

LHS Series Upgrade!

- The lower temperature range of the category temperature range has been expanded.
- For solar power generation
- Endurance with ripple current : 5,000 hours at 105°C
- Rated voltage range : 450 to 500V
- For inverter control, switching power supplies
- Non solvent resistant type
- RoHS2 Compliant



**500V
Lineup!**



SPECIFICATIONS

| Items | Characteristics | |
|--|---|--|
| Category Temperature Range | -40 to +105°C | |
| Rated Voltage Range | 450 to 500V _{dc} | |
| Capacitance Tolerance | ±20% (M) (at 20°C, 120Hz) | |
| Leakage Current | I ≤ 3√CV Where, I : Max. leakage current (µA), C : Nominal capacitance (µF), V : Rated voltage (V) (at 20°C after 5 minutes) | |
| Dissipation Factor (tan δ) | Rated voltage (V _{dc}) | 450 to 500V |
| | tan δ (Max.) | 0.20 (at 20°C, 120Hz) |
| Low Temperature Characteristics (Max. Impedance Ratio) | Rated voltage (V _{dc}) | 450 to 500V |
| | Z(-25°C)/Z(+20°C) | 8 (at 120Hz) |
| Endurance | 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 5,000 hours at 105°C. | |
| | Capacitance change | ≤ ±20% of the initial value |
| | D.F. (tan δ) | ≤ 200% of the initial specified value (475, 500V _{dc} : ≤ 250%) |
| | 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 105°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 | ≤ ±15% of the initial value |
| | D.F. (tan δ) | ≤ 150% of the initial specified value |
| | Leakage current | ≤ The initial specified value |

DIMENSIONS [mm]

● Terminal Code : VS (φ22 to φ35) : Standard



● Terminal Code : LI (φ30, φ35)



The standard design has no plastic disc.

PART NUMBERING SYSTEM



Please refer to "Product code guide (snap-in type)"

◆STANDARD RATINGS

| WV (V _{dc}) | Cap (μF) | Case size φD×L(mm) | tan δ | Rated ripple current (Arms/105°C, 120Hz) | Part No. | WV (V _{dc}) | Cap (μF) | Case size φD×L(mm) | tan δ | Rated ripple current (Arms/105°C, 120Hz) | Part No. | |
|-----------------------|----------|--------------------|-------|--|--------------------|-----------------------|----------|--------------------|---------|--|--------------------|--------------------|
| 450 | 100 | 22 × 25 | 0.20 | 0.71 | ELHS451VSN101MP25S | 475 | 150 | 30 × 25 | 0.20 | 1.01 | ELHS4H1VSN151MR25S | |
| | 120 | 22 × 30 | 0.20 | 0.81 | ELHS451VSN121MP30S | | 180 | 30 × 30 | 0.20 | 1.11 | ELHS4H1VSN181MR30S | |
| | 150 | 22 × 35 | 0.20 | 0.93 | ELHS451VSN151MP35S | | 180 | 35 × 25 | 0.20 | 1.08 | ELHS4H1VSN181MA25S | |
| | 150 | 25.4 × 25 | 0.20 | 0.93 | ELHS451VSN151MQ25S | | 220 | 30 × 35 | 0.20 | 1.26 | ELHS4H1VSN221MR35S | |
| | 180 | 22 × 40 | 0.20 | 1.04 | ELHS451VSN181MP40S | | 270 | 30 × 40 | 0.20 | 1.44 | ELHS4H1VSN271MR40S | |
| | 180 | 25.4 × 30 | 0.20 | 1.05 | ELHS451VSN181MQ30S | | 270 | 35 × 30 | 0.20 | 1.35 | ELHS4H1VSN271MA30S | |
| | 220 | 22 × 45 | 0.20 | 1.17 | ELHS451VSN221MP45S | | 330 | 30 × 45 | 0.20 | 1.63 | ELHS4H1VSN331MR45S | |
| | 220 | 25.4 × 35 | 0.20 | 1.21 | ELHS451VSN221MQ35S | | 330 | 35 × 35 | 0.20 | 1.51 | ELHS4H1VSN331MA35S | |
| | 220 | 30 × 25 | 0.20 | 1.15 | ELHS451VSN221MR25S | | 390 | 30 × 50 | 0.20 | 1.80 | ELHS4H1VSN391MR50S | |
| | 270 | 22 × 50 | 0.20 | 1.33 | ELHS451VSN271MP50S | | 390 | 35 × 40 | 0.20 | 1.70 | ELHS4H1VSN391MA40S | |
| | 270 | 25.4 × 40 | 0.20 | 1.36 | ELHS451VSN271MQ40S | | 470 | 30 × 60 | 0.20 | 2.05 | ELHS4H1VSN471MR60S | |
| | 270 | 30 × 30 | 0.20 | 1.29 | ELHS451VSN271MR30S | | 470 | 35 × 45 | 0.20 | 1.91 | ELHS4H1VSN471MA45S | |
| | 270 | 35 × 25 | 0.20 | 1.25 | ELHS451VSN271MA25S | | 470 | 35 × 50 | 0.20 | 1.95 | ELHS4H1VSN471MA50S | |
| | 330 | 22 × 60 | 0.20 | 1.54 | ELHS451VSN331MP60S | | 560 | 35 × 60 | 0.20 | 2.21 | ELHS4H1VSN561MA60S | |
| | 330 | 25.4 × 45 | 0.20 | 1.54 | ELHS451VSN331MQ45S | | 500 | 120 | 30 × 25 | 0.20 | 0.90 | ELHS501VSN121MR25S |
| | 330 | 25.4 × 50 | 0.20 | 1.56 | ELHS451VSN331MQ50S | | | 150 | 30 × 30 | 0.20 | 1.02 | ELHS501VSN151MR30S |
| | 330 | 30 × 35 | 0.20 | 1.46 | ELHS451VSN331MR35S | | | 150 | 35 × 25 | 0.20 | 0.99 | ELHS501VSN151MA25S |
| | 330 | 35 × 30 | 0.20 | 1.41 | ELHS451VSN331MA30S | | | 180 | 30 × 35 | 0.20 | 1.14 | ELHS501VSN181MR35S |
| | 390 | 25.4 × 60 | 0.20 | 1.74 | ELHS451VSN391MQ60S | | | 220 | 30 × 40 | 0.20 | 1.30 | ELHS501VSN221MR40S |
| | 390 | 30 × 40 | 0.20 | 1.63 | ELHS451VSN391MR40S | | | 220 | 35 × 30 | 0.20 | 1.22 | ELHS501VSN221MA30S |
| | 470 | 30 × 45 | 0.20 | 1.84 | ELHS451VSN471MR45S | | | 270 | 30 × 45 | 0.20 | 1.47 | ELHS501VSN271MR45S |
| | 470 | 30 × 50 | 0.20 | 1.87 | ELHS451VSN471MR50S | | | 270 | 35 × 35 | 0.20 | 1.37 | ELHS501VSN271MA35S |
| | 470 | 35 × 35 | 0.20 | 1.71 | ELHS451VSN471MA35S | | | 330 | 30 × 50 | 0.20 | 1.66 | ELHS501VSN331MR50S |
| | 560 | 35 × 40 | 0.20 | 1.95 | ELHS451VSN561MA40S | | | 330 | 35 × 40 | 0.20 | 1.57 | ELHS501VSN331MA40S |
| | 560 | 35 × 45 | 0.20 | 1.99 | ELHS451VSN561MA45S | | | 390 | 30 × 60 | 0.20 | 1.87 | ELHS501VSN391MR60S |
| | 680 | 30 × 60 | 0.20 | 2.33 | ELHS451VSN681MR60S | | | 390 | 35 × 45 | 0.20 | 1.74 | ELHS501VSN391MA45S |
| | 680 | 35 × 50 | 0.20 | 2.22 | ELHS451VSN681MA50S | | 470 | 35 × 50 | 0.20 | 1.95 | ELHS501VSN471MA50S | |
| | 820 | 35 × 60 | 0.20 | 2.52 | ELHS451VSN821MA60S | | 560 | 35 × 60 | 0.20 | 2.21 | ELHS501VSN561MA60S | |

◆RATED RIPPLE CURRENT MULTIPLIERS

● Frequency Multipliers

| Frequency(Hz) | 50 | 120 | 300 | 1k | 10k | 50k |
|-------------------------|------|------|------|------|------|------|
| 450V _{dc} | 0.77 | 1.00 | 1.16 | 1.30 | 1.41 | 1.43 |
| 475, 500V _{dc} | 0.70 | 1.00 | 1.16 | 1.30 | 1.41 | 1.43 |

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.