

VTH Series Three Phase Solid State Relays



Features

- Three-pole, single-throw, one normally open, suitable for three-phase loads
- Rated off-state voltage: 480Vrms; 530Vrms
- The switch type is zero-crossing conduction type and random conduction type
- Input control voltage: 3-32Vdc, AC 90-280Vac
- Good thermal performance and long life
- Rated on-state current: 3x25-150A
- Input/output insulation voltage: 2500Vrms
- LED input display

Ordering Options

VTH

VTH Series

Three Phase
Solid State Relay

40

Load Current

25: 25Amps
40: 40Amps
60: 60Amps
80: 80Amps
100: 100Amps
120: 120Amps
150: 150Amps

D

Control Voltage

D: 3-32VDC
A: 90-280VAC

A48

Output Voltage

A48: 48-480VAC
A53: 53-530VAC

Z

Switching Type

Z: Zero Cross Turn-on
R: Random Turn-on

Product Selection

Control Voltage	Output Voltage	Rated Operational Current						
		25Amps	40Amps	60Amps	80Amps	100Amps	120Amps	150Amps
3 to 32VDC	480VAC "Z"	VTH25DA48Z	VTH40DA48Z	VTH60DA48Z	VTH80DA48Z	VTH100DA48Z	VTH120DA48Z	VTH150DA48Z
3 to 32VDC	480VAC "R"	VTH25DA48R	VTH40DA48R	VTH60DA48R	VTH80DA48R	VTH100DA48R	VTH120DA48R	VTH150DA48R
90 to 280VAC	480VAC "Z"	VTH25AA48Z	VTH40AA48Z	VTH60AA48Z	VTH80AA48Z	VTH100AA48Z	VTH120AA48Z	VTH150AA48Z
90 to 280VAC	480VAC "R"	VTH25AA48R	VTH40AA48R	VTH60AA48R	VTH80AA48R	VTH100AA48R	VTH120AA48R	VTH150AA48R
3 to 32VDC	530VAC "Z"	VTH25DA53Z	VTH40DA53Z	VTH60DA53Z	VTH80DA53Z	VTH100DA53Z	VTH120DA53Z	VTH150DA53Z
3 to 32VDC	530VAC "R"	VTH25DA53R	VTH40DA53R	VTH60DA53R	VTH80DA53R	VTH100DA53R	VTH120DA53R	VTH150DA53R
90 to 280VAC	530VAC "Z"	VTH25AA53Z	VTH40AA53Z	VTH60AA53Z	VTH80AA53Z	VTH100AA53Z	VTH120AA53Z	VTH150AA53Z
90 to 280VAC	530VAC "R"	VTH25AA53R	VTH40AA53R	VTH60AA53R	VTH80AA53R	VTH100AA53R	VTH120AA53R	VTH150AA53R

Input Specifications

Parameter-list	Specification Limits	
Input Parameter	D	A
Control Voltage Range	3 to 32VDC	90 to 280VAC
Input Current [Max.]	33/56mA @ =5V/12V	13mA @ =220V
Must Turn-on Voltage	3VDC	90VAC
Must Turn-off Voltage	1VDC	10VAC
Reverse Voltage [Max.]	-6VDC	/

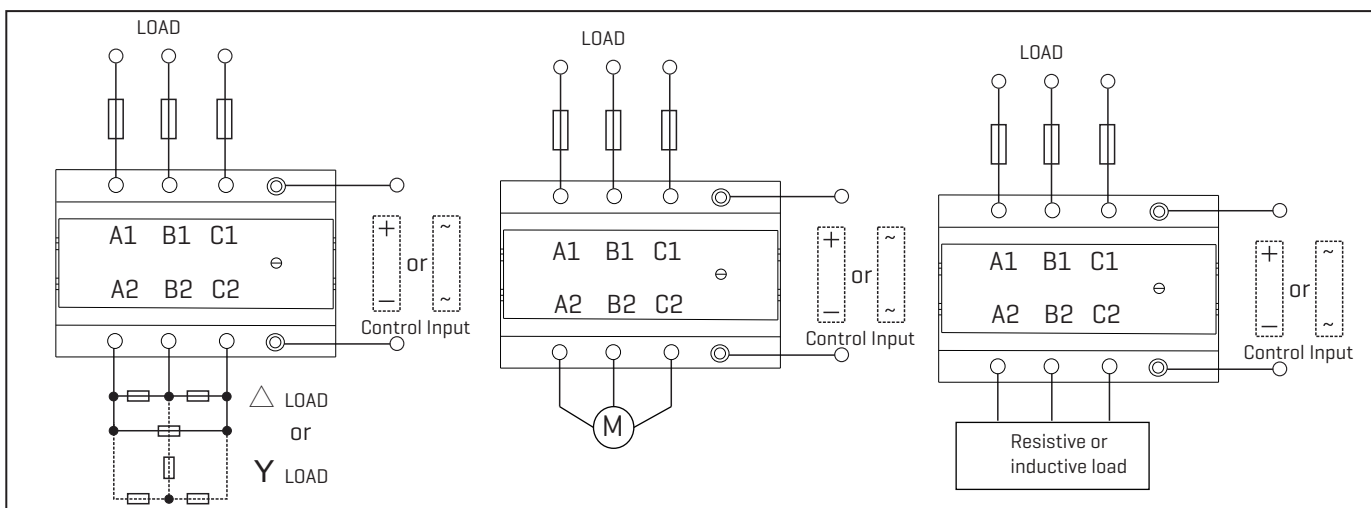
Output Specifications

Output Parameter	Units	Specification Limits						
Model No.: VTH	Amps	25	40	60	80	100	120	150
Load Current Range	Arms	3x25	3x 40	3x60	3x80	3x100	3x120	3x150
Surge Current 20mSec [Max.]	Arms	300	400	600	800	1000	1200	1500
Load Voltage Range [480V]	Vrms	48 to 480						
Transient Overvoltage [480V]	Vpk	≥1200						
Load Voltage Range [530V]	Vrms	52 to 530						
Transient Overvoltage [530V]	Vpk	≥1400						
Frequency Range	Hz	47 to 63						
Off State dv/dt [Min.]	V/μsec	500						
Off State Leakage Current [Max.]	mArms	≤8						
On State Voltage Drop [Max.]	Vrms	1.8						
Thermal Resistance, [Rthjc]	°C/W	0.75	0.55	0.46	0.38	0.34	0.23	0.23
Turn on Time [Max.] "Z"	Cycle	1/2						
Turn off Time [Max.] "D"	Cycle	1/2						
Turn on Time [Max.] "R"	mSec	1						
Turn off Time [Max.] "A"	mSec	10						

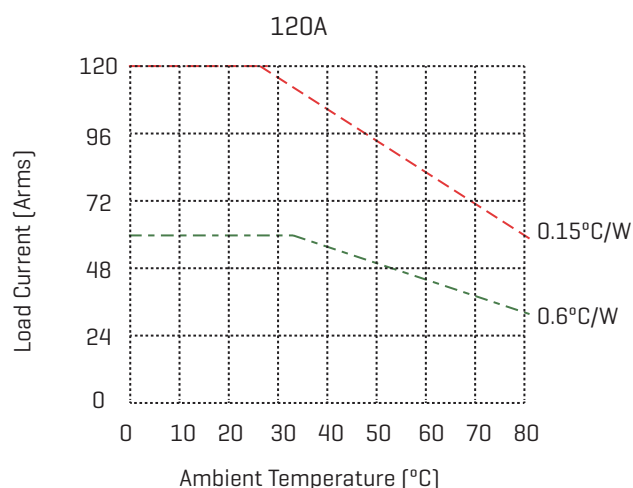
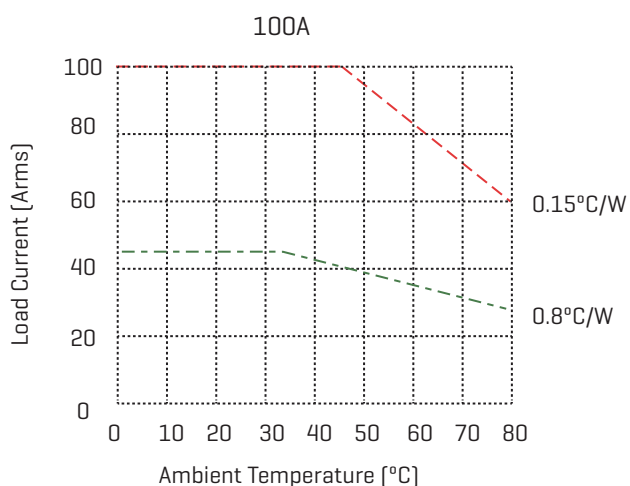
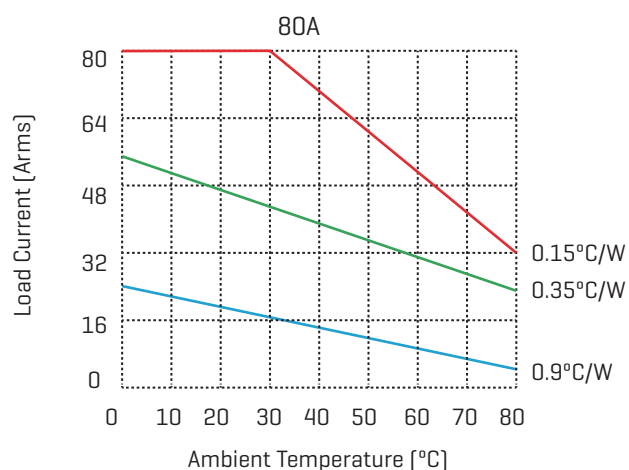
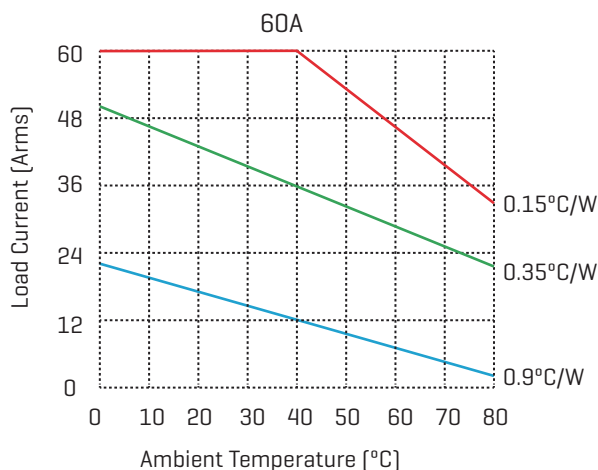
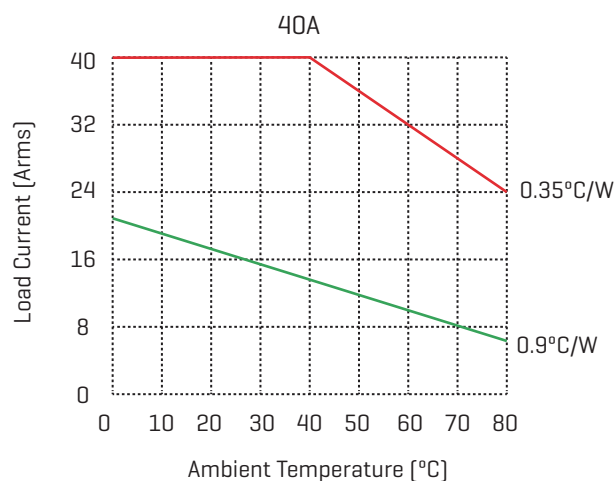
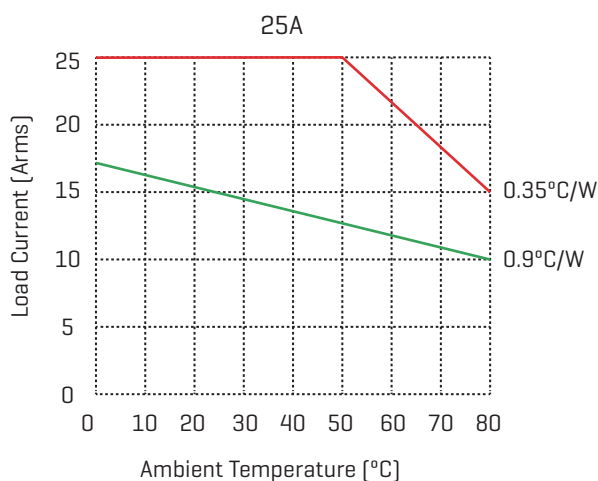
General Specifications [Ta=25°C]

Description	25A	40A	60A	80A	100A	120A	150A
Dielectric Strength, Input to Output [50/60 Hz]	2500Vrms						
Dielectric Strength, Input/Output to Base [50/60 Hz]	2500Vrms						
Minimum Insulation Resistance [@ 500 VDC]	10 ⁹ Ω						
Maximum Capacitance, Input/Output	0.8pF						
Ambient Operating Temperature Range	-30 to 80°C						
Ambient Storage Temperature Range	-30 to 100°C						
Humidity per IEC60068-2-78	95%						
LED Input Status Indicator	Red						
Baseplate Material	Pure copper						
Weight	500g						

Connection Diagram



Thermal Derating Curve



Important Notice

1. If the connection of the load will produce high surge current, please pay attention to the solid state relay is able to withstand surge current value.
2. If the connection of the load will produce high peak reverse voltage, please pay attention to the solid state relay is able to withstand the peak voltage.
3. When choosing SSR, please pay special attention to the working current of the load and working temperature, when the environment temperature is higher, the user should take load discount into account according to the thermal curve

Dimensions

