 | 0.20 | 0.019 | 0.12 | 6,810 | 3,930 | EGPD350E□□562ML40H | |
| 6,200 | 18 × 35 | 0.22 | 0.019 | 0.12 | 6,280 | 3,750 | EGPD350E□□622MM35H | |
| 7,500 | 18 × 40 | 0.24 | 0.018 | 0.10 | 7,070 | 4,080 | EGPD350E□□752MM40H | |
| 50 | 620 | 12.5 × 20 | 0.10 | 0.073 | 0.88 | 2,400 | 1,470 | EGPD500E□□621MK20H |
| | 820 | 12.5 × 25 | 0.10 | 0.058 | 0.67 | 3,350 | 2,260 | EGPD500E□□821MK25H |
| | 1,000 | 16 × 20 | 0.10 | 0.050 | 0.55 | 2,960 | 1,870 | EGPD500E□□102ML20H |
| | 1,100 | 12.5 × 30 | 0.10 | 0.048 | 0.52 | 4,220 | 2,520 | EGPD500E□□112MK30H |
| | 1,300 | 12.5 × 35 | 0.10 | 0.042 | 0.44 | 4,810 | 2,780 | EGPD500E□□132MK35H |
| | 1,300 | 16 × 25 | 0.10 | 0.042 | 0.44 | 4,040 | 2,500 | EGPD500E□□132ML25H |
| | 1,300 | 18 × 20 | 0.10 | 0.042 | 0.44 | 3,130 | 2,110 | EGPD500E□□132MM20H |
| | 1,600 | 12.5 × 40 | 0.10 | 0.037 | 0.36 | 5,240 | 3,020 | EGPD500E□□162MK40H |
| | 1,600 | 16 × 30 | 0.10 | 0.035 | 0.36 | 5,130 | 2,960 | EGPD500E□□162ML30H |
| | 1,800 | 18 × 25 | 0.10 | 0.033 | 0.32 | 4,230 | 2,530 | EGPD500E□□182MM25H |
| | 2,200 | 16 × 35 | 0.12 | 0.029 | 0.27 | 5,480 | 3,160 | EGPD500E□□222ML35H |
| | 2,400 | 18 × 30 | 0.12 | 0.028 | 0.25 | 5,240 | 3,020 | EGPD500E□□242MM30H |
| | 2,700 | 16 × 40 | 0.12 | 0.025 | 0.22 | 5,930 | 3,420 | EGPD500E□□272ML40H |
| | 3,000 | 18 × 35 | 0.14 | 0.024 | 0.20 | 5,870 | 3,390 | EGPD500E□□302MM35H |
| 3,600 | 18 × 40 | 0.14 | 0.023 | 0.16 | 6,420 | 3,700 | EGPD500E□□362MM40H | |
| 63 | 390 | 12.5 × 20 | 0.10 | 0.072 | 0.56 | 1,640 | 1,420 | EGPD630E□□391MK20H |
| | 560 | 12.5 × 25 | 0.10 | 0.052 | 0.39 | 2,520 | 2,050 | EGPD630E□□561MK25H |
| | 680 | 16 × 20 | 0.10 | 0.053 | 0.34 | 2,140 | 1,910 | EGPD630E□□681ML20H |
| | 750 | 12.5 × 30 | 0.10 | 0.042 | 0.30 | 3,110 | 2,630 | EGPD630E□□751MK30H |
| | 910 | 12.5 × 35 | 0.10 | 0.035 | 0.25 | 3,760 | 2,970 | EGPD630E□□911MK35H |
| | 910 | 18 × 20 | 0.10 | 0.044 | 0.26 | 2,350 | 2,100 | EGPD630E□□911MM20H |
| | 1,000 | 16 × 25 | 0.10 | 0.038 | 0.23 | 2,940 | 2,680 | EGPD630E□□102ML25H |
| | 1,100 | 12.5 × 40 | 0.10 | 0.031 | 0.22 | 4,610 | 3,260 | EGPD630E□□112MK40H |
| | 1,200 | 16 × 30 | 0.10 | 0.034 | 0.20 | 3,860 | 3,050 | EGPD630E□□122ML30H |
| | 1,300 | 18 × 25 | 0.10 | 0.033 | 0.19 | 3,080 | 2,810 | EGPD630E□□132MM25H |
| | 1,600 | 16 × 35 | 0.10 | 0.027 | 0.15 | 4,590 | 3,420 | EGPD630E□□162ML35H |
| | 1,600 | 18 × 30 | 0.10 | 0.028 | 0.15 | 4,080 | 3,220 | EGPD630E□□162MM30H |
| | 1,800 | 16 × 40 | 0.10 | 0.025 | 0.14 | 5,190 | 3,670 | EGPD630E□□182ML40H |
| | 2,200 | 18 × 35 | 0.12 | 0.022 | 0.12 | 5,220 | 3,690 | EGPD630E□□222MM35H |
| 2,400 | 18 × 40 | 0.12 | 0.021 | 0.11 | 5,660 | 3,820 | EGPD630E□□242MM40H | |

□□ : Enter the appropriate lead forming or taping code.

◆STANDARD RATINGS

| WV (V _{dc}) | Cap (μF) | Case size φD×L(mm) | tan δ | ESR (Ω max./100kHz) | | Rated ripple current (mA _{rms} /100kHz) | | Part No. |
|--------------------------|-------------|-----------------------|-------|------------------------|-------|---|--------------------|--------------------|
| | | | | 20°C | -40°C | 125°C | 135°C | |
| 80 | 270 | 12.5 × 20 | 0.08 | 0.072 | 0.56 | 1,640 | 1,420 | EGPD800E□□271MK20H |
| | 390 | 12.5 × 25 | 0.08 | 0.052 | 0.39 | 2,520 | 2,050 | EGPD800E□□391MK25H |
| | 470 | 16 × 20 | 0.08 | 0.053 | 0.34 | 2,140 | 1,910 | EGPD800E□□471ML20H |
| | 510 | 12.5 × 30 | 0.08 | 0.042 | 0.30 | 3,110 | 2,630 | EGPD800E□□511MK30H |
| | 620 | 12.5 × 35 | 0.08 | 0.035 | 0.25 | 3,760 | 2,970 | EGPD800E□□621MK35H |
| | 620 | 18 × 20 | 0.08 | 0.044 | 0.26 | 2,350 | 2,100 | EGPD800E□□621MM20H |
| | 680 | 16 × 25 | 0.08 | 0.038 | 0.23 | 2,940 | 2,680 | EGPD800E□□681ML25H |
| | 750 | 12.5 × 40 | 0.08 | 0.031 | 0.22 | 4,610 | 3,260 | EGPD800E□□751MK40H |
| | 750 | 16 × 30 | 0.08 | 0.034 | 0.20 | 3,860 | 3,050 | EGPD800E□□751ML30H |
| | 820 | 18 × 25 | 0.08 | 0.033 | 0.19 | 3,080 | 2,810 | EGPD800E□□821MM25H |
| | 1,000 | 16 × 35 | 0.08 | 0.027 | 0.15 | 4,590 | 3,420 | EGPD800E□□102ML35H |
| | 1,100 | 18 × 30 | 0.08 | 0.028 | 0.15 | 4,080 | 3,220 | EGPD800E□□112MM30H |
| | 1,300 | 16 × 40 | 0.08 | 0.025 | 0.14 | 5,190 | 3,670 | EGPD800E□□132ML40H |
| | 1,300 | 18 × 35 | 0.08 | 0.022 | 0.12 | 5,220 | 3,690 | EGPD800E□□132MM35H |
| 1,600 | 18 × 40 | 0.08 | 0.021 | 0.11 | 5,660 | 3,820 | EGPD800E□□162MM40H | |
| 100 | 160 | 12.5 × 20 | 0.08 | 0.090 | 0.75 | 1,580 | 1,410 | EGPD101E□□161MK20H |
| | 220 | 12.5 × 25 | 0.08 | 0.068 | 0.55 | 2,140 | 1,960 | EGPD101E□□221MK25H |
| | 270 | 16 × 20 | 0.08 | 0.067 | 0.47 | 2,050 | 1,670 | EGPD101E□□271ML20H |
| | 300 | 12.5 × 30 | 0.08 | 0.052 | 0.41 | 2,950 | 2,330 | EGPD101E□□301MK30H |
| | 360 | 12.5 × 35 | 0.08 | 0.045 | 0.35 | 3,530 | 2,630 | EGPD101E□□361MK35H |
| | 360 | 18 × 20 | 0.08 | 0.061 | 0.35 | 2,270 | 1,860 | EGPD101E□□361MM20H |
| | 390 | 16 × 25 | 0.08 | 0.048 | 0.33 | 2,790 | 2,360 | EGPD101E□□391ML25H |
| | 430 | 12.5 × 40 | 0.08 | 0.038 | 0.29 | 4,140 | 2,920 | EGPD101E□□431MK40H |
| | 470 | 16 × 30 | 0.08 | 0.041 | 0.27 | 3,440 | 2,720 | EGPD101E□□471ML30H |
| | 510 | 18 × 25 | 0.08 | 0.045 | 0.25 | 2,920 | 2,470 | EGPD101E□□511MM25H |
| | 560 | 16 × 35 | 0.08 | 0.036 | 0.23 | 4,190 | 2,960 | EGPD101E□□561ML35H |
| | 620 | 18 × 30 | 0.08 | 0.037 | 0.20 | 3,920 | 2,920 | EGPD101E□□621MM30H |
| | 750 | 16 × 40 | 0.08 | 0.028 | 0.18 | 5,020 | 3,380 | EGPD101E□□751ML40H |
| | 820 | 18 × 35 | 0.08 | 0.030 | 0.16 | 4,710 | 3,330 | EGPD101E□□821MM35H |
| | 910 | 18 × 40 | 0.08 | 0.026 | 0.14 | 5,280 | 3,560 | EGPD101E□□911MM40H |

□□ : Enter the appropriate lead forming or taping code.

◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

| Capacitance(μF) | Frequency(Hz) | | | |
|-----------------|---------------|------|------|------|
| | 120 | 1k | 10k | 100k |
| 160 | 0.40 | 0.75 | 0.90 | 1.00 |
| 220 to 620 | 0.50 | 0.85 | 0.94 | 1.00 |
| 680 to 2,000 | 0.60 | 0.87 | 0.95 | 1.00 |
| 2,200 to 4,300 | 0.75 | 0.90 | 0.95 | 1.00 |
| 4,700 to 12,000 | 0.85 | 0.95 | 0.98 | 1.00 |

Please contact us for lifetime estimation.