

## Scope

These requirements cover manually and mechanically operable special-use switches:
That is for use on direct current as well as on alternating current only For which the load ratings do not exceed 60 amperes at 250 volts or a lower potential and 30 amperes or 2 horsepower at 600 volts or a lower potential

## Electrical Ratings

| Item | Requirements |
| :--- | :--- |
| Rated voltage and current | (base on switch type) |
| Contact resistance (new state) | $<100 \mathrm{~m} \Omega(5 \mathrm{~V}, 1 \mathrm{ADC})$ |
| Dielectric strength (new state) | $>1,000 \mathrm{~V}$ <br> $>2,500 \mathrm{~V}(10 \mathrm{~mA}$ between the contacts) |
| Insulation resistance (new state) | $>100 \mathrm{M} \Omega$ (500V DC between the open contacts) |
| Inrush current | $50 \mathrm{~A} / 3 \mathrm{~m} \mathrm{sec}$ (capacitive load) |
| Electrical life endurance | $>6,000$ operations <br> Volt drop : $<100 \mathrm{mV}$ <br> $>10,000$ operations |
| Temperature rise at the terminals <br> (according to electrical life endurance) | $<30^{\circ} \mathrm{C}-6,000$ operations <br> $<45^{\circ} \mathrm{C}-10,000$ operations <br> $\left(\right.$ ambient conditions : $25 \pm 2^{\circ} \mathrm{C}$ and $\left.65 \pm 5 \% \mathrm{RH}\right)$ |

## Mechanical Characteristics

| Item | Requirements |
| :--- | :--- |
| Actuating force | (base on switch type) |
| Operating life endurance | $>100,000$ operations |
| Terminal strength | $>2.5 \mathrm{~kg}$ - solder terminal <br> $>6.8 \mathrm{~kg}-$ plug-in / screw terminal |
| Solderability of terminals | Maximum $350^{\circ} \mathrm{C} / 3 \mathrm{~s}$ (no pressure may be exerted on <br> the terminals when soldering by hand) |

## Environmental

| Item | $\quad$ Requirements |
| :--- | :--- |
| Ambient temperature | $-20^{\circ} \mathrm{C}$ to $+65^{\circ} \mathrm{C}$ |
| Humidity | Maximum $85 \%$ |
| Salt spray test | No remarkable rust in metal parts <br> $\left(5 \%\right.$ Salt $/ 35^{\circ} \mathrm{C} 24$ hours $)$ |
| Shock test | No mechanical defect or damage <br> $(100 \mathrm{~g} / 10 \mathrm{~ms} \mathrm{X}, \mathrm{Y}, \mathrm{Z} \mathrm{3} \mathrm{times)}$ |
| Vibration test | No mechanical defect damage <br> $(10$ to $55 \mathrm{~Hz} / 1.5 \mathrm{~mm} / \mathrm{X}, \mathrm{Y}, \mathrm{Z} \mathrm{2} \mathrm{hours})$ |

## Diagram

$\varnothing 20.2$
(a) 3mm Maximum


20 A 12 V dc
Dimensions : Millimetres

## Part Number Table

| Description | Part Number |
| :---: | :---: |
| Switch, Rocker, SPST, ON-OFF | R13-112A-02-BB-0A |
| Switch, Rocker, SPST, ON-OFF, MOM | R13-112F-02-BB-0A |
| Switch, Rocker, SPST, ON-OFF | R13-112A5-02-WW-0A |
| Switch, Rocker, SPST, ON-OFF | R13-112A-02-BB-3A |
| Switch, Rocker, SPST, ON-OFF, MOM | R13-112F-02-BB-3A |
| Switch, Rocker, SPST, ON-OFF | R13-112A5-02-WW-3A |
| Switch, Rocker, DPST, ON-OFF | R13-244A-02-BB-0A |
| Switch, Rocker, DPST, ON-OFF | R13-244A5-02-WW-0A |
| Switch, Rocker, DPST, ON-OFF | R13-244A-02-BB-3A |
| Switch, Rocker, DPST, ON-OFF | R13-244A5-02-WW-3A |
| Switch, Rocker, SPST, ON-OFF, IP65 | R13-112A8-02-BB-0A |
| Switch, Rocker, SPST, IP65, MOM | R13-112F8-02-BB-0A |
| Switch, Rocker, SPST, ON-OFF, IP65 | R13-112A8-02-BB-2A |
| Switch, Rocker, SPST, IP65, MOM | R13-112F8-02-BB-2A |
| Switch, Rocker, SPST, Red Illuminated | R13-112B-02-BR-0A |
| Switch, Rocker, SPST, Green Illuminated | R13-112B-02-BG-0A |
| Switch, Rocker, DPST, Red Illuminated | R13-244B-02-BR-0A |
| Switch, Rocker, SPST, Red, IP65 | R13-112B8W-02-BR-0A |
| Switch, Rocker, SPST, Green, IP65 | R13-112B8W-02-BG-0A |
| Switch, Rocker, SPST, Red Illuminated | R13-112B9-02-BBR-0A |
| Switch, Rocker, SPST, Green Illuminated | R13-112B9-02-BBG-0A |

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