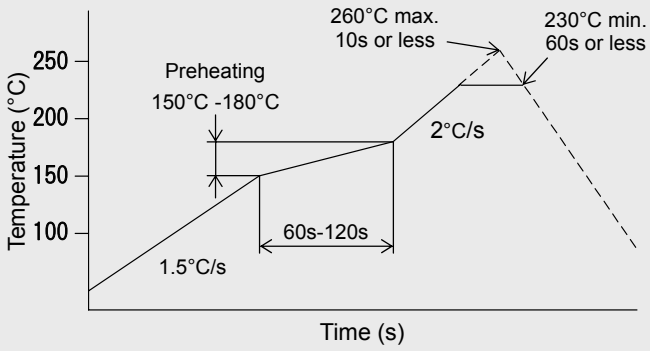
Technical information

Soldering specifications

■ Surface mount fuses

Reflow soldering

(11CT / 25CT / 36CFA / 36CT type)

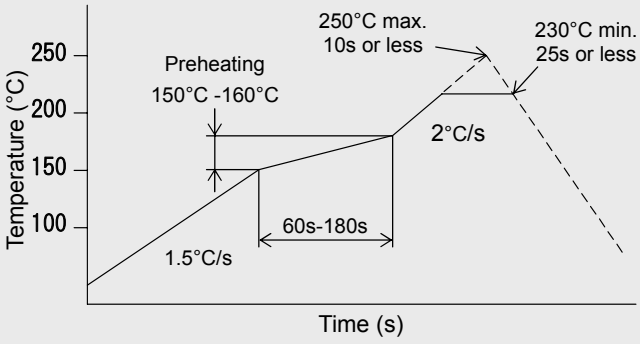


Soldering can be repeated a maximum of 2 times under the conditions specified above.

* Please ensure that the height of the fillets is not more than one-third of the entire height for 36CFA type fuses.

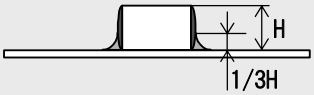
Reflow soldering

(MCF type)



Soldering can be repeated a maximum of 2 times under the conditions specified above.

* Please ensure that the height of the fillets is not more than one-third of the entire height for MCF type fuses.



■ Sub-miniature fuses with leads (25RT type)

Wave soldering

Solder bath: 260°C max., 10 s or less

■ Pin terminal fuses (SM4 type)

Wave soldering

Solder bath: 260°C max., 10 s or less

■ Cartridge fuses with leads

Wave soldering

Lead wire diameter	Length between the fuse body and the side to be soldered (L)
φ0.5mm, φ0.6mm	5mm or more
φ0.8mm, φ1.0mm, φ1.2mm	8mm or more

Preheating : 100°C or less, 30 s or less

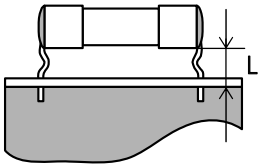
Solder bath: 260°C or less, 7 s or less

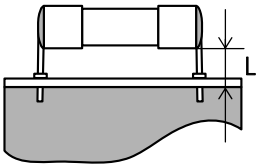
Hand soldering with soldering iron

Lead wire diameter	Length between the fuse body and the side to be soldered (L)
φ0.5mm, φ0.6mm	5mm or more
φ0.8mm, φ1.0mm, φ1.2mm	8mm or more

Temp. of soldering iron tip: 380°C or less

Time : 3 s or less





■Fuses are sensitive to heat. The soldering conditions shown above are examples based on the use of SOC facilities. Sufficiently evaluate and examine your company's soldering conditions as they may vary depending on the facilities, solder type, solder quantity, board size and board materials to be used.

■Board and solder used at SOC

Board : Glass epoxy, thickness 1.6 mm

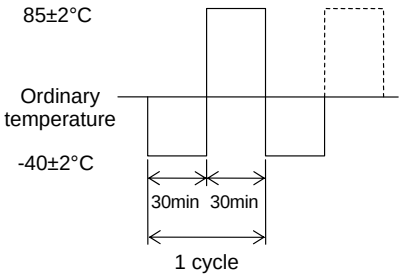
Solder: Sn-3Ag-0.5Cu

Whiskers

The following tests are performed to ensure that there is no whisker generation for the tin-plated parts of our products.

■ Temperature cycling

(1) Test samples are subjected to 500 cycles of temperature cycling as specified below.
(2) After the application of the load specified in (1) above, there shall be no whisker generation when observed using a microscope having a magnification of 200 times.



■ Constant temperature and humidity

(1) Test samples are maintained at a temperature of 85°C and an RH of 85% for 500 h.
(2) After the application of the load specified in (1) above, there shall be no whisker generation when observed using a microscope having a magnification of 200 times.

Storage conditions

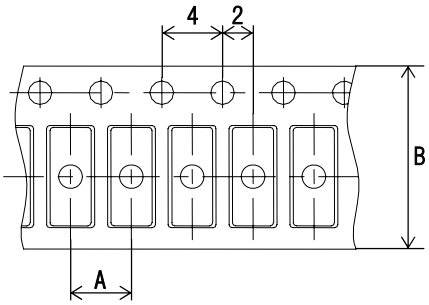
Prerequisite:	Products shall be packaged as delivered.
Ambient temperature:	-20°C – +40°C
Ambient humidity:	85% RH or less
Storage environment:	Not exposed to corrosive gas or sea breeze. Not exposed to direct sunlight. Not subjected to loads which could cause deformation of the products.
Storage period:	Within one year from the shipping date labeled on the product packaging.

Packaging specifications

■ Tape packaging for surface mount fuses

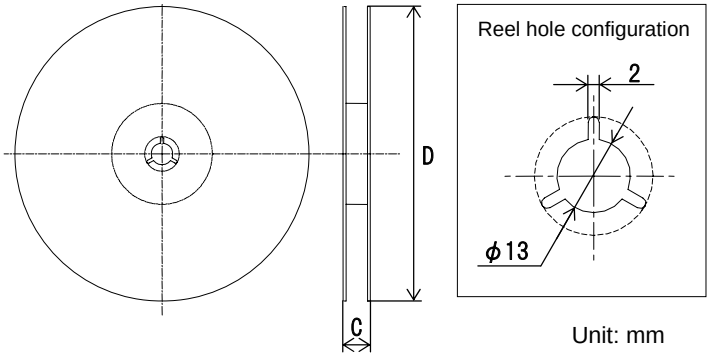
Product name			Packaging code	Qty. packed	Dimensions (Unit: mm)			
					A	B	C	D
MCF PMFA	DC35VPMF MCFA		R08B4	2000 pcs.	4	8	11.4	180
11CF 11CT 32V11CF	P11CF P11CT	DC35VP11CF DC35VP11CT						
25CF 25CT	P25CF P25CT	DC35VP25CF DC35VP25CT	R12A4	1000 pcs.	4	12	15.6	178
28CDA			R24D4	2000 pcs.	8	24	29.5	330
36CFA								
36CT								

・Tape configuration



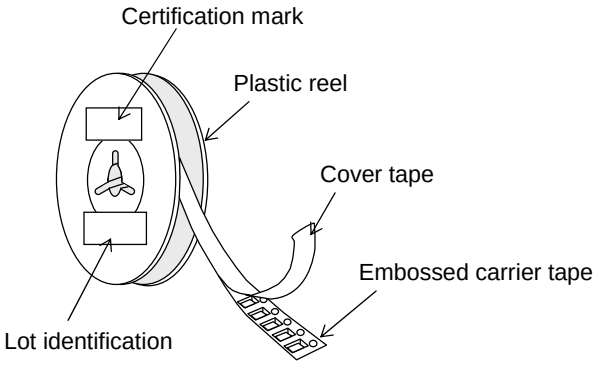
Unit: mm

・Reel configuration



Unit: mm

・Packing method



■ Bag packaging for surface mount fuses

Product name			Packaging code	Qty. packed
MCF PMFA	DC35VPMF MCFA		B	100 pcs.
11CF 11CT 32V11CF	P11CF P11CT	DC35VP11CF DC35VP11CT		
25CF 25CT	P25CF P25CT	DC35VP25CF DC35VP25CT		
28CDA				
36CFA				
36CT				

■ Bag packaging for sub-miniature fuses with leads

Product name	Forming specification	Total qty. per box	Packing contents per box
25RF P25RF DC35VP25RF 25RT P25RT DC35VP25RT	Without forming / F001 / F006 / F007 / F008	1000 pcs.	100 pcs.×10 bags
	F002 / F003 / F005 / F009	2000 pcs.	100 pcs.×20 bags

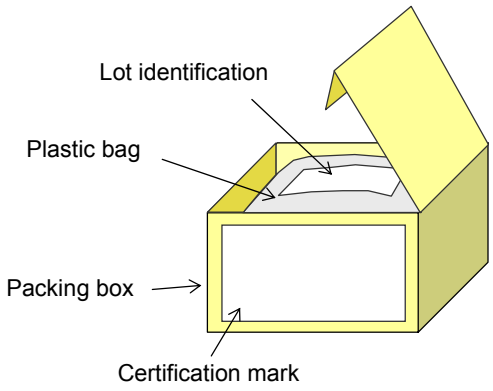
■ Bag packaging for pin terminal fuses

Product name	Total qty. per box	Packing contents per box
SM4 PSM	1000 pcs.	100 pcs.×10 bags

■ Bag packaging for cartridge fuses

Fuse size (Unit: mm)	Cartridge type	Cartridge type with leads	
		Leads of ϕ0.6 mm or less	Leads of ϕ0.8 mm or more
	Standard total qty. per box	Standard total qty. per box	Standard total qty. per box
ϕ4 × └9	2000 pcs. (1000 pcs.×2 bags)	400 pcs. (100 pcs.×4 bags)	400 pcs. (100 pcs.×4 bags)
ϕ4.6 × └14	1000 pcs. (1000 pcs.×1 bag)	—	200 pcs. (100 pcs.×2 bags)
ϕ4.6 × └16	1000 pcs. (1000 pcs.×1 bag)	400 pcs. (100 pcs.×4 bags)	200 pcs. (100 pcs.×2 bags)
ϕ5.2 × └15	1000 pcs. (1000 pcs.×1 bag)	—	400 pcs. (100 pcs.×4 bags)
ϕ5.2 × └20	1000 pcs. (1000 pcs.×1 bag)	400 pcs. (100 pcs.×4 bags)	200 pcs. (100 pcs.×2 bags)
ϕ6.35 × └15.9	500 pcs. (500 pcs.×1 bag)	—	200 pcs. (100 pcs.×2 bags)
ϕ6.35 × └25.4	500 pcs. (500 pcs.×1 bag)	—	100 pcs. (100 pcs.×1 bag)
ϕ6.35 × └30	500 pcs. (500 pcs.×1 bag)	—	100 pcs. (100 pcs.×1 bag)
ϕ6.35 × └31.8	400 pcs. (400 pcs.×1 bag)	—	100 pcs. (100 pcs.×1 bag)
ϕ7.14 × └31.8	300 pcs. (300 pcs.×1 bag)	—	—
ϕ10.3 × └38.1	100 pcs. (100 pcs.×1 bag)	—	50 pcs. (50 pcs.×1 bag)

・Packing method



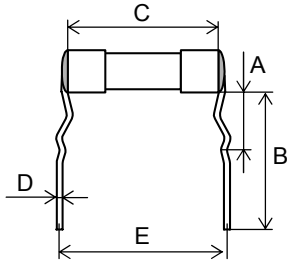
Forming specifications

■ Cartridge fuses with leads

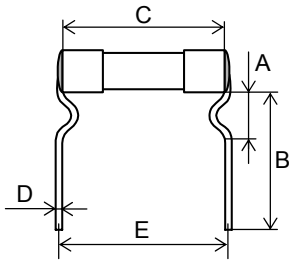
Fig. No.	Forming No.	Dimensions (Unit: mm)					Fuse size (Unit: mm)
		A	B	C	D	E	
＊1	F011	7.2	39	20	0.8	(22)	ϕ5.2 × └20
＊2	F013	5	9.5	20	0.8	(21)	ϕ5.2 × └20
	F057	5	8.6	20	1.0	(21.4)	ϕ5.2 × └20
	F404	10	39	20	0.8	(22)	ϕ5.2 × └20
	F016	5	40	30	1.0	(31)	ϕ6.35 × └30
	F017	5	40	30	1.2	(31)	ϕ6.35 × └30
	F916	5	9.7	30	1.0	(32.2)	ϕ6.35 × └30
	F018	5	40	31.8	0.8	(33)	ϕ6.35 × └31.8
	F019	5	40	31.8	1.0	(33)	ϕ6.35 × └31.8
	F020	5	40	31.8	1.2	(33)	ϕ6.35 × └31.8
	F021	5	9	31.8	1.2	(33)	ϕ6.35 × └31.8
	F918	5	9	31.8	0.8	(33)	ϕ6.35 × └31.8
	F051	5.2	10	16	0.8	(17)	ϕ4.6 × └16
	F451	5.2	10	9	0.8	(10)	ϕ4 × └9
＊3	F504	8	11.9	30	1.0	(31.5)	ϕ6.35 × └30
	F915	5	9.7	30	1.2	(32.2)	ϕ6.35 × └30
	F406	8	11.9	20	0.8	(21)	ϕ5.2 × └20
	F913	5	9.5	20	0.8	(21)	ϕ5.2 × └20
＊4	F502	5	9.7	30	1.2	(25)	ϕ6.35 × └30
＊5	F024	5	10	14	0.8	(15)	ϕ4.6 × └14
	F025	5	10	16	0.8	(17)	ϕ4.6 × └16
	F026	5	10	20	0.8	(21)	ϕ5.2 × └20
	F036	5	10	20	1.0	(21)	ϕ5.2 × └20
＊6	F030	—	8	20	0.8	(32)	ϕ5.2 × └20

Please contact your local SOC sales representative for forming specifications which are not listed above.
The E dimensions in parentheses are for reference purposes only, and are not intended to infer any guaranteed values.
Please contact your local SOC sales representative for questions regarding dimensional tolerances.

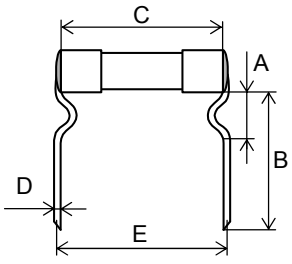
＊1



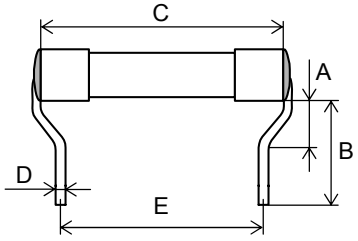
＊2



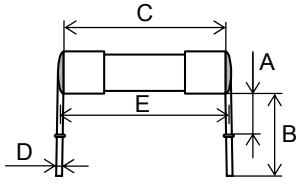
＊3



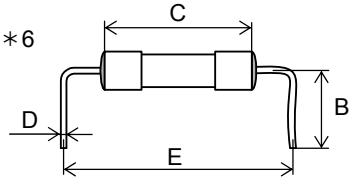
＊4



＊5



＊6

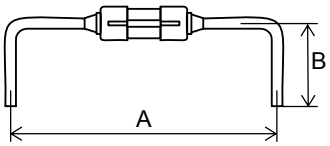


■25RT type fuses

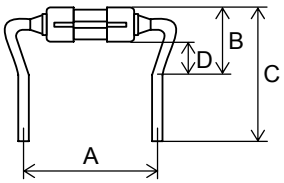
Fig. No.	Forming No.	Dimensions (Unit: mm)			
		A	B	C	D
＊7	F001	20.3	6	—	—
	F003	12.5	6	—	—
	F005	15	6	—	—
＊8	F002	10	5.1	10.1	2.5
＊9	F009	27	—	—	—
＊10	F007	12.5	6	11	3.4
	F008	15	6	11	3.4
＊11	F006	5	15.6	20.6	5

Lead wire diameter: ϕ0.8 mm
F009 forming cannot be performed on 25RF.
Please contact your local SOC sales representative for questions regarding dimensional tolerances.

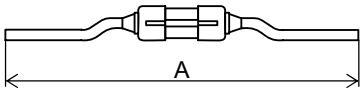
＊7



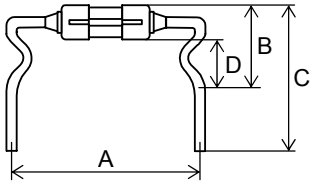
＊8



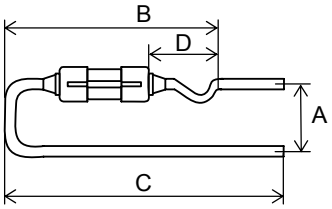
＊9



＊10



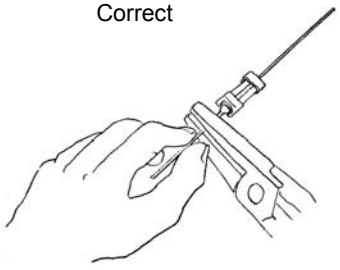
＊11



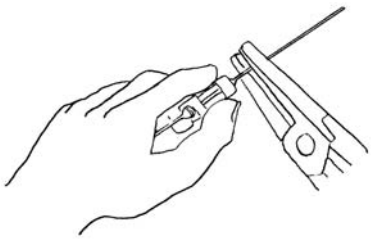
■Lead wire forming

・When forming by hand

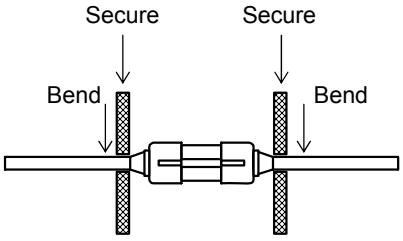
Correct



Incorrect



・When forming with forming dies



When forming lead wires, always secure the area between the fuse body and the part of the lead wire to be formed with holding fixtures as shown in the figure above. Make sure not to put any stress on the area connecting the fuse body with the lead wire.