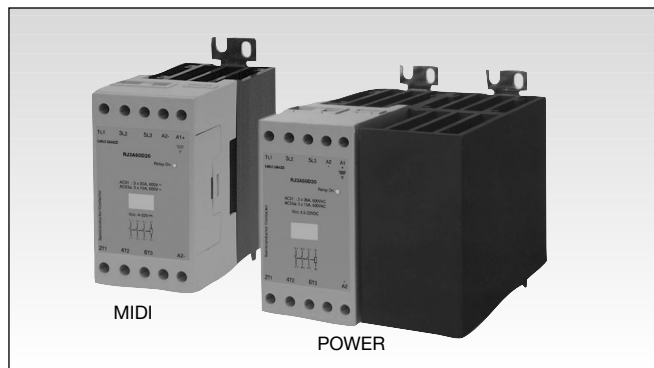


Solid State Relay

Industrial, Rear Integrated Heatsink

3-Independently Switched Poles

Types RJT3A - Trio



- 3 in 1 Semiconductor contactor
- Three control inputs - three independently switched poles
- Direct copper bonding (DCB) technology
- LED indication for each pole
- Housing free of moulding mass
- Input range: 4 – 32 VDC
- Operational ratings: up to 3x25AAC, 600VAC
- Non repetitive peak voltage: Up to 1200V_p
- Opto-isolation > 4000 VAC_{rms}

Preliminary Datasheet

Product Description

This product is designed in such a way as to replace electro-mechanical contactors, especially when switching is frequent. It has an integrated heatsink and over-voltage protection. The heatsink is moved to the back for optimal space saving in the panel and easy wire mounting at the front of the relay. The relay with antiparallel

thyristor output can be used for resistive and inductive loads. RJT3A comes with 3 independently controlled poles, with three LEDs to indicate status for each of the control inputs. Each zero switching relay switches ON when the sinusoidal curve crosses zero and switches OFF when the current crosses zero.

Ordering Key

RJT3A60D25

Solid state relay
Three-in-one (Trio)
Number of switching poles
Switching mode
Rated operational voltage
Control voltage
Rated operational current

Type selection

Switching poles	Switching mode	Rated operational voltage	Control voltage	Rated operational current
RJT3: 3 poles	A: Zero switching	23: 230 VACrms 60: 600 VACrms	D: 4 - 32 VDC	20: 3 x 20 AAC _{rms} 25: 3 x 25 AAC _{rms}

Selection Guide

Rated operational voltage	Control voltage	Rated operational current
230 VACrms	4-32VDC	3 x 20 (MIDI) RJT3A23D20
600 VACrms	4-32VDC	3 x 25 (POWER) RJT3A23D25
		RJT3A60D20
		RJT3A60D25

General Specifications

	RJT3A23...	RJT3A60...
Operational voltage range	24 - 280 VAC	40 - 660 VAC
Non-rep. peak voltage	650 V _p	1200 V _p
Operational frequency range	45 - 65 Hz	45 - 65 Hz
Power factor	≥ 0.5 @ 230 VACrms	≥ 0.5 @ 600 VACrms
Approvals	UL*, cUL*	UL*, cUL*
CE-marking	Yes	Yes
* Approvals pending		

Output Specifications

	RJT3A...20 (MIDI)	RJT3A...25 (POWER)
Rated operational current		
AC51 @Ta=25°C	3 x 20 A	3 x 25 A
AC53a @Ta=25°C	3 x 15 A	3 x 15 A
Min. operational current	150 mA	150 mA
Rep. overload current t=1s	<125 A	<125 A
Non rep. surge current		
Tj(init.)= 25°C and t=10ms	600 Apk	600 Apk
Off-state leakage current @ rated voltage & frequency	< 3 mA	< 3 mA
I²t for fusing (t = 10 ms)	1800 A²s	1800 A²s
Critical di/dt	≥ 100 A/µs	≥ 100 A/µs
On-state voltage drop @ rated current1.6 Vrms	1.6 Vrms	
Critical dv/dt commutating	500 V/µs	500 V/µs
Critical dV/dt off-state	500 V/µs	500 V/µs

Input Specifications

	RJT3A.....
Control voltage range	4 - 32 VDC
Pick-up voltage	3.8 VDC
Reverse voltage	32 VDC
Drop-out voltage	1 VDC
Maximum input current	12 mA
Response time pick-up	<1 cycle
Response time drop-out	<1 cycle

Housing Specifications

Weight	
MIDI	Approx. 380 g
POWER	Approx. 680 g
Housing material	PBT
Conductors	
Size	0.5...4.0 mm² (AWG 20...12) 2x0.5...2x2.5 mm² (AWG 2x20...2x14)
Tightening torque max.	0.6 Nm

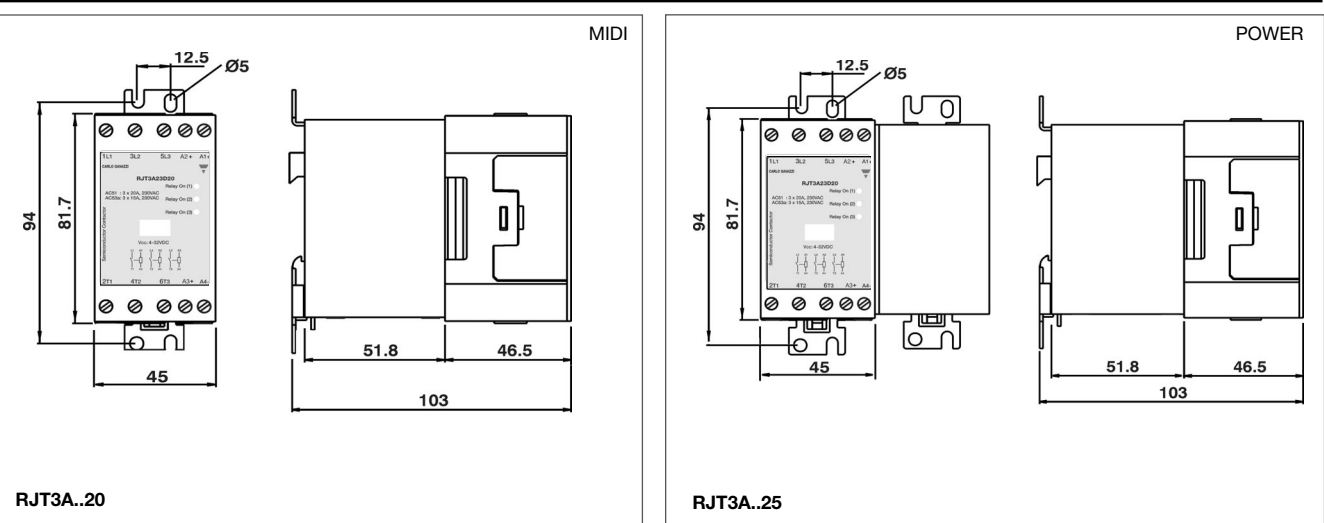
Thermal Specifications

Operating Temperature	-30 to +70°C
Storage temperature	-40 to +80°C

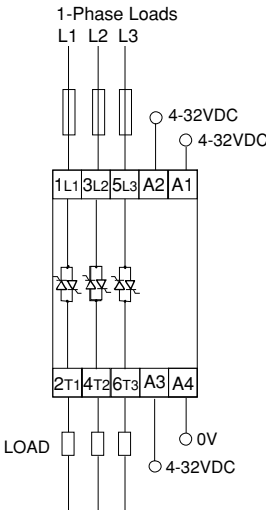
Insulation

Rated insulation voltage	
Input to output	≥ 4000 VACrms
Output to case	≥ 4000 VACrms

Dimensions



Connection Examples



1-Phase Loads

L1 L2 L3

4-32VDC

4-32VDC

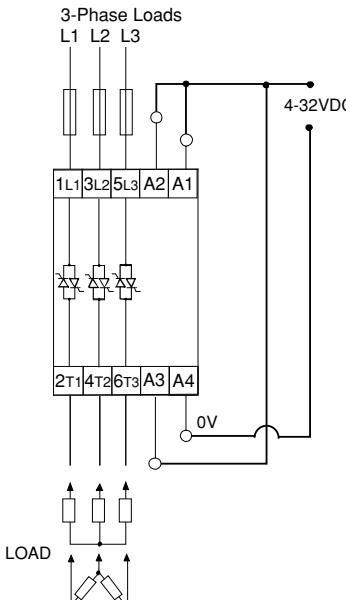
1L1 3L2 5L3 A2 A1

2T1 4T2 6T3 A3 A4

LOAD

0V

4-32VDC



3-Phase Loads

L1 L2 L3

4-32VDC

1L1 3L2 5L3 A2 A1

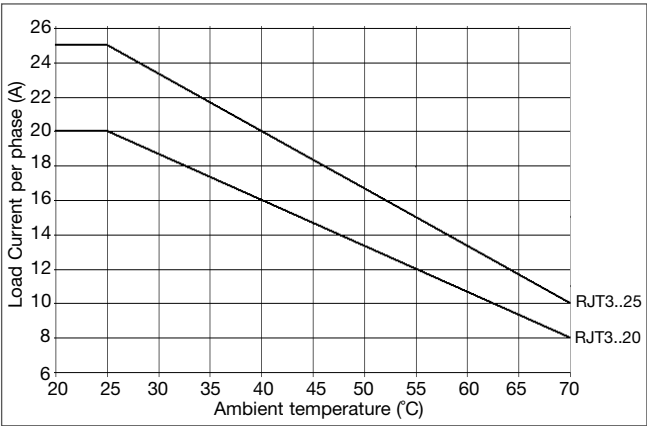
2T1 4T2 6T3 A3 A4

LOAD

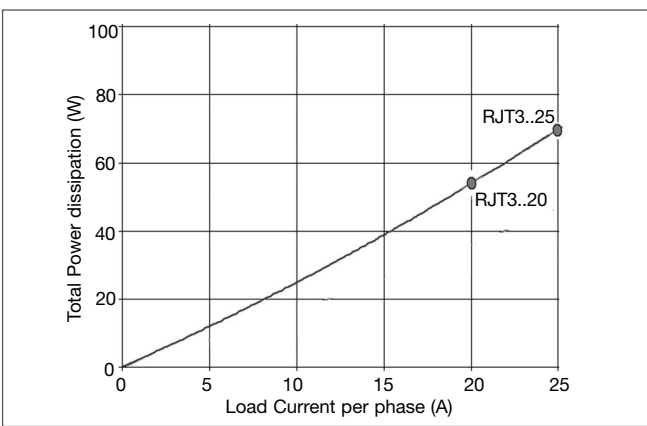
0V

- Application of DC voltage across terminals A1-A4 will activate pole L1-T1. The top green LED indicates the status of the control input across terminals A1-A4.
- Application of DC voltage across terminals A2-A4 will activate pole L2-T2. The middle green LED indicates the status of the input voltage across terminals A2-A4.
- Application of DC voltage across A3-A4 will activate pole L3-T3. The bottom green LED indicates the status of the input voltage across terminals A3-A4.
- For 3-Phase control, A1, A2 and A3 can be connected together to switch all three poles simultaneously.

Derating Curve (100% duty on 3 Poles)



Dissipation Curve (100% duty on 3 Poles)



Terminal Layout

