



53TP SERIES | IP00

PANEL MOUNT



Features

- Three-phase solid-state relay; Ratings 25 A, 50 A per phase @ 48-530 VAC
- 2 package styles IP00 or IP20 (See IP20 spec sheet for more information)
- SCR output for heavy industrial loads
- Transient protection built in
- AC or DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output
- LED input status indicator
- UL Recognized, CE Compliant to EN60950-1



PRODUCT SELECTION

| Control Voltage | 25 A | 50 A |
|-----------------|-----------|----------|
| 90-280 VAC | A53TP25D | A53TP50D |
| 4-32 VDC | D 53TP25D | D53TP50D |



SPECIFICATIONS

AC Output ⁽¹⁾

| Description | 25 A | 50 A |
|------------------------------------------------------------------------------|---------|-----------|
| Operating Voltage (47-63Hz) [Vrms] | 48-530 | 48-530 |
| Transient Overvoltage [Vpk] ² | 1200 | 1200 |
| Maximum Off-State Leakage Current @ Rated Voltage [mA _{rs}] | 10 | 10 |
| Minimum Off-State dv/dt @ Maximum Rated Voltage [V/sec] ³ | 500 | 500 |
| Maximum Load Current [Arms] ⁴ | 25 | 50 |
| Minimum Load Current [Arms] | 0.05 | 0.05 |
| Maximum Surge Current 50-60 Hz (16.6ms) [A _{pk}] | 239/250 | 597/625 |
| Maximum On-State Voltage Drop @ Rated Current [Vpk] | 1.6 | 1.6 |
| Thermal Resistance Junction to Case (R _{jc}) [°C/W] | 1.02 | 0.63 |
| Maximum I ² t for Fusing 50-60 Hz (8.3 msec) [A ² sec] | 285/260 | 1779/1620 |
| Minimum Power Factor (with Maximum Load) | 0.5 | 0.5 |

Input ⁽¹⁾

| Description | D53 | A53 |
|-------------------------------------------------|-----------------|-----------------|
| Control Voltage Range | 4-32 VDC | 90-280 Vrms |
| Minimum Turn-On Voltage | 4.0 VDC | 90 Vrms |
| Minimum Turn-Off Voltage | 1.0 VDC | 10 Vrms |
| Minimum Input Current (for on-state) | 19 mA @ 4V | 2.2 mA @ 120V |
| Maximum Input Current | 25 mA @ 32V | 10mA @ 240V |
| Nominal Input Impedance | Current Limiter | Current Limiter |
| Maximum Turn-On Time [msec] ⁵ | 1/2 Cycle | 50 |
| Maximum Turn-Off Time [msec] | 1/2 Cycle | 50 |

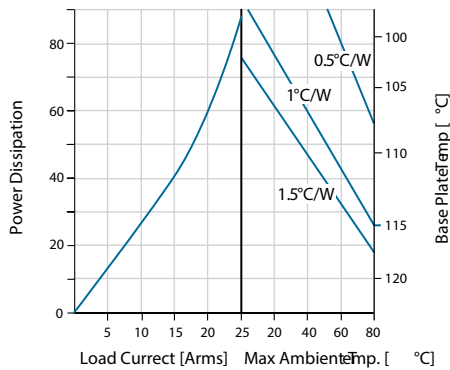
General ⁽¹⁾

| Description | Parameters |
|---------------------------------------------------------|----------------------------|
| Dielectric Strength, Input/Output/Base (50/60Hz) | 4000 Vrms |
| Minimum Insulation Resistance (@ 500 V DC) | 10 ⁹ Ohms |
| Maximum Capacitance, Input/Output | 8 pF |
| Ambient Operating Temperature Range | -40°C to 80°C |
| Ambient Storage Temperature Range | -40°C to 125°C |
| Weight (typical) | 10.3 oz (315g) |
| Encapsulation | Thermally conductive Epoxy |
| Terminals | Nickel plated Brass |
| Screws and Saddle clamps | Zinc plated Steel |
| Input Terminal Screw Torque Range:[in lbs/Nm] | 8-10 / 0.9-1.1 |
| Output Terminal Screw Torque Range:[in lbs/Nm] | 15-20 / 1.7-2.2 |

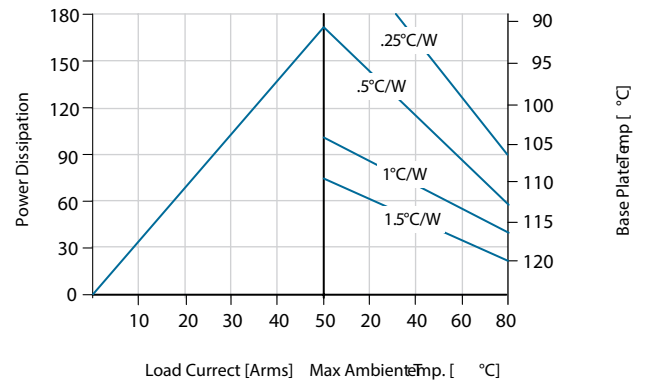


THERMAL DERATE INFORMATION

A53TP25D, D53TP25D

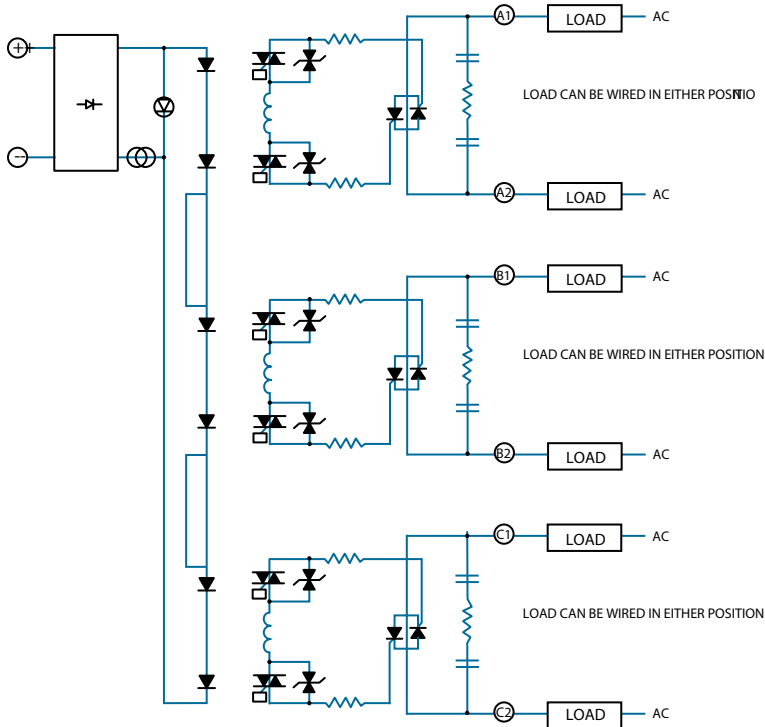


D53TP50D, D53TP50D





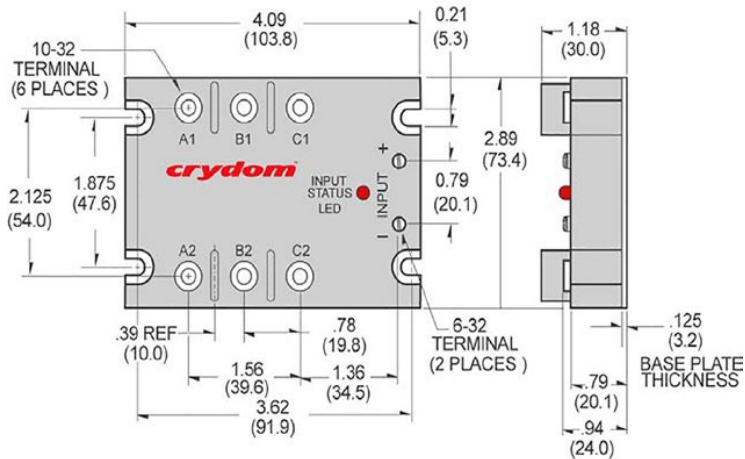
WIRING DIAGRAM



MECHANICAL SPECIFICATIONS

Tolerances: ± 0.02 in / 0.5 mm

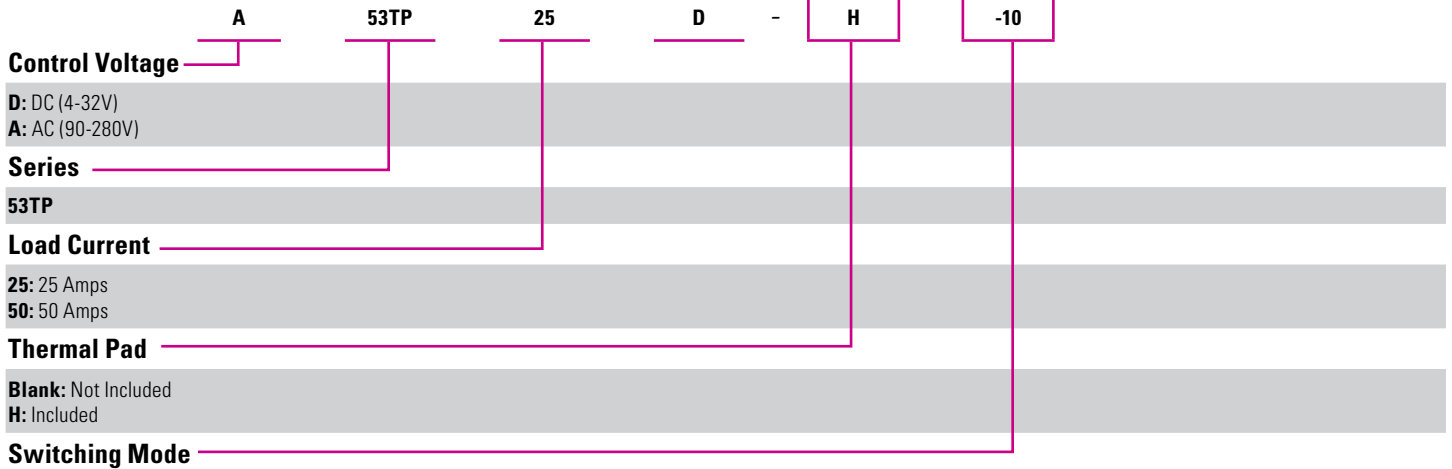
All dimensions are in: inches [millimeters]





ORDERING OPTIONS

Example : A53TP25D-H-10



— Required for valid part number
 □ For options only and not required for valid part



GENERAL NOTES

- (1) All parameters at 25°C unless otherwise specified.
- (2) Relay will self trigger between 900-1200 Vpk.
- (3) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- (4) Heat sinking required, see page 4 for derating curves.
- (5) Turn-on time for Random turn-on versions is 0.02 msec (DC Control Models)



AGENCY APPROVALS & CERTIFICATIONS

Input:
EN61000-4-2, Level 3 ESD
EN61000-4-4, Level 3 Burst

Output:
EN61000-4-2, Level 4 ESD
EN61000-4-4, Level 4 Burst EN61000-4-5, Level 4 Surge
EN60950: Meets the requirements of sections 1.5: 1,7 : 2.9: 2.10.5.3: 4.2: 4.5: 4.7:



WARNINGS



RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow the product to cool before touching
- Follow proper mounting instructions including torque values
- Do not allow liquids or foreign objects to enter this product

Failure to follow these instructions can result in serious injury, or equipment damage.



HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Disconnect all power before installing or working with this equipment
- Verify all connections and replace all covers before turning on power

Failure to follow these instructions will result in death or serious injury.

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