

Radial Lead Type



Series : SEF

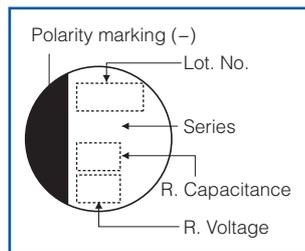
Features

- High voltage (35 V.DC max.)
- Large capacitance (1000 μ F max.)
- RoHS compliance, Halogen free

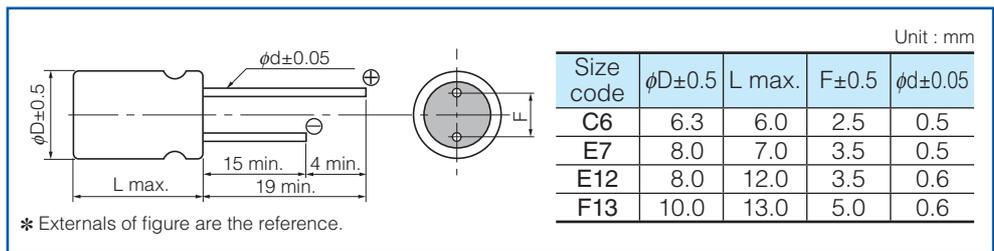
Specifications

Size code	C6	E7	E12	F13
Category temperature range	-55 °C to +125 °C			
Rated voltage range	16 V.DC to 35 V.DC			
Rated capacitance range	22 μ F to 180 μ F	39 μ F to 270 μ F	82 μ F to 560 μ F	120 μ F to 1000 μ F
Capacitance tolerance	\pm 20 % (120 Hz / + 20 °C)			
Leakage current	Please see the attached characteristics list			
Dissipation factor (tan δ)	Please see the attached characteristics list			
Endurance	+125 °C, 1000 h, rated voltage applied			
	Capacitance change	Within \pm 20 % of the initial value		
	tan δ	\leq 200 % of the initial limit		
	DC leakage current	Within the initial limit		
Damp heat (Steady State)	+60 °C, 90 % to 95 %, 1000 h, No-applied voltage			
	Capacitance change	Within \pm 20 % of the initial value		
	tan δ	\leq 150 % of the initial limit		
	DC leakage current	Within the initial limit (after voltage processing)		

Marking



Dimensions (not to scale)



Characteristics list

Series	Rated voltage (V.DC)	Rated capacitance (μ F)	Case size (mm)			Specifications					Part number
			ϕ D	L	Size code	Ripple current* ¹ (mAr.m.s.)	Allowable* ¹ ripple current (mAr.m.s.)	ESR* ² (m Ω max.)	tan δ * ³	LC* ⁴ (μ A)	
SEF	16	180	6.3	6.0	C6	1040	3300	22	0.12	576	16SEF180M
		270	8.0	7.0	E7	1040	3300	22	0.12	864	16SEF270M
		560	8.0	12.0	E12	1560	4950	14	0.12	1792	16SEF560M
		1000	10.0	13.0	F13	1700	5400	12	0.12	3200	16SEF1000M
	20	120	6.3	6.0	C6	1010	3200	25	0.12	480	20SEF120M
		180	8.0	7.0	E7	1010	3200	25	0.12	720	20SEF180M
		390	8.0	12.0	E12	1560	4950	14	0.12	1560	20SEF390M
		560	10.0	13.0	F13	1700	5400	12	0.12	2240	20SEF560M
	25	56	6.3	6.0	C6	880	2800	30	0.12	280	25SEF56M
		82	8.0	7.0	E7	940	3000	28	0.12	410	25SEF82M
		180	8.0	12.0	E12	1470	4650	16	0.12	900	25SEF180M
		330	10.0	13.0	F13	1580	5000	14	0.12	1650	25SEF330M
	35	22	6.3	6.0	C6	820	2600	35	0.12	154	35SEF22M
		39	8.0	7.0	E7	880	2800	30	0.12	273	35SEF39M
		82	8.0	12.0	E12	1260	4000	20	0.12	574	35SEF82M
		120	10.0	13.0	F13	1390	4400	18	0.12	840	35SEF120M

*¹ Ripple current (100 kHz/ +105 °C < Tx \leq +125 °C) / Allowable ripple current (100 kHz/ Tx \leq +105 °C), *² ESR (100 kHz to 300 kHz/+20 °C)

*³ tan δ (120 Hz/+20 °C) *⁴ After 2 minutes

◆ Please refer to each page in this catalog for "Flow conditions" and "Taping specifications".

Frequency correction factor for ripple current

Frequency	120 Hz \leq f < 1 kHz	1 kHz \leq f < 10 kHz	10 kHz \leq f < 100 kHz	100 kHz \leq f < 500 kHz
Coefficient	0.05	0.3	0.7	1

Guidelines and precautions regarding the technical information and use of our products described in this online catalog.

- If you want to use our products described in this online catalog for applications requiring special qualities or reliability, or for applications where the failure or malfunction of the products may directly jeopardize human life or potentially cause personal injury (e.g. aircraft and aerospace equipment, traffic and transportation equipment, combustion equipment, medical equipment, accident prevention, anti-crime equipment, and/or safety equipment), it is necessary to verify whether the specifications of our products fit to such applications. Please ensure that you will ask and check with our inquiry desk as to whether the specifications of our products fit to such applications use before you use our products.
- The quality and performance of our products as described in this online catalog only apply to our products when used in isolation. Therefore, please ensure you evaluate and verify our products under the specific circumstances in which our products are assembled in your own products and in which our products will actually be used.
- If you use our products in equipment that requires a high degree of reliability, regardless of the application, it is recommended that you set up protection circuits and redundancy circuits in order to ensure safety of your equipment.
- The products and product specifications described in this online catalog are subject to change for improvement without prior notice. Therefore, please be sure to request and confirm the latest product specifications which explain the specifications of our products in detail, before you finalize the design of your applications, purchase, or use our products.
- The technical information in this online catalog provides examples of our products' typical operations and application circuits. We do not guarantee the non-infringement of third party's intellectual property rights and we do not grant any license, right, or interest in our intellectual property.
- If any of our products, product specifications and/or technical information in this online catalog is to be exported or provided to non-residents, the laws and regulations of the exporting country, especially with regard to security and export control, shall be observed.

<Regarding the Certificate of Compliance with the EU RoHS Directive/REACH Regulations>

- The switchover date for compliance with the RoHS Directive/REACH Regulations varies depending on the part number or series of our products.
- When you use the inventory of our products for which it is unclear whether those products are compliant with the RoHS Directive/REACH Regulation, please select "Sales Inquiry" in the website inquiry form and contact us.

We do not take any responsibility for the use of our products outside the scope of the specifications, descriptions, guidelines and precautions described in this online catalog.
