

10 Amp relays	25 Amp relays	50 Amp relays	75 Amp relays
SVxA/3V10	SVxA/3V25	SVxA/xV50	SVxA/xV75
10A=11W 8A=9W 6A=6W 4A=4W 2A=2W	25A=31W 20A=23W 15A=16W 10A=10W 5A=5W	50A=59W 40A=44W 30A=30W 20A=18W 10A=9W	75A=84W 60A=63W 45A=44W 30A=27W 15A=13W
Max Heat Sink=90°C	Max Heat Sink=85°C	Max Heat Sink=105°C	Max Heat Sink=105°C
Pwr Ref: Vo=0.80V Rt=0.038 Ohms	Pwr Ref: Vo=0.80V Rt=0.021 Ohms	Pwr Ref: Vo=0.80V Rt=0.0092 Ohms	Pwr Ref: Vo=0.85V Rt=0.0046 Ohms

Heat sink size calculation:

(Max Heat Sink Temp - Max Ambient Temp) / Watts= _____ size needed

Maximum heat sink temperature minus maximum ambient temperature divided by the power dissipation (use the chart for power dissipation at desired current).

For example, use a

- SVDA/3V25 running at 20Amps in a 45C ambient
- From the chart, at 20Amps it dissipates 23Watts
- A 25A unit can have a 85C heat sink
- (85-45 ambient)=40C temp rise is allowed
- 40C/23W=1.74C/W heat sink rating or less (less temperature rise per watt is better)
- Therefore, the recommended heatsink would be part number: S505-HEATSK-DIN (rated at 1.6°C/W) or any equivalent heat sink that is **LESS** than 1.74. Remember, the lower the heatsink value, the better it dissipates the heat. The relay must be connected to the heatsink using an appropriate thermal conduction grease or [thermal pad](#).

De-rating calculation for a known heat sink:

(Max Heat Sink - Max Ambient Temp) / heat sink rating= _____

Maximum heat sink temperature minus maximum ambient temperature divided by the heat sink rating (use the chart for current at calculated power dissipation).

For example, use a SVDA/3V10 in a 60C ambient with a 2.0C/W heat sink. 90C - 60C=30C heat sink temperature rise is allowed. 30C divided by 2.0C/W=15W. From the table, full load current of 10A only dissipates 11W. Thus, a SVDA/3V10 mounted on a 2.0C/W heat sink can switch 10A at 60C.

Power calculation in place of the charts:

(0.9 x Irms x Vo) + (Irms² x Rt)=Power.

For example, use a SVDA/3V25 for a 21 amp application. (0.9 x 21A x 0.80V) + (21² x 0.021 Ohms) =24.4Watts need to be dissipated.

Contact one of our Sales Engineers today for assistance in determining the proper size heatsink for your application:

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