Beyond the Safety

Dexerials

Self Control Protector (SCP)
- SFK series Datasheet -

Dexerials Corporation

2014/11/20 Rev-14

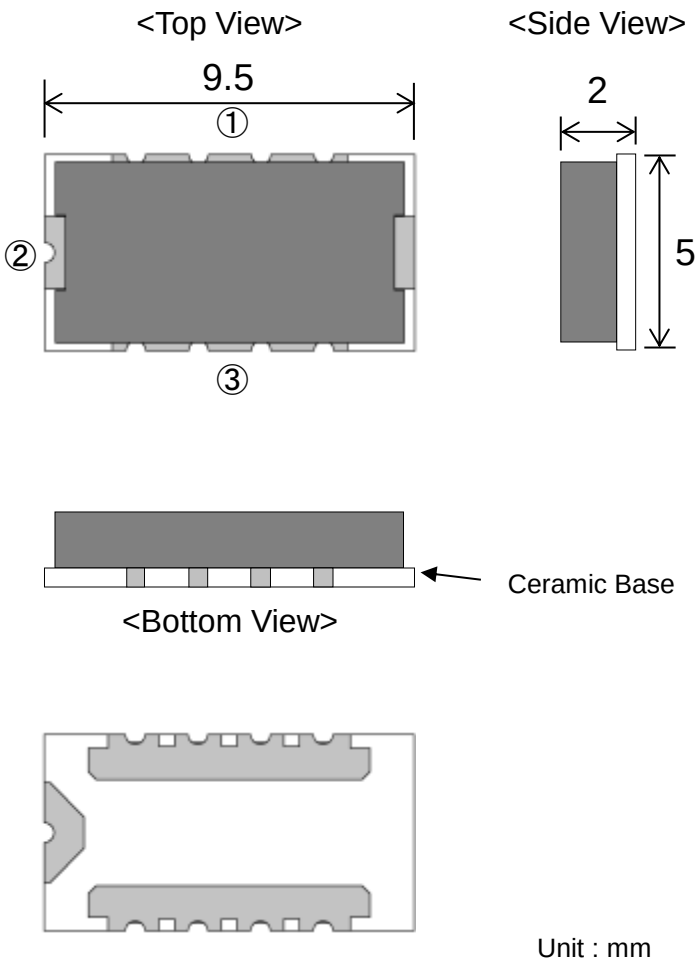
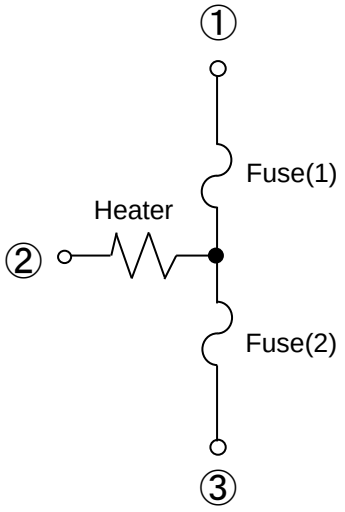
30A Specification

SFK-**30x (x=any letter) Products Lineup

Applicable Cells in series	3 cells	4-5cells	6-7 cells	9-10 cells	12-14 cells
Product (x=any letter)	SFK-1230x	SFK-1830x	SFK-3030x	SFK-4030x	SFK-5030x
Rated current	30A				
Size	9.5x5.0x2.0 mm				
Fuse resistance (Typical)	1.0 - 2.5 m-ohm				
Operating voltage	8.4 - 13.2 V	10.5 - 23.5 V	20.2 - 31.5 V	28.0 - 46.9 V	39.6 - 62.0 V
Heater resistance	3.2 - 5.2 ohm	4.8 - 8.0 ohm	18.8 - 31.2 ohm	40.0 - 60.0 ohm	72.4 - 120.6 ohm
Marking	30A K03x SC SF	30A K45x SC SF	30A K07x SC SF	30A K10x SC SF	30A K14x SC SF

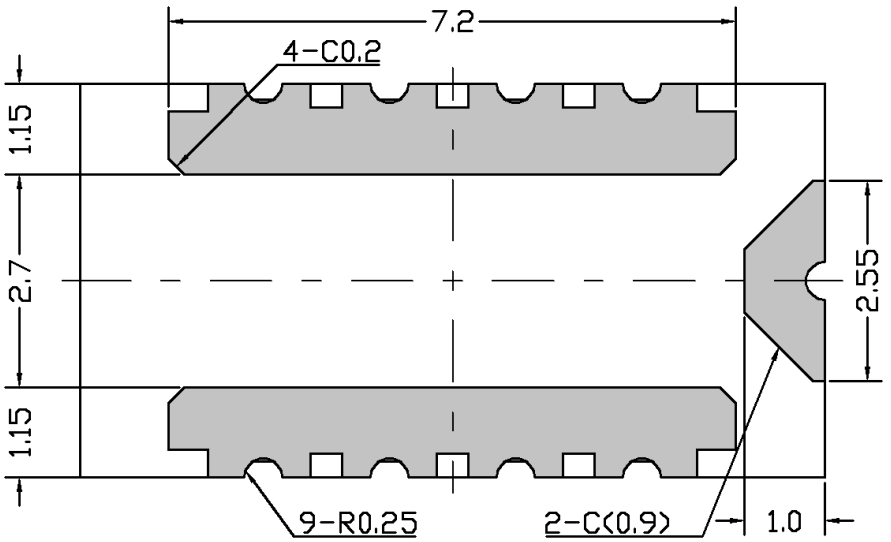
Items	General Specification
Environmental compliance	Compliance with RoHS
Halogen Free	Bromine (Br) =900ppm or less, Chlorine (Cl) =900ppm or less, Br+Cl=1500ppm or less (By weight)
Qualification	UL248-14 (File No. E167588), TUV (Certificate No. J9650637)
Rated voltage	62VDC (*) It is the maximum voltage can be cut off by fuse. It is not the operational voltage of the heater.
Rated breaking capacity	80A
Re-flow temp.(MAX)	260deg.C

External View & Equivalent Circuit

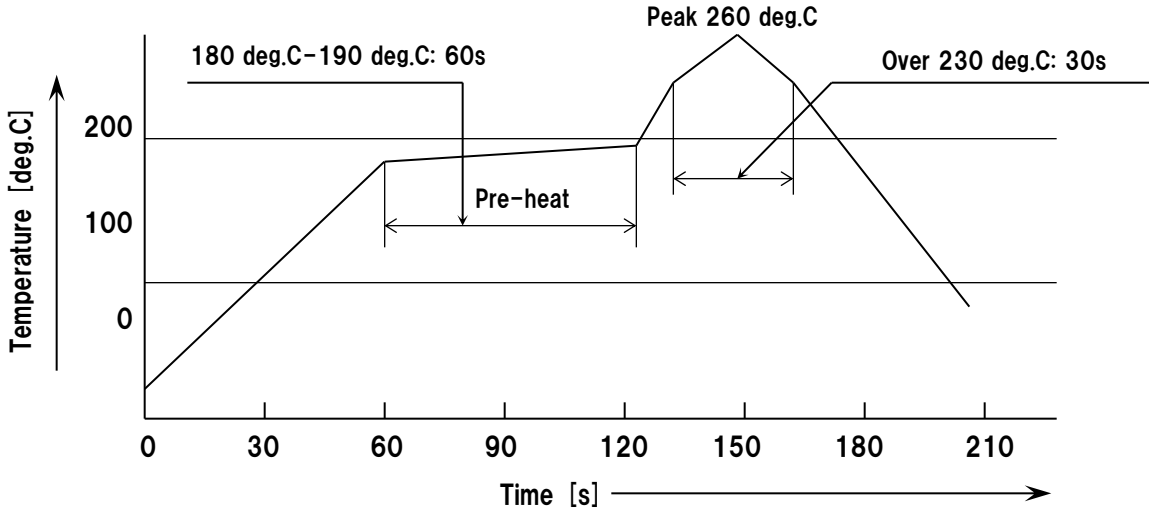
Product Name	External View	Equivalent Circuit
SFK-xx30x		

Terminal Size & Reflow Soldering

Terminal Size (Unit: mm. Not in scale.)



Reflow soldering Profile (Temperature shown below is of electrode portion of SCP)



Current Operation

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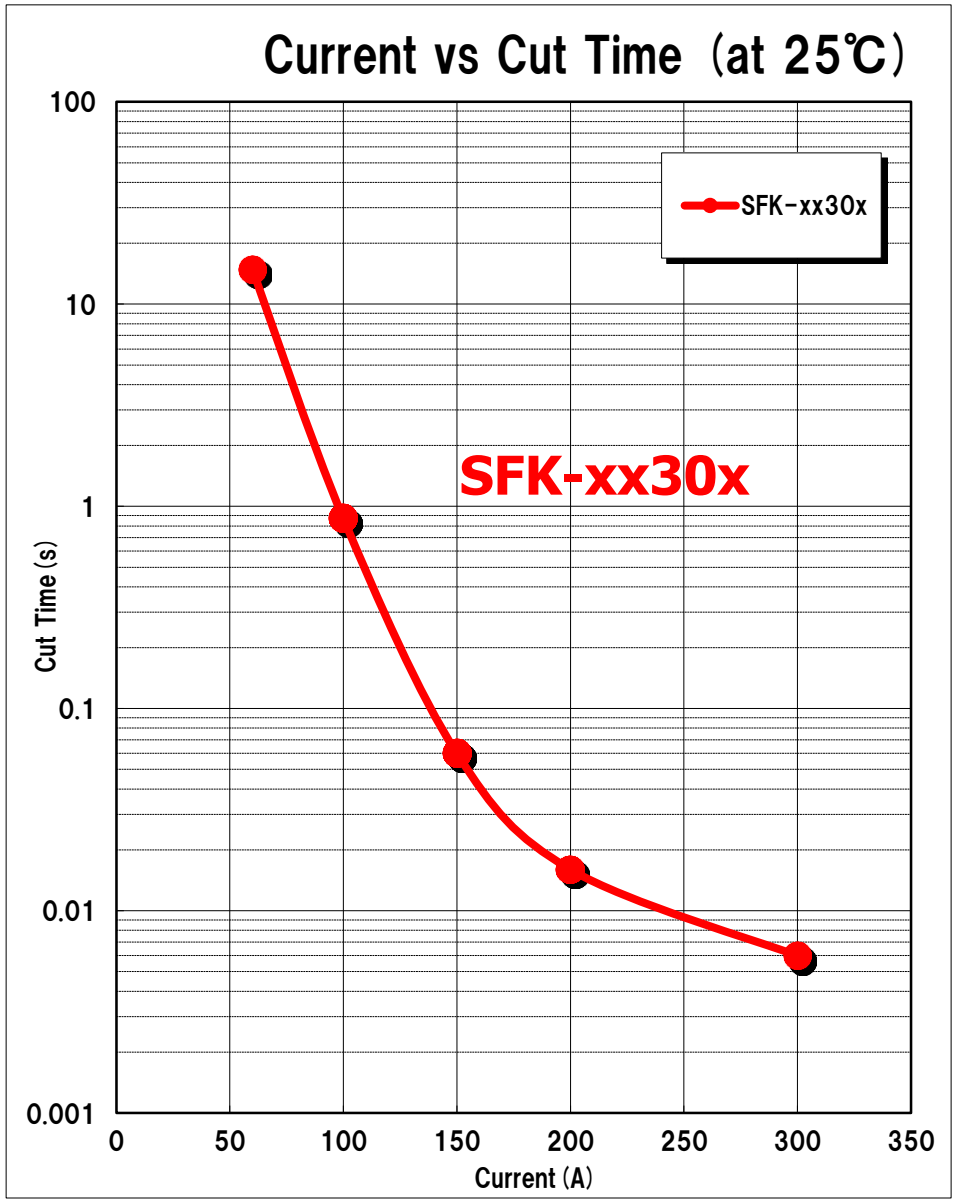

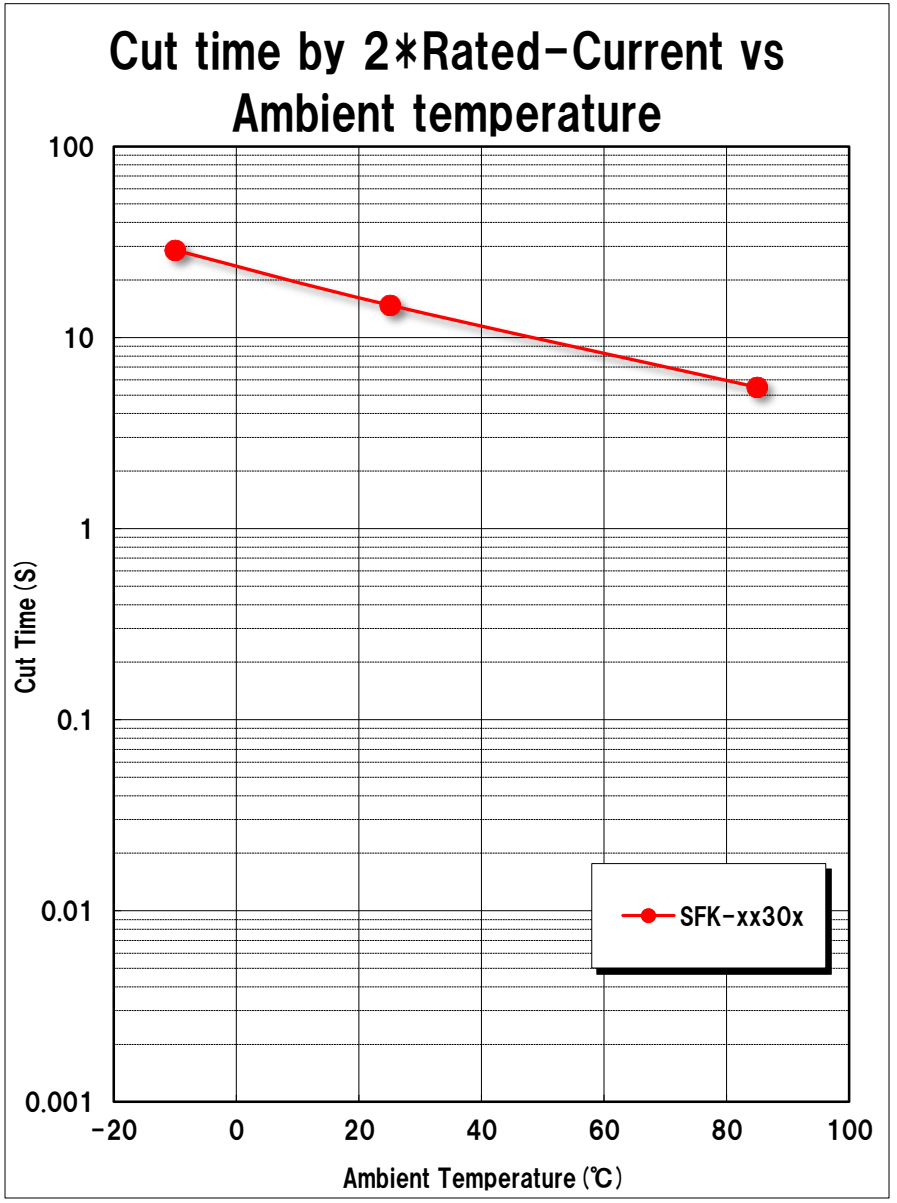

(*Note) It is the typical value that is evaluated with our company's standard PCB (0.6t Glass Epoxy single-sided copper-clad laminates).

Heater Operation

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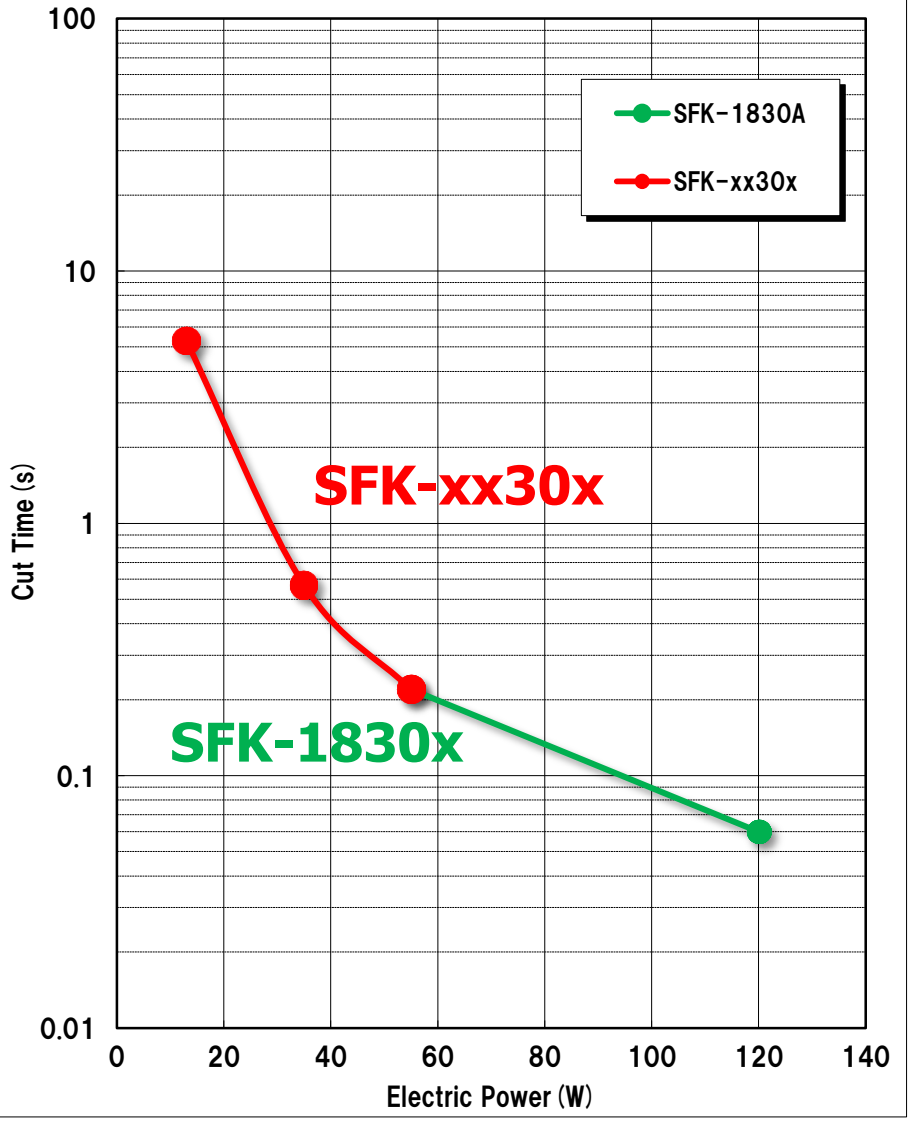
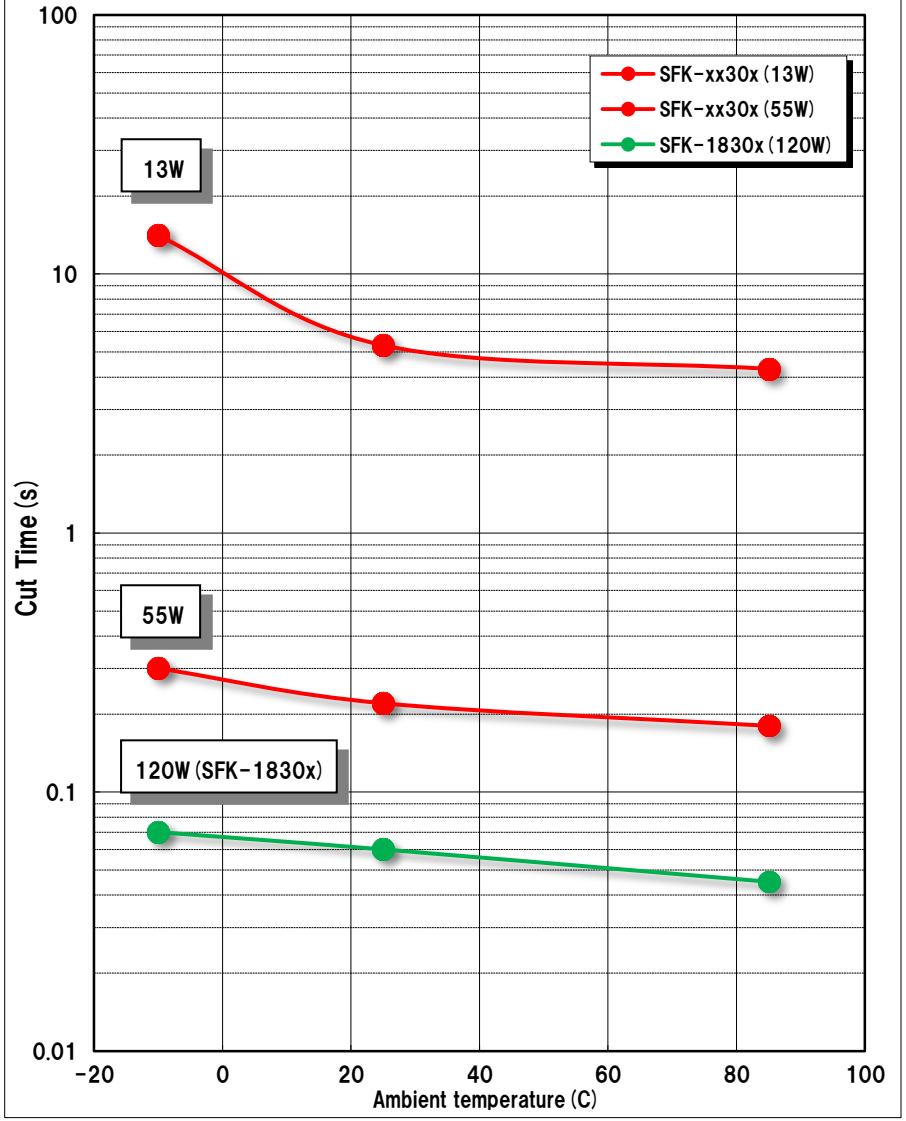
Cut by heater wattage at 25C



Cut time vs Ambient temperature



(*Note) It is the typical value that is evaluated with our company's standard PCB (0.6t Glass Epoxy single-sided copper-clad laminates).

Cut By Heater Voltage at 25C

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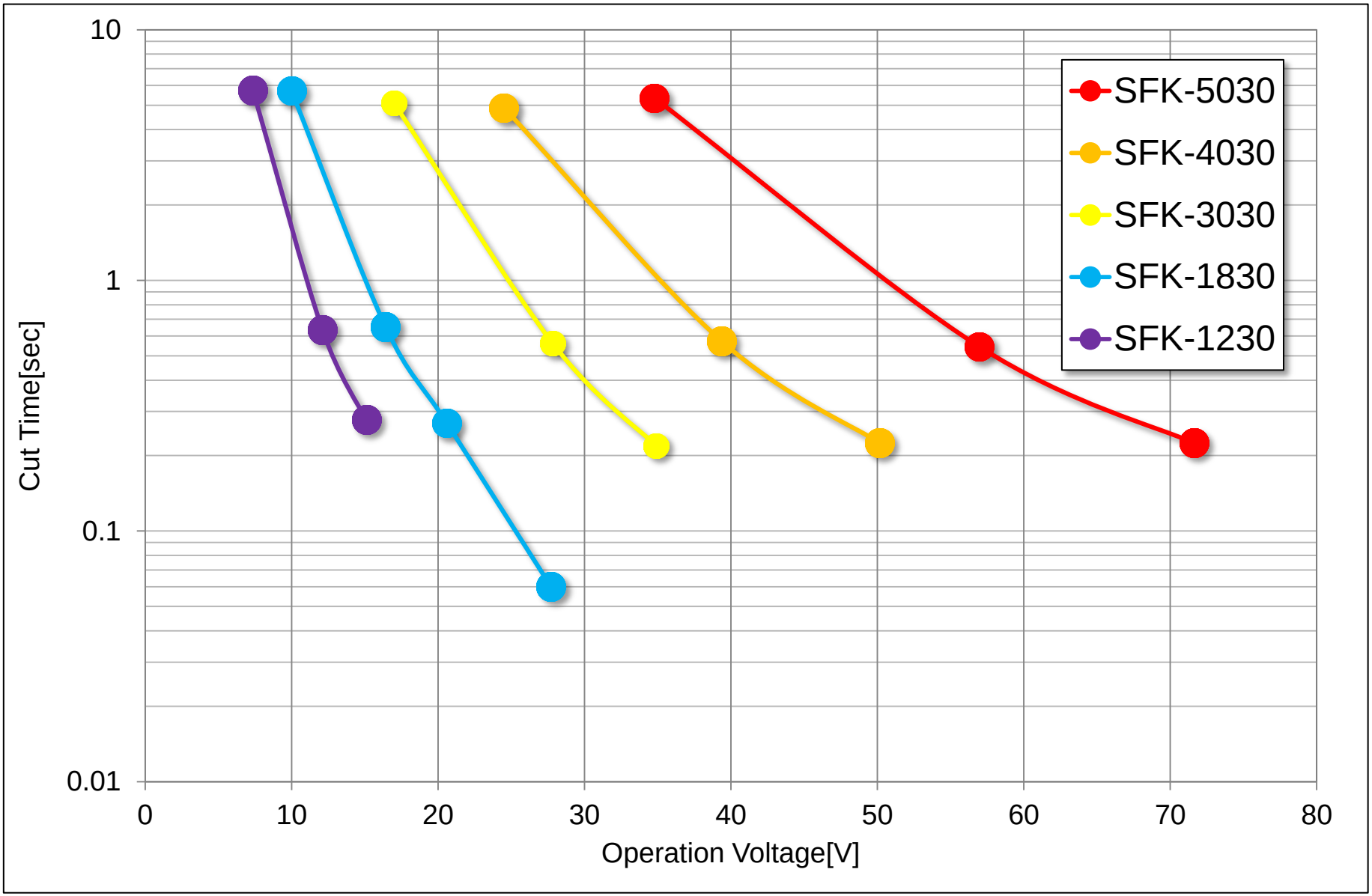

(*Note)It is the typical value that is evaluated with our company's standard PCB (0.6t Glass Epoxy single-sided copper-clad laminates).
(*Caution)There are possibilities that the specification may be revised without notice in the future.

Current Carrying Capacity

Product Name (x = any letter or digit)	Nominal Rated current	Current-Carrying Capacity (*1)			Current Rush Withstand (*2)
		25C	40C	60C	
SFK-xx30x	30A	34A	30A	25A	170A-10ms

(*Note)

1. It is the typical value that is calculated from 100 deg.C, the temperature that we confirmed the reliability with our company's standard PCB (0.6t Glass Epoxy single-sided copper-clad laminates). It is influenced by thermal capacity of PCB and so we recommend checking it with your PCB.
   -> 25deg.C, 40reg.C and 60deg.C are ambient temperature.
   -> The temperature that we confirmed the reliability is not a critical condition. SCP fusing-off temperature is 200deg.C or more.
   -> Current-carrying capacity is measured in thermal equilibrium condition. Therefore, if Current-carrying time is short, Current-carrying capacity will increase.
2. It is the test condition (10ms-On, 9990ms-Off, 500cycle) that we confirmed the reliability. But it is not necessarily a critical condition for SCP.

Handling Instructions for these data

- 1. Please confirm the latest product information before a design.
  - You can confirm the latest information about SCP on the following homepage. http://www.dexerials.jp/en/products/dd6/

- 2. SCP complies with environmental regulation.
  - 1) SCP complies with RoHS.
  - 2) SCP complies with general requirement for Halogen Free.

- 3. These data are typical value.
  - 1) These data is not a guaranteed value.
  - 2) These data is measured with our company's standard PCB (0.6t Glass Epoxy single-sided copper-clad laminates). The characteristics are influenced by thermal capacity of PCB. Generally, when thermal capacity of PCB increases, Current-carrying capacity will increase and Clearing-time will be long.

- 4. Please select the product on the basis of [Current-carrying capacity] and [Heater operation characteristics].
  - 1) Nominal rated current is provided on the basis of UL standard (The maximum temperature rise on body or contact that is passed the current shall not exceed 70 deg.C) and so it is not Current-carrying capacity. Therefore, please select a product on the basis of Current-carrying capacity instead of Nominal rated current.
  - 2) [Current-carrying capacity] and [Heater operation characteristics] are influenced by thermal capacity of PCB and so on. Therefore we recommend checking it on your PCB.
  - 3) We accept the test (Current-carrying capacity and Clearing-characteristics and so on) with your PCB. Please request to us unreservedly.

- 5. Current-carrying capacity
  - 1) Current-carrying capacity is the current-carrying value that SCP reaches temperature that we confirmed the reliability in our company.
  - 2) The temperature that we confirmed the reliability is 100 deg.C. But it is not a critical condition for SCP. For example, if SCP temperature exceeds it, SCP is not immediately fusing-off like a common thermal fuse. SCP fusing-off temperature is 200 deg.C or more and so it has much more capability for the temperature rise.
  - 3) Current-carrying capacity is measured in thermal equilibrium condition so that if Current-carrying time is short, Current-carrying capacity will increase.

- 6. Precautions regarding handling
  - 1) Make sure that the terminals of this product are connected on the lands of the circuit board, and that the heater resistance is rated value.
  - 2) Ultrasonic-cleaning or immersion-cleaning and so on must not be done to SCP before and after mounted. When cleaning is done, flux on element would flow, and it would not be satisfied its specification. Moreover, a similar influence happens when the product comes in contact with cleaning-solution. These products after cleaning will not be guaranteed.
  - 3) Please avoid contacting SCP and resin-mold. The resin might infiltrate into the product, and it doesn't meet the specification when the resin-mold is done to this product. These products after resin-mold will not be guaranteed.
  - 4) Please do not re-use of the SCP removed by the solder correction.

END

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The technical data in this document, which was acquired on the basis of reliable tests, does not guarantee full performance as in the document in anynstance. Users assume total responsibility and risk for their use of this product for any purposes of use under any use conditions.