KOA SPEER ELECTRONICS, INC.

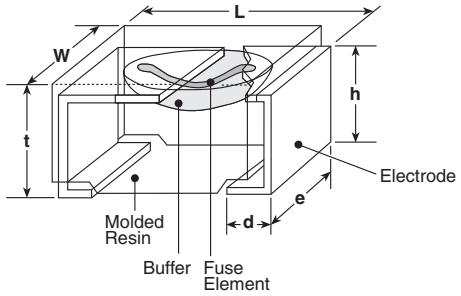
CCP
chip fuse

EU RoHS COMPLIANT

features

- Immediate cut-off of excessive heat
- No generation of heat
- UL94V0 epoxy case
- Suitable for flow and reflow soldering
- UL248.14, file #131375
- One-time fuse device
- Marking: Black body color with white marking
- Products with lead-free terminations meet EU RoHS and China RoHS requirements

dimensions and construction



Size Code	Dimensions inches (mm)					
	L	W	t	h	e	d
2B	.126±.008 (3.2±0.2)	.063±.008 (1.6±0.2)	.047±.008 (1.2±0.2)	.031±.004 (0.8±0.1)	.047±.004 (1.2±0.1)	.024±.004 (0.6±0.1)
2E		.098±.008 (2.5±0.2)	.087±.008 (2.2±0.2)	.075±.004 (1.9±0.1)	.067±.004 (1.7±0.1)	.02±.004 (0.5±0.1)

ordering information

New Part #

CCP	2B	20	Nil	T	TE
Type	Size Code	Rating	Fusing Magnification	Termination Material	Packaging
	2B: 1206 2E: 1210	Reference rating chart	Nil: 2B: 200% 2E: 250% H: 2E: 200%	T: Sn	TE: 7" embossed plastic (2B - 3,000 pieces/reel) (2E - 2,000 pieces/reel)

circuit protection

applications and ratings

Part Designation	Current Rating	Fusing Current	Fusing Time	Internal R. Maximum (mΩ)	Maximum Open Circuit Voltage*	Rated Ambient Temperature	Operating Temperature Range
CCP2B15	0.75A	1.5A	1 second max. @ fusing current	150	24V (40V/76V)*	+70°C	-40°C to +125°C
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			
CCP2E10H	0.50A	1.0A		200	72V		
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			

* Note: High rated voltage (76V: 0.75A ~ 3.15A; 40V: 4A ~ 5A) also available, please contact KOA.

For further information on packaging, please refer to Appendix A.

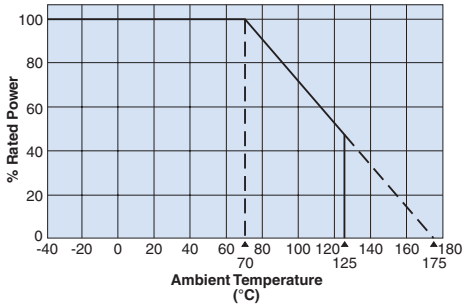
1/06/14

applications and ratings (continued)

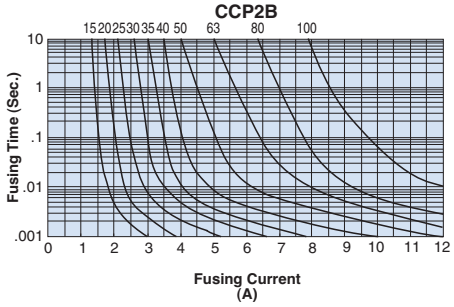
Part Designation	Current Rating	Fusing Current	Fusing Time	Internal R. Maximum (mΩ)	Maximum Open Circuit Voltage	Rated Ambient Temperature	Operating Temperature Range
CCP2E40H	2.00A	4.0A	1 second max. @ fusing current	45	72V	+70°C	-40°C to +125°C
CCP2E45H	2.25A	4.5A		40			
CCP2E50H	2.50A	5.0A		35			
CCP2E63H	3.15A	6.3A		23			
CCP2E100	4.00A	10.0A		15			
CCP2E10	0.4A	1.0A		200			
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	6.3A		23			

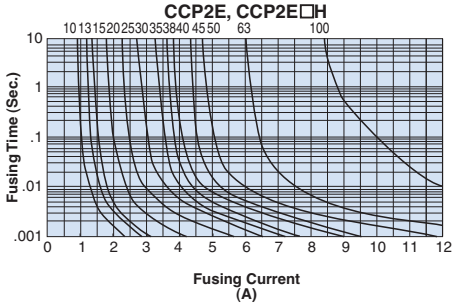
environmental applications

Derating Curve



Fusing Characteristics





Performance Characteristics

Parameter	Requirement Δ R±% Limit	Typical	Test Method
Fusing Characteristics	Within 1 second	—	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, 1 time
Resistance to Soldering Heat	±10%	±2.5%	260°C ±5°C, 10 seconds ± 0.5 seconds, 2 cycles
Solderability	±95% coverage min.	—	230°C ±5°C, 3 seconds ± 0.5 seconds
Load Life	±10%	±3%	70°C ± 3°C, 1000 hours, rated current, 1.5 hr ON, 0.5 hr OFF cycle
Load Life Moisture	±10%	±1.5%	40°C ± 2°C, 90 - 95% RH, 1000 hours, rated current, 1.5 hr ON, 0.5 hr OFF cycle
Rapid Change of Temperature	±10%	±4.0%	-40°C (30 minutes), +125°C (30 minutes), 10 cycles
Resistance to Solvent	No evidence of damages to protective coating and marking	—	Conforming to MIL-STD-202F