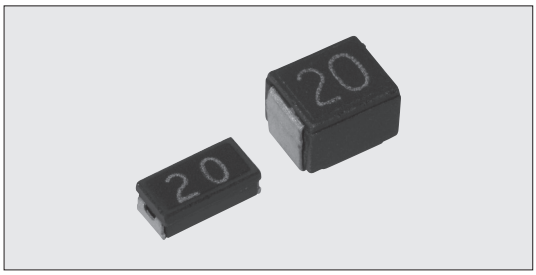
EU RoHS

CCP Chip Circuit Protectors



Body color : Black

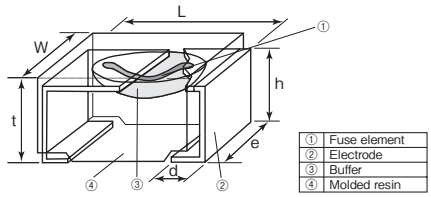
■Features

- Immediate cutting off against excessive current of circuit without generating heat and fuming.
- Excellent terminal strength and solderability due to metal electrode.
- Excellent dimension accuracy, mountability and shock-resistance due to plastic molding.
- Applicable to both reflow and flow solderings.
- Products with lead free termination meet EU-RoHS requirements.

■Approvals Awarded

UL 248.14 File No. E131375
c-UL (CSA) C22.2 No. 248.14 File No. E131375

■Construction



■Dimensions

Type (Inch Size Code)	Dimensions (mm)						Weight (g) (1000pcs)
	L±0.2	W±0.2	t±0.2	h±0.1	e±0.1	d±0.1	
2B(1206)	3.2	1.6	1.2	0.8	1.2	0.6	13.0
2E(1210)	3.2	2.5	2.2	1.9	1.7	0.5	38.5

■Type Designation

Example

CCP	2E	20		T	TE
Product Code	Size	Rating	Fusing Magnification	Terminal Surface Material	Taping
	2B:3.2×1.6mm 2E:3.2×2.5mm		Nil : 200% (2B) 250% (2E) H : 200% (2E)	T:Sn	TE:4mm pitch plastic embossed BK:Bulk

The terminal surface material lead free is standard.
Contact us when you have control request for environmental hazardous material other than the substance specified by EU-RoHS.
For further information on taping, please refer to APPENDIX C on the back pages.

■Ratings

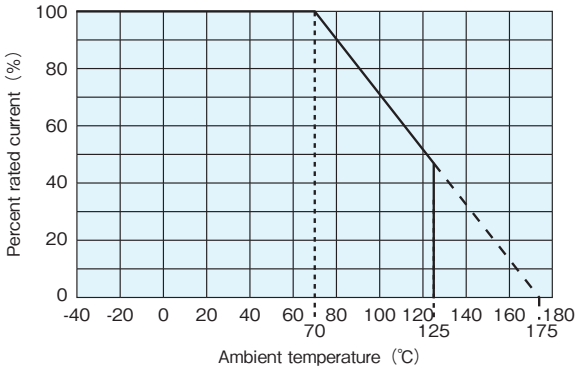
Type	Rated Current	Fusing Current	Fusing Time	Internal R. Max. (mΩ)	Rated Voltage	Rated Ambient Temp.	Operating Temp. Range	Taping & Q'ty/Reel (pcs) TE
CCP2B15	0.75A	1.5A	Fusing current Max. 1s	150	24V (40V/76V)※	+70℃	−40℃～+125℃	3,000
CCP2B20	1.00A	2.0A		100				
CCP2B25	1.25A	2.5A		75				
CCP2B30	1.50A	3.0A		60				
CCP2B35	1.75A	3.5A		50				
CCP2B40	2.00A	4.0A		45				
CCP2B50	2.50A	5.0A		35				
CCP2B63	3.15A	6.3A		23				
CCP2B80	4.00A	8.0A		19				
CCP2B100	5.00A	10.0A		15				
CCP2E10	0.4A	1.0A	Fusing current Max. 1s	200	72V	+70℃	−40℃～+125℃	2,000
CCP2E13	0.52A	1.3A		170				
CCP2E15	0.6A	1.5A		150				
CCP2E20	0.8A	2.0A		100				
CCP2E25	1.0A	2.5A		75				
CCP2E30	1.2A	3.0A		60				
CCP2E35	1.4A	3.5A		50				
CCP2E38	1.5A	3.8A		48				
CCP2E40	1.6A	4.0A		45				
CCP2E45	1.8A	4.5A		40				
CCP2E50	2.0A	5.0A		35				
CCP2E63	2.5A	6.25A		23				
CCP2E100	4.00A	10.0A		15				
CCP2E10H	0.50A	1.0A	Fusing current Max. 1s	200	72V	+70℃	−40℃～+125℃	2,000
CCP2E13H	0.65A	1.3A		170				
CCP2E15H	0.75A	1.5A		150				
CCP2E20H	1.00A	2.0A		100				
CCP2E25H	1.25A	2.5A		75				
CCP2E30H	1.50A	3.0A		60				
CCP2E35H	1.75A	3.5A		50				
CCP2E38H	1.90A	3.8A		48				
CCP2E40H	2.00A	4.0A		45				
CCP2E45H	2.25A	4.5A		40				
CCP2E50H	2.50A	5.0A		35				
CCP2E63H	3.15A	6.3A		23				

※High rated voltage (76V : 0.75A～3.15A, 40V : 4A～5A) is also available. Please consult with us.

■Derating

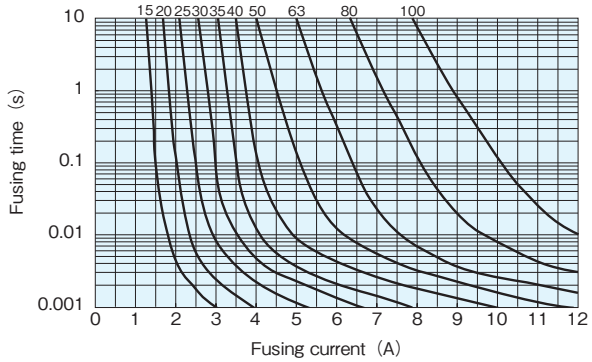
- Stationary current
  Regard the peak of stationary current waveform as stationary current value when the stationary current is repeated pulse.
- Temperature Derating
  Rated current needs to be derated if used at an ambient tempera-ture of 70℃ or higher. Refer to the derating coefficient on the right figure.

■Rated Current Derating Rate

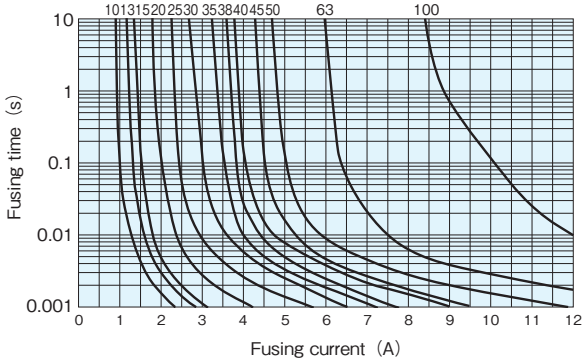


■Fusing Characteristics (Average Fusing Characteristics)

CCP2B



CCP2E・CCP2E□H



■Performance

Test Items	Performance Requirements ΔR±%		Test Methods
	Limit	Typical	
Fusing characteristics	Within 1s	—	CCP2B : 200% of rated current shall be carried. CCP2E : 250% of rated current shall be carried. CCP2E□H : 200% of rated current shall be carried.
Open circuit voltage	No fusing, flaming, explosion.	—	Apply DC voltage between the termination after fusing. CCP2B : 24V CCP2E, CCP2E□H : 72V
Residual resistance	10kΩ or more	—	Measure DC resistance after fusing
Bending test	No mechanical damages.	—	Distance between holding points 90mm, bending width 10mm, 1time.
Resistance to soldering heat	10	2.5	260℃±5℃, 10s±0.5s, 2 cycles.
Solderability	95% coverage min.	—	230℃±5℃, 3s±0.5s
Load life	10	3	70℃±3℃, 1000h, Rated current, 1.5h ON/0.5h OFF cycle
Load life moisture	10	1.5	40℃±2℃, 90%～95%RH, 1000h, Rated current, 1.5h ON/0.5h OFF cycle
Rapid change of temperature	10	4	−40℃ (30min) /+125℃ (30min) 10 cycles
Resistance to solvent	No evidence of damages to protective coating and marking.	—	Conforming to MIL-STD-202F

■Precautions for Use

- For type 4A and 5A, heating value from the products is high. Please consider the mouting condition and keep the surface temperature under 70℃ when you use the products.
- Ionic impurities may deteriorate resistances to humidity and corrosion of the product. Please wash the product thoroughly when ionic substances are to be attached.
- When you select fuse product, please make sure to confirm "Precautions for Use of Fusing Components" in this catalogue and ask KOA sales.