







#### **Fuse Informations**

What are fuses?? They are protectors that prevent damage to electronic and electrical equipment. Fuses allow electric current to pass through them until the amount of current goes over the fuses rating. At the time, the fuse Blows and stop the flow of electric current. Fuses are rated in in amperes, the unit of measure for electric current.

Fast-ACTING / SLOW BLOW. Fast Acting fuses react quickly to current overloads. Slow Blow fuses are less sensitive to start-up surge and protect against long-term overlands

Fuse is a Saftey devices components. Always replace a blown fuse with the same type replace fast acting with fast acting, slow blow with slow blow. Slow Blow fuse are less sensitve to start-up the protection against long-term overloads.

Thera are four basic types of fuse: Slow-Blow/ Time LAG - Dual Element slow blow fuses / Fast-acting / Very fast Acting fuses.

A major type of slow blow fuse is the dual element fuse. This fuse consists of a short circuit strip and a soldered joint, spring connection. During overloads conditions, the soldered joints gets hot enough to melt and the spring shears the junction loose. Under short circuits conduitions the short circuit elements opersates to open the circuit. All dual-Elements fuses are considered to be slow blow, but not all slow blow fuses are dual elements.

Slow-blow fuses are ideal for circuits with a transient surge or power inrush. There circuits include: motors, transformers, incandescant lamps and capacitive loads. This inrush can be 20 times the normal current level. When using fast-acting, single elements type fuses, it is neccessary to rate fuse at 150% to 300% of thre circuits full load curent. With this rating rule inrush may cause nuisance openings.

Slow Blow fuses allow close rating of the fuse without nuisance opening. Typically rate the slow-blow fuses from 125% to 150° of the circuits full load process.

Fast-Acting fuses have no intentional built in slow-blow and are used in circuits without transient inrush Amp.

Very fast-acting fuses often have silver links. Because of the fuses current limiting ability, there fuses are frequently used to protect semiconductor circuits.

The current carrying capacity of a fuse: The nominal value upon which all performance characteristics of a fuse are based.

 ( Overcurrent) A condition which exits on a electrical circuit when the normals current is exceeded.
Overcurrents take on two separate characteristics overloads and short circuits.

(Overload) Can be classified as an overcurrent which exceeds the normal full load current of a circuit. Also characteristics of this type of overcurrent is that it does not leave the normal current carrying path of the circuit. That is it flows from the source, through the conductors, through the load, back through the conductors, to the source again.

(Voltage Rating) For general circuit protection, the voltage rating on the fuse should be equal to, or greater than the circuit voltage of the circuit in which the fuse is applied. Exceeding the voltage rating of a fuse impairs ist ability to clear an overload or short circuit safely. Fuse can be used at any voltage below the fuse voltage rating; a 250V fuse can be used in 125V circuits.

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EDCON has carefull prepared the webside specifications contained herein. These specifications are for reference only, any inaccuracies may be due to typographical errors or changes made after the publications on our webside.

Cross Reference charts BUSSMANN / LITTLEFUSE / TELFUSE / BEL FUSE

Testing standards and equipment utilized for UL, CSA, METI, and IEC ... etc. Approvals (Specificy fuse type desired.

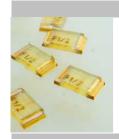
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# SMT CHIP FUSE SIZE 1812 TIME LAG

Part No.: **R13002-2A00** 

Customer:

| DRW:  | Jason | CHKD | Jules | MATL:  | Wu    | DATE  | 06.08.2008 |
|-------|-------|------|-------|--------|-------|-------|------------|
| APPD: | Join  |      |       | FINISH | Shieh | Sheet | 1 from 3   |









#### Features:

R13002 is a small type of SMD fuse which has the same dimensionas the 1812 type fuse. It can save valuable PCB boards. It is also features top electrics speciality and high accurate current expression. This revolutionized SMD fuse is universal and doesn't have the drawbacks Of ordinary SMD fuse which uses solder as ist fuse element.

Large tolerance of electric current and low interruption are ist main characteristics. EDCON currently uses cu-ag alloy wire coating tin for the fuse and copper coating gold for the terminal both have the capacity to allow large surge current to pass trought them.

### **Technical Specifications**

**Operating Temperature:** . -55°C to +125°C

**Breacking Capacity:** 35A or 10In AT 125VAC/DC **Insulation Resistance:** (After Fuse Blow) up to 5 M Ohm Resistance to solder heat:

max. 260°C, 60sec.

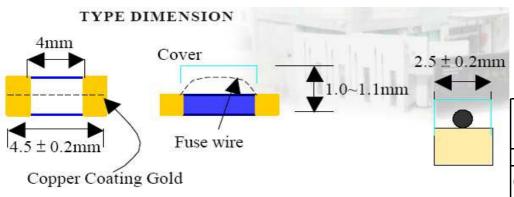
**Soldering parameters:** Wave Solder -260°C, 10sec max. Reflow Solder -260°C, 30sec. Max.

8mm Tape and Reel per EIA-RS481: 5K/Reel **Packing Specifications:** 

|   | Rated Current | 1,25 ln 2 ln |  | In     | 10 ln |       |
|---|---------------|--------------|--|--------|-------|-------|
| ı | Rated Current | MIN          |  | MAX    | MIN   | MAX   |
| ſ | 2000mA        | 1hr          |  | 120sec | 10ms  | 100ms |

| Serie  | Ampere<br>Rating (In) | Voltage<br>Rating (V) | Nominal<br>Resistance<br>Cold Ohms | Voltage<br>Drop (mV)<br>MAX. | Nominal<br>Melting I²t<br>A² sec Min. | Nominal<br>Melting I <sup>2</sup> t<br>A <sup>2</sup> sec Max. |
|--------|-----------------------|-----------------------|------------------------------------|------------------------------|---------------------------------------|--|
| R13002 | 2000mA                | 250V                  | 0,031                              | 38,14                        | 40,000                                | 4,0  |

### **Mechanical Dimension**

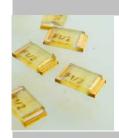


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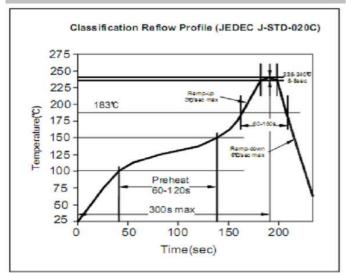




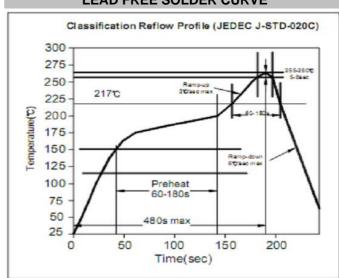
### **Approvals**

| Cec  |       | <b>(D)</b> | DVE | FC | € | KEMA | (S) |
|------|-------|------------|-----|----|---|------|-----|
|      |       |            |     |    |   |      |     |
| (II) | [V@I] | PSE        |     |    |   |      |     |
| YES  |       |            |     |    |   |      |     |

#### **LEAD SOLDER CURVE**



#### **LEAD FREE SOLDER CURVE**



### **Ordering Information**

| Serie  | Range | Function | ROHS | Packing |  |
|--------|-------|----------|------|---------|--|
|        |       |          |      |         |  |
| R13002 | 2A00  | N        | R    | TR5     |  |

| 2A00=       | N= NO    | R= ROHS | TR5=       |
|-------------|----------|---------|------------|
| 2000mA      | Function | Conform | Tape/Reel  |
| T2= Marking |          | N= NON  | 5000PCS    |
| Code on the |          | ROHS    | BU1= Bulk- |
|             |          | •       | Ware       |
| item        |          |         |            |

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| APPD: | Join  |      |       | FINISH | Shieh | Sheet | 3 from 3   |