

PEG 225 Up to 150°C

RoHS
Compliant

- Up to 150°C
- High CV
- Extremely high ripple current
Up to 28 A ripple, RMS, Continuous load
- High vibration resistance

APPLICATION

PEG 225 is a new generation of high performance axial electrolytic capacitors, designed for automotive applications with extremely high demands.

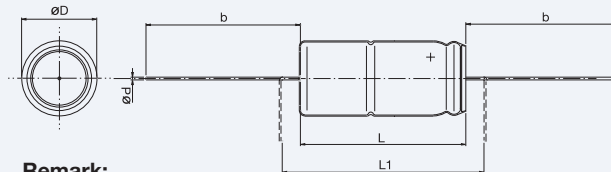
BASIC DESIGN

PEG 225 is an electrolytic capacitor with outstanding electrical performance. Polarized, all-welded design, tinned copper wire leads, negative pole connected to the case. The PEG 225 winding is housed in a cylindrical aluminium can with a high purity aluminium lid and a high quality rubber

gasket. Low ESR is a result of a low resistive electrolyte/paper system and an all-welded design. Thanks to its mechanical robustness the PEG 225 is suitable for use in mobile and in aircraft installations, operation up to 150°C.

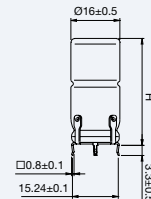
SPECIFICATION

Standards	IEC 60384-4 Long Life Grade 40/125/56
Capacitance range	470 - 6300 µF
Capacitance tolerance	-10 to +30%, -20 to +20%
Rated voltage	25 - 63 VDC
Temperature range	-40 to +125°C at U_R -40 to +150°C at reduced voltage
Shelf life at	0V +105°C 5000 h, +40°C 10 years
Diameter range	16 - 20 mm
Resistance to vibrations	10 - 2000 Hz, 1.5 mm displacement amplitude or max 20 g 3x22 hours The capacitors must be clamped by the body.
Life test	2000 h, 150°C (Ø20 case) 1500 h, 150°C (Ø16 case)



Remark:
Capacitor in standard version is without insulation. Polyester insulation on request

Radial version
See page 39



Dimensions table PEG 225 (mm)

D x L	Case code	D ±0.5	d ± 0.03	L ±1	L ₁ min	b±2 Box	Weight approx (g)
16 x 27	F	16	1.0	26.5	33	40	8
16 x 35	G	16	1.0	34.5	41	40	11
20 x 27	H	20	1.0	26.5	33	40	13
20 x 35	J	20	1.0	34.5	41	40	20
20 x 43	L	20	1.0	42.5	49	40	24

ARTICLE TABLE PEG 225 (150°C)

C_R	D x L	I_{RAC}^* $T_c=125^\circ C$ ≥ 5 kHz	I_{RAC}^{**} $T_c=140^\circ C$ ≥ 5 kHz	I_{RAC}^{**} $T_c=150^\circ C$ ≥ 5 kHz	I_{RAC}^{***} $T_c=125^\circ C$ ≥ 5 kHz	I_{AC}^{****} $T_c=125^\circ C$ ≥ 5 kHz	ESR (max) 20°C 100 Hz	ESR (max) 20°C 100 kHz	ESR (max) 125-150°C 5-100 kHz	Article code
µF	mm	A	A	A	A	A	mΩ	mΩ	mΩ	
25 VDC (U_R) [150 °C at $U_{DC} \leq 18 V$]										
2200	16x27	17.3	11.0	4.9	6.1	7.7	60	34	11.9	PEG225HF4220M
3000	16x35	19.7	12.5	5.6	7.4	9.4	44	25	9.2	PEG225HG4300M
3600	20x27	23.5	14.9	6.7	7.6	9.6	38	22	9.4	PEG225HH4360Q
4800	20x35	26.7	16.9	7.6	9.2	11.7	28	16	7.3	PEG225HJ4480Q
6300	20x43	28.3	17.9	8.0	10.2	12.9	24	14	6.5	PEG225HL4630Q

- * Capacitor mounted with low thermal resistance path (heat-sink). Maximum ripple current continuous operation.
 ** Valid for capacitor supplied with reduced DC voltage, up to 18 VDC. Capacitor mounted with low thermal resistance path.
 *** Rated ripple current, continuous operation at natural convection (Ø20 case 4000 h, Ø16 case 3000 h).
 **** Max ripple current, at natural convection and reduced voltage (Ø20 case 2000 h, Ø16 case 1500 h)

ARTICLE TABLE PEG 225 (150°C)

C_R	D × L	I_{RAC}^* $T_c=125^\circ\text{C}$ $\geq 5\text{ kHz}$	I_{RAC}^{**} $T_c=140^\circ\text{C}$ $\geq 5\text{ kHz}$	I_{RAC}^{**} $T_c=150^\circ\text{C}$ $\geq 5\text{ kHz}$	I_{RAC}^{***} $T_a=125^\circ\text{C}$ $\geq 5\text{ kHz}$	I_{AC}^{****} $T_a=125^\circ\text{C}$ $\geq 5\text{ kHz}$	ESR (max) 20°C 100 Hz	ESR (max) 20°C 100 kHz	ESR (max) 125-150°C 5-100 kHz	Article code
μF	mm	A	A	A	A	A	mΩ	mΩ	mΩ	
40 VDC (U_R) [150 °C at $U_{DC} \leq 32\text{ V}$]										
1200	16x27	16.6	10.5	4.7	5.8	7.4	80	36	13.0	PEG225KF4120M
1800	16x35	19.3	12.2	5.5	7.2	9.2	55	25	9.6	PEG225KG4180M
2000	20x27	22.8	14.4	6.5	7.3	9.3	50	23	10.0	PEG225KH4200Q
3000	20x35	25.8	16.3	7.3	8.9	11.3	35	17	7.8	PEG225KJ4300Q
3900	20x43	27.7	17.5	7.8	10.0	12.7	28	14	6.8	PEG225KL4390Q
63 VDC (U_R) [150 °C at $U_{DC} \leq 54\text{ V}$]										
470	16x27	12.1	7.7	3.4	4.2	5.3	156	52	24.3	PEG225MF3470Q
680	16x35	13.8	8.7	3.9	5.3	6.7	109	37	18.7	PEG225MG3680Q
900	20x27	18.0	11.4	5.1	5.8	7.3	86	31	16.1	PEG225MH3900Q
1400	20x35	20.9	13.2	5.9	7.3	9.2	57	22	11.9	PEG225MJ4140Q
1800	20x43	22.8	14.4	6.5	8.3	10.5	45	18	10.0	PEG225ML4180Q

* Capacitor mounted with low thermal resistance path (heat-sink). Maximum ripple current continuous operation (see below).

** Valid for capacitor supplied with reduced DC voltage, capacitor mounted with low thermal resistance path.

*** Rated ripple current, continuous operation at natural convection (Ø20 case 4000 h, Ø16 case 3000 h).

**** Max ripple current, at natural convection (Ø20 case 2000 h, Ø16 case 1500 h)

RIPPLE CURRENT SPECIFICATION AND OPERATIONAL LIFE

The ripple current specification (see table above) is given at case temperature (T_c) and at ambient temperature (T_a). To be able to operate at specified ripple current at temperature T_c , the capacitor needs to be mounted with low thermal resistance path to application chassis.

Frequency correction factor, for ripple current (Corr), see table to the right:

For operational life time calculation, please see pages 148 to 149.

	FREQUENCY				
	100 Hz	300 Hz	1 kHz	5 kHz	100 kHz
Correction factor (Corr) (Typical value)	0.35	0.57	0.80	1.00	1.04

RELIABILITY

Estimated field failure rate: < 2 ppm/year.
The expected failure rate, for this capacitor range, is based on field experience for capacitors with structural similarity. This failure rate is valued during first year of operation.
Expected failure rate thereafter: < 1 ppm/y.
(Until end of specified operational life)

LEAKAGE CURRENT

Rated leakage current, I_{RL} (μA)
Rated voltage, U_R (V)
Rated capacitance, C_R (μF)
 $I_{RL} = 0.003 \times C_R \times U_R + 4$

ORDERING INFORMATION

For further ordering information please see page 8.

P	E	G	2	2	5	H	F	4	2	2	0	M	E	1						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	

Capacitance tolerances:

Pos. 13: Q: -10 to +30%

M: -20 to +20%

E1: Packed in boxes

Quantities and weights

CASE CODE	F	G	H	J	L
Weight approx (g)	8	11	13	20	24
Standard box quantity	125	100	150	125	100