

## Surface Mount Fuse - SMD

The design of wire-in-air structure makes fuses durable and reliable.



# SEF(G)

6.1 x 2.6 x 2.6 mm (2410)

## Fast-Acting Fuse

Protects base stations from overcurrent damage



### Agency Approvals

Agency	Ampere Rating
Certified products for U.S. and Canada	62mA - 5A
Recognized Component for Canada and US	6A - 40A
CSA Certified	62mA - 10A
PSE	1A - 10A
TUV	1A - 20A

### Interrupting Rating

62mA - 10A:	50 amperes at 125V AC/DC 300 amperes at 32V DC
12A - 15A:	50 amperes at 65V AC/DC 200 amperes at 86V AC/DC 300 amperes at 24V DC
20A - 25A:	50 amperes at 65V AC/DC 300 amperes at 24V DC
30A-35A:	60 amperes at 80V AC/DC
40A:	80 amperes at 65V AC/DC

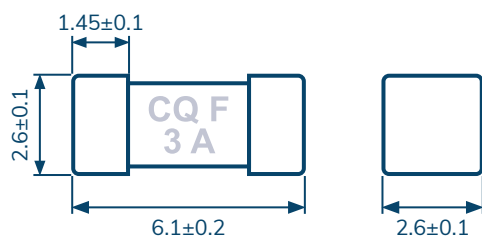
### Product Characteristics

Operating Temperature	-55 °C to 125 °C
Material	Body: Ceramic Termination: Gold Plated Brass Caps

### Packaging

Packaging Option	Quantity
On Tape	1,000 pcs / reel

### Mechanical Dimensions (mm)



SEF(G)

### Electrical Characteristics

Ampere Rating	Opening Time	
	1 In	2 In
	MIN	MAX
62mA - 10A	4 hr	5 sec
12A - 40A	4 hr	60 sec

Catalog Number	Ampere Rating (A)	Voltage Rating (V)	Nominal Cold Resistance (Ohms)	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec.)
SEF .062	62mA(1/16A)	125V	6.6530	0.000961
SEF .080	80mA		4.9740	0.001000
SEF .100	100mA		5.8165	0.001500
SEF .125	125mA		5.8395	0.003120
SEF .200	200mA		2.0195	0.008000
SEF .250	250mA		1.1050	0.009380
SEF .315	315mA		0.8554	0.018000
SEF .375	375mA		0.7819	0.021100
SEF .400	400mA		0.5200	0.032000
SEF .500	500mA		0.4895	0.037500
SEF .750	750mA		0.2425	0.153100
SEF 001	1A		0.1407	0.385000
SEF 1.50	1.5A		0.1130	0.725000
SEF 002	2A		0.0594	0.894000
SEF 2.50	2.5A		0.0384	1.182000
SEF 003	3A		0.0333	1.475000
SEF 3.15	3.15A		0.0296	1.655000
SEF 3.50	3.5A		0.0268	2.055000
SEF 004	4A		0.0209	3.882000
SEF 005	5A		0.0179	5.480000
SEF 006	6A	0.0117	8.520000	
SEF 007	7A	0.0104	9.931000	
SEF 008	8A	0.0095	18.82000	
SEF 010	10A	0.0067	22.50000	
SEF 012	12A	65V*1	0.0042	43.20000
SEF 015	15A		0.0029	112.5000
SEF 020	20A	65V	0.0025	141.5200
SEF 025	25A		0.0019	246.5536
SEF 030	30A	80V	0.0018	365.4000
SEF 035	35A		0.0016	420.9100
SEF 040	40A	65V	0.0015	503.6800

\*1: 86V optional

# SET(G)

6.1 x 2.6 x 2.6 mm (2410)

Time-Lag Fuse

Inrush current withstand capability



## Agency Approvals

Agency	Ampere Rating
Recognized Component for Canada and US	200mA - 7A
CSA Certified	200mA - 7A
PSE	1A - 7A

## Interrupting Rating

50 amperes at 125V AC/DC  
300 amperes at 32V DC

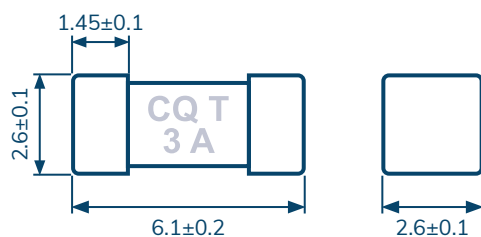
## Product Characteristics

<b>Operating Temperature</b>	-55 °C to 125 °C
<b>Material</b>	Body: Ceramic Termination: Gold Plated Brass Caps

## Packaging

Packaging Option	Quantity
On Tape	1,000 pcs / reel

## Mechanical Dimensions (mm)



SET(G)

## Electrical Characteristics

Ampere Rating	Opening Time						
	1 In	2 In		3 In		8 In	
	MIN	MIN	MAX	MIN	MAX	MIN	MAX
200mA - 7A	4 hr	1 sec	60 sec	0.2 sec	3 sec	0.02 sec	0.1 sec

Catalog Number	Ampere Rating (A)	Voltage Rating (V)	Nominal Cold Resistance (Ohms)	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec.)
SET .200	200mA	125V	1.5751	0.0600
SET .250	250mA		1.2585	0.0680
SET .300	300mA		1.2512	0.0900
SET .350	350mA		0.9366	0.1000
SET .375	375mA		0.5232	0.2109
SET .400	400mA		0.5150	0.2400
SET .500	500mA		0.3291	0.3750
SET .750	750mA		0.1600	0.6260
SET 001	1A		0.1090	1.9090
SET 1.50	1.5A		0.0511	3.8350
SET 002	2A		0.0550	8.5600
SET 2.50	2.5A		0.0287	16.550
SET 003	3A		0.0228	22.540
SET 3.15	3.15A		0.0224	23.000
SET 3.50	3.5A		0.0190	29.400
SET 004	4A		0.0140	35.820
SET 005	5A		0.0130	54.800
SET 006	6A	0.0090	64.800	
SET 007	7A	0.0074	89.830	

# SEH(G)

10.1 x 3.1 x 3.1 mm (4012)

Perfectly suited for a wide range of battery protection boards



## Agency Approvals

Agency	Ampere Rating
Recognized Component for Canada and US	20A - 30A

## Interrupting Rating

20A:	100 amperes at 125V AC 300 amperes at 100V DC
25A - 30A:	100 amperes at 100V DC 100 amperes at 125V AC

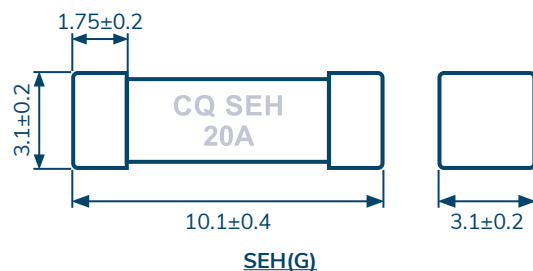
## Product Characteristics

Operating Temperature	-55 °C to 125 °C
Material	Body: Ceramic Termination: Gold Plated Brass Caps

## Packaging

Packaging Option	Quantity
On Tape	2,500 pcs / reel

## Mechanical Dimensions (mm)



## Electrical Characteristics

Ampere Rating	Opening Time	
	1 In	2 In
	MIN	MAX
20A - 30A	4 hr	60 sec

Catalog Number	Ampere Rating (A)	Voltage Rating (V)	Nominal Cold Resistance (Ohms)	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec.)
SEH 020	20A	125V	0.0033	18.000
SEH 025	25A		0.0022	45.000
SEH 030	30A		0.0016	101.00

# SEI(G)

10.1 x 3.1 x 3.1 mm (4012)



## Agency Approvals

Agency	Ampere Rating
Recognized Component for Canada and US	500mA - 5A
TUV	500mA - 5A
KTL	500mA - 5A
CQC	500mA - 3A 4A - 5A

## Interrupting Rating

50 amperes at 250V AC

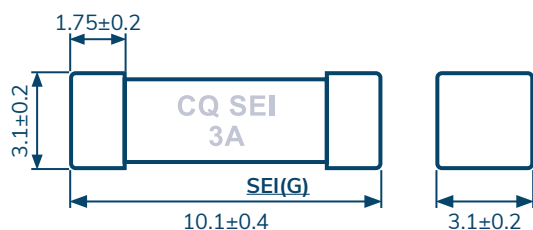
## Product Characteristics

<b>Operating Temperature</b>	-55 °C to 125 °C
<b>Material</b>	Body: Ceramic Termination: Gold Plated Brass Caps

## Packaging

Packaging Option	Quantity
On Tape	2,500 pcs / reel

## Mechanical Dimensions (mm)



RoHS



## Electrical Characteristics

Ampere Rating	Opening Time	
	1 In	2.5 In
	MIN	MAX
500mA - 5A	4 hr	120 sec

Catalog Number	Ampere Rating (A)	Voltage Rating (V)	Nominal Cold Resistance (Ohms)	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec.)
SEI .500	500mA	250V	0.5479	1.963
SEI .750	750mA		0.2600	3.375
SEI 001	1A		0.1800	11.22
SEI 1.50	1.5A		0.1027	14.85
SEI 002	2A		0.0504	19.84
SEI 2.50	2.5A		0.0370	20.50
SEI 003	3A		0.0280	54.00
SEI 3.50	3.5A		0.0199	57.82
SEI 004	4A		0.0158	125.6
SEI 005	5A		0.0120	185.0

# SEJ

10.1 x 3.1 x 3.1 mm (4012)

Time-Lag Fuse



## Agency Approvals

Agency	Ampere Rating
Recognized Component for Canada and US	1.25A
TUV	1.25A
PSE	1.25A
KTL	1.25A
CCC	1.25A

## Interrupting Rating

250 amperes at 250V AC  
 200 amperes at 280V AC  
 200 amperes at 250V AC  
 200 amperes at 63V AC  
 100 amperes at 250V DC  
 100 amperes at 125V DC  
 200 amperes at 63V DC

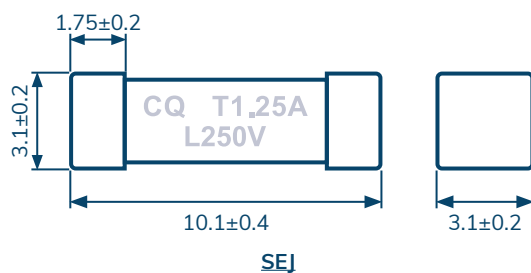
## Product Characteristics

<b>Operating Temperature</b>	-55 °C to 125 °C
<b>Material</b>	Body: Ceramic Termination: Gold Plated Brass Caps

## Packaging

Packaging Option	Quantity
On Tape	2,500 pcs / reel

## Mechanical Dimensions (mm)



**RoHS**

## Electrical Characteristics

Ampere Rating	Opening Time			
	1.25 In	2 In	10 In	
	MIN	MAX	MIN	MAX
1.25A	60 min	120 sec	10 ms	100 ms

Catalog Number	Ampere Rating (A)	Voltage Rating (V)	Nominal Cold Resistance (Ohms)	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec.)
SEJ 1.25	1.25A	250V	0.105	4.52

# SEL

10.1 x 3.1 x 3.1 mm (4012)

The SEL series offer high-amp circuit protection and surface mount fuses help space saving



### Agency Approvals

Agency	Ampere Rating
Recognized Component for Canada and US	10A - 60A

### Electrical Characteristics

Ampere Rating	Opening Time	
	1 In	2 In
	MIN	MAX
10A - 60A	4 hr	60 sec

### Interrupting Rating

10A - 20A:	50 amperes at 250V DC 100 amperes at 250V AC 150 amperes at 125V AC 130 amperes at 80V DC 300 amperes at 72V DC
25A - 35A:	100 amperes at 250V AC 150 amperes at 125V AC 130 amperes at 80V DC 300 amperes at 72V DC
40A - 60A:	100 amperes at 250V AC 150 amperes at 125V AC 300 amperes at 65V AC 100 amperes at 100V DC 200 amperes at 75V DC 600 amperes at 60V DC

Catalog Number	Ampere Rating (A)	Voltage Rating (V)	Nominal Cold Resistance (Ohms)	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec.)
SEL 010	10A	250V	0.00670	75.000
SEL 015	15A		0.00500	141.75
SEL 020	20A		0.00300	356.00
SEL 025	25A		0.00240	625.00
SEL 030	30A		0.00180	900.00
SEL 035	35A		0.00140	1320.0
SEL 040	40A		0.00122	1897.6
SEL 050	50A		0.00107	3150.0
SEL 060	60A		0.00089	4224.0

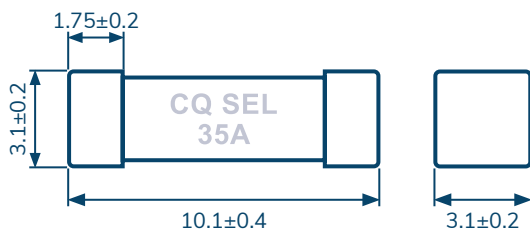
### Product Characteristics

Operating Temperature	-55 °C to 125 °C
Material	Body: Ceramic Termination: Gold Plated Brass Caps

### Packaging

Packaging Option	Quantity
On Tape	2,500 pcs / reel

### Mechanical Dimensions (mm)



SEL

# SEM

10.1 x 3.1 x 3.1 mm (4012)

Designed to allow compliance with Telcordia GR-1089-CORE and TIA968-A



## Agency Approvals

Agency	Ampere Rating
Recognized Component for Canada and US	500mA - 2A

## Interrupting Rating

60 amperes at 250V AC  
60 amperes at 600V AC  
50 amperes at 250V DC  
100 amperes at 125V DC

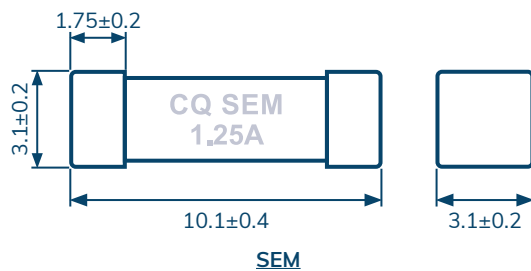
## Product Characteristics

<b>Operating Temperature</b>	-55 °C to 125 °C
<b>Material</b>	Body: Ceramic Termination: Gold Plated Brass Caps

## Packaging

Packaging Option	Quantity
On Tape	2,500 pcs / reel

## Mechanical Dimensions (mm)



RoHS



## Electrical Characteristics

Ampere Rating	Opening Time		
	1 In	2.5 In	
	MIN	MIN	MAX
500mA - 2A	4 hr	1 sec	120 sec

Catalog Number	Ampere Rating (A)	Voltage Rating (V)	Nominal Cold Resistance (Ohms)	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec.)
SEM .500	500mA	600V	0.480	1.40
SEM 1.25	1.25A		0.100	22.0
SEM 002	2A		0.055	24.0



# MMS-P

7.3 x 5.8 x 4.0 mm (2923)

Specially customized for use in power tool battery packs



## Agency Approvals

Agency	Ampere Rating
Recognized Component for Canada and US	20A - 50A
TUV	20A - 50A

## Interrupting Rating

300 amperes at 35V DC
300 amperes at 60V DC

## Product Characteristics

<b>Operating Temperature</b>	-55 °C to 125 °C
<b>Material</b>	Body: Ceramic Termination: Copper(Cu), Tin(Sn) Element: Copper(Cu), Tin(Sn)

## Packaging

Packaging Option	Quantity
On Tape	1,000 pcs / reel



## Electrical Characteristics

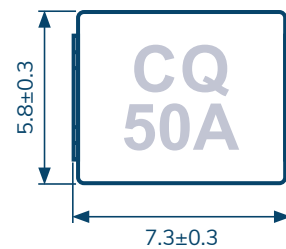
Ampere Rating	Opening Time	
	1 In	2.5 In
	MIN	MAX
20A - 50A	4 hr	60 sec

Catalog Number	Ampere Rating (A)	Voltage Rating (V)	Nominal Cold Resistance (Ohms)	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec.)
MMS-P 020	20A	60V	0.0020	108.00
MMS-P 030	30A		0.0012	270.00
MMS-P 040	40A		0.0010	416.00
MMS-P 050	50A		0.0007	1750.0

\* Measured at ≤ 10% of rated current at 25° C

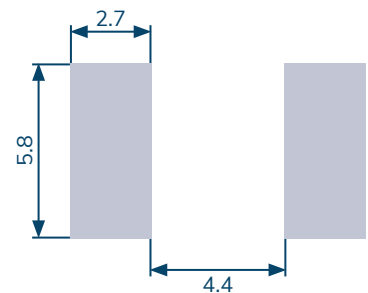
\* Melting I<sup>2</sup>t at 1000% of current rating

## Mechanical Dimensions (mm)



MMS-P

## Recommended Land Pattern



Reflow Solder

# 28MH

7.3 x 5.8 x 4.0 mm (2923)

Specially customized for use in power tool battery packs



## Agency Approvals

Agency	Ampere Rating
Recognized Component for Canada and US	20A - 125A
TUV	20A - 100A

## Electrical Characteristics

Ampere Rating	Opening Time	
	1 In	2.5 In
	MIN	MAX
20A - 125A	4 hr	60 sec

## Interrupting Rating

1500 amperes at 80V DC

## Product Characteristics

Operating Temperature	-55 °C to 125 °C
Material	Body: Ceramic Termination: Copper(Cu), Tin(Sn) Element: Copper(Cu), Tin(Sn)

Catalog Number	Ampere Rating (A)	Voltage Rating (V)	Nominal Cold Resistance (Ohms)	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec.)
28MH 020	20A	80V	0.00200	162.00
28MH 030	30A		0.00120	369.00
28MH 040	40A		0.00100	521.00
28MH 050	50A		0.00080	1208.0
28MH 060	60A		0.00065	1616.0
28MH 080	80A		0.00055	2624.0
28MH 100	100A		0.00040	6631.0
28MH 125	125A		0.00030	17692

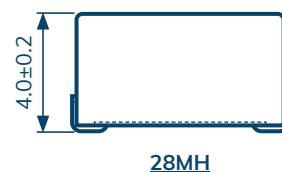
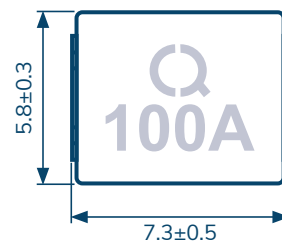
\* Measured at ≤ 10% of rated current at 25° C

\* Melting I<sup>2</sup>t at 1000% of current rating

## Packaging

Packaging Option	Quantity
On Tape	1,000 pcs / reel

## Mechanical Dimensions (mm)



## Recommended Land Pattern

