

# NEW

## Functional Polymer Capacitors

## FPCAP

Solid Electrolytic Capacitors with Functional Polymer

### CS Series *Low ESR Type E, E0*

#### ◆ Features

By using Functional Polymer cathode, Frequency characteristics are greatly improved.

- ESR at a high frequency range.
- High ripple current capability.
- **Lead Free**



#### ◆ Applications

- Miniature Switching Power Supply and DC/DC Converter. (Notebook PC and Power Supply of Module.etc.)
- Back up Power Supply of CPU.
- Power Supply of Mobile terminals.

#### ◆ Specifications

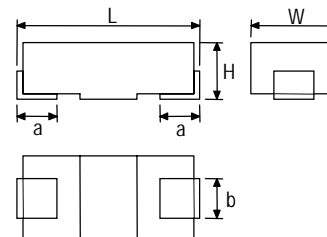
Items	Characteristics	
Operating Temp. Range	-55 to +105°C	
Max. Operating Temp. at RV	+105°C	
Rated Voltage Range	2.5 to 6.3V-DC	
Capacitance Range	100 to 470 μF	
Capacitance Tolerance	±20% (M)	
Endurance	Condition	105°C 1,000Hrs at rated voltage
	Capacitance	Within ±20% of the value before test
	Leakage Current	Not to exceed the value specified
	tanδ	Not to exceed 150% of the value specified
Resistance to Soldering Heat	240°C 10sec (Reflow)	
Reliability	1% / 1,000Hrs. Max (60%CL)	
Others	JIS-C-5101-3	

#### ◆ Standard Ratings

( ): ESR(mΩ) at 100kHz

Cap (μF)	R.V. (V)	2.5	4.0	6.3
	S.V. (V)	3.2	5.2	8.2
100				E0 (18/25)
150			E0 (15/18/25)	E0 E (18/25) (18/25)
220	E0 (12/15/25)		E0 E (15/18/25) (15/25)	E (18/25)
330	E0 E (12/15/25) (12/25)		E (15/25)	
470	E0 E (12/15/25) (12/25)			

#### ◆ Dimensions



Unit:mm  
(inches)

Type	L ±0.2 ±(.008)	W ±0.2 ±(.008)	H ±0.2 ±(.008)	a ±0.2 ±(.008)	b ±0.2 ±(.008)
E0	7.3 (.287)	4.3 (.169)	1.8 (.070)	1.3 (.051)	2.4 (.094)
E	7.3 (.287)	4.3 (.169)	2.9 (.115)	1.3 (.051)	2.4 (.094)

Current Products

Release from Mar. 2004

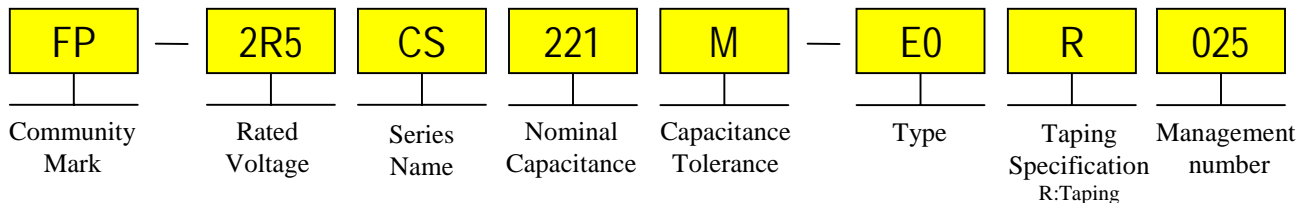
Release from May. 2004

◆ Part number & Specifications

Rated voltage (V)	Capacitance (μF)	Part number	Leakage Current (μA)	tanδ (%)	ESR (mΩ, 100kHz)	Maximum permissible ripple current (mA, r.m.s.)	Case size L×W×H(mm) L×W×H(inches)
2.5	220	FP-2R5CS221M-E0R012	55.0	10	12	3300	7.3×4.3×1.8
		FP-2R5CS221M-E0R015	55.0	10	15	3000	7.3×4.3×1.8
		FP-2R5CS221M-E0R025	55.0	10	25	2300	7.3×4.3×1.8
	330	FP-2R5CS331M-E0R012	82.5	10	12	3300	7.3×4.3×1.8
		FP-2R5CS331M-E0R015	82.5	10	15	3000	7.3×4.3×1.8
		FP-2R5CS331M-E0R025	82.5	10	25	2300	7.3×4.3×1.8
		FP-2R5CS331M-E R012	82.5	10	12	3500	7.3×4.3×2.9
	470	FP-2R5CS331M-E R025	82.5	10	25	2500	7.3×4.3×2.9
		FP-2R5CS471M-E0R012	117.5	10	12	3300	7.3×4.3×1.8
		FP-2R5CS471M-E0R015	117.5	10	15	3000	7.3×4.3×1.8
		FP-2R5CS471M-E0R025	117.5	10	25	2300	7.3×4.3×1.8
	4.0	150	FP-2R5CS471M-E R012	117.5	10	12	3500
FP-2R5CS471M-E R025			117.5	10	25	2500	7.3×4.3×2.9
FP-4R0CS151M-E0R015			60.0	10	15	3000	7.3×4.3×1.8
220		FP-4R0CS151M-E0R018	60.0	10	18	2700	7.3×4.3×1.8
		FP-4R0CS151M-E0R025	60.0	10	25	2300	7.3×4.3×1.8
		FP-4R0CS221M-E0R015	88.0	10	15	3000	7.3×4.3×1.8
		FP-4R0CS221M-E0R018	88.0	10	18	2700	7.3×4.3×1.8
		FP-4R0CS221M-E0R025	88.0	10	25	2300	7.3×4.3×1.8
		FP-4R0CS221M-E R015	88.0	10	15	3200	7.3×4.3×2.9
330		FP-4R0CS221M-E R025	88.0	10	25	2500	7.3×4.3×2.9
		FP-4R0CS331M-E R015	132.0	10	15	3200	7.3×4.3×2.9
		FP-4R0CS331M-E R025	132.0	10	25	2500	7.3×4.3×2.9
6.3	100	FP-6R3CS101M-E0R018	63.0	10	18	2700	7.3×4.3×1.8
		FP-6R3CS101M-E0R025	63.0	10	25	2300	7.3×4.3×1.8
	150	FP-6R3CS151M-E0R018	94.5	10	18	2700	7.3×4.3×1.8
		FP-6R3CS151M-E0R025	94.5	10	25	2300	7.3×4.3×1.8
		FP-6R3CS151M-E R018	94.5	10	18	2900	7.3×4.3×2.9
		FP-6R3CS151M-E R025	94.5	10	25	2500	7.3×4.3×2.9
	220	FP-6R3CS221M-E R018	138.6	10	18	2900	7.3×4.3×2.9
		FP-6R3CS221M-E R025	138.6	10	25	2500	7.3×4.3×2.9

Current Product, Release from Mar. 2004, Release from May. 2004

◆ Part Number (EX)2.5V220μF, ±20% E0 Type ESR:25mΩ, Taping.



FUJITSU MEDIA DEVICES LIMITED

● Sales Offices

• North and South America  
**FUJITSU MEDIA DEVICES OF AMERICA INC,**  
 1731 Technology Drive, Suite 800, San Jose, CA 95110 USA  
 Tel. +1-408-437-8900 Fax. +1-408-437-0700

• Europe  
**FUJITSU MIKROELEKTRONIK EUROPE GmbH**  
 Am Siebenstein 6-10, D-63303 Dreieich-Buchsschlag, Germany  
 Tel. +49-61-03-690-0 Fax. +49-61-03-690-122

• Asia Pacific  
**FUJITSU MEDIA DEVICES HONG KONG LIMITED**  
 Room. 1101 Ocean Centre, 5 Canton Road, Tsimshatsui Kowloon, Hong Kong  
 Tel. +852-2866-8509 Fax. +852-2866-8287

**FUJITSU MEDIA DEVICES TRADING (Shanghai) LIMITED**  
 Room. 3104, Bund Center 222 Yan An Road East, Shanghai 200002, China  
 Tel. +86-21-6323-4560 Fax. +86-21-6323-4510

\* Design and Specifications are subject to change without notice.  
 For more information. Please contact our sales office or distributor near to your company.