| ${ }^{\circledR}$ TLC Electronic | 0603 Fast Acting SMD <br> Fuses | DOC.NO.: <br> ISS:F06F3 |
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## INDIVIDUAL SPECIFICATION SHEET

## Product Name: 0603 Fast Acting SMD Fuses

Part Number: F06F3
Revision: B


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| Rev. | Effective Date | Changed Contents |
| :---: | :---: | :--- |
| A | $2020-9-27$ | New Release |
| B | $2021-4-7$ | Update Spedfications |
|  |  |  |

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## TLC Electronic

## Description

F06F Series are the fuses set the industry standard for performance, reliability and quality. The solder-free design provides excellent on-off and temperature cycling characteristics during use and also makes our SMD fuses more heat and shock tolerant than typical subminiature fuses.

| Electrical Characteristics |  |  |
| :---: | :---: | :---: |
| Rated Current | 1.0In | 2.5In |
| 3 A | 4 hour minimum | 5 sec maximum |

## Features

$>$ AEC-Q200 Automotive Grade Certified
> Compatible with reflow and wave solder
$>$ Excellent environmental integrity
$>$ One time positive disconnect
$>$ Lead Free and Halogen free material

## Specifications

| Specification |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Part No. | Rated Voltage DC | Rated Current (A) | Breaking Capacity (A) ${ }^{1}$ | Typical Cold. Resistance (mOhms) ${ }^{2}$ | Typical Voltage Drop (mV) | $\begin{gathered} \text { Typical Pre- } \\ \text { Arcing I } \mathrm{t} \\ \left(\mathrm{~A}^{2} \mathrm{Sec}\right)^{3} \\ \hline \end{gathered}$ | Alpha <br> Mark |
| F06F3 | 32V | 3 | 50A | 35 | 130 | 0.21 | 0 |

1. DC Interrupting Rating (Measured at rated voltage, time constant of less than 50 microseconds, battery source)
2. DC Cold Resistance are measured at $<10 \%$ of rated current in ambient temperature of 25 degrees
3. Typical Pre-arcing $\mathrm{I}^{2} \mathrm{t}$ are measured at 10 In Current
** For 1A-5A, the color of glass coating is Green; for others, it's Blue.
Specifications are subject to change without notice. Application testing is strongly recommended.

## Dimension

Drawing not to scale (Unit: mm/inch)



## Recommended land pattern



## Soldering method

> Wave solder

- Reservoir temperature: $260^{\circ} \mathrm{C}$

■ Time in reservoir: 10 seconds maximum
> Infrared reflow
■ Temperature: $260^{\circ} \mathrm{C}$

- Time: 30 seconds maximum


## Solder reflow profile



| Profile Feature |  | Lead(Pb) free solder |
| :---: | :---: | :---: |
| Preheat and soak | - Temperature min. $\mathrm{T}_{\text {smin }}$ ) | $150^{\circ} \mathrm{C}$ |
|  | - Temperature max. ( $\mathrm{T}_{\text {smax }}$ ) | $200^{\circ} \mathrm{C}$ |
| - Time ( $\mathrm{T}_{\text {smin }}$ to $\mathrm{T}_{\text {smax }}$ ) ( $\mathrm{ts}_{\text {s }}$ ) |  | 60-120 Seconds |
| Average ramp up rate $\mathrm{T}_{\text {smax }}$ to $\mathrm{T}_{\mathrm{p}}$ |  | $3^{\circ} \mathrm{C} /$ Second Max. |
| Liquidous temperature ( $\mathrm{T}_{\mathrm{L}}$ ) <br> Time at liquidous ( $\mathrm{t}_{\mathrm{L}}$ ) |  | $\begin{gathered} 217^{\circ} \mathrm{C} \\ 60-150 \text { Seconds } \end{gathered}$ |
| Peak package body temperature ( $\mathrm{T}_{\mathrm{P}}$ ) |  | $260^{\circ} \mathrm{C}$ |
| Time ( $\mathrm{t}_{\mathrm{p}}$ ) within $5^{\circ} \mathrm{C}$ of the specified classification temperature ( $\mathrm{T}_{\mathrm{C}}$ ) |  | 30 Seconds |
| Average ramp-down rate ( $\mathrm{T}_{\mathrm{p}}$ to $\mathrm{T}_{\text {smax }}$ ) |  | $6^{\circ} \mathrm{C} /$ Second Max. |
| Time $\left(25^{\circ} \mathrm{C}\right.$ to Peak Temperature) |  | 8 Minutes Max. |

## Temperature Derating Curve

Normal ambient temperature: $23+/-3^{\circ} \mathrm{C}$
Operating temperature: $-55 \sim 125^{\circ} \mathrm{C}$, with proper correction factor applied


## Package

5000 fuses on 8 mm tape-and-reel on a 7 inch ( 178 mm ) reel per EIA Standard 481.
--- End of Document ---

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