# Solid State Relays - Panel Mount: 53TP

**Features**

SCR output • 25-50Amp • 48-530 Vrms • 3 Phase • Status indicator LED • AC/DC control • Ideal for 3-phase loads in a Delta or Wye configuration where only one control signal is required.

| | INPUT SPECIFICATIONS | OUTPUT SPECIFICATIONS | | | |
|---|---|---|---|---|---|
| **Product** | **Control Voltage Range** | **Load Current** | **Switching Voltage Type** | **Turn On** | **Load Voltage Range** |
| **D53DP25D** | 3-32 Volts DC | 0.05-25 Amps RMS | AC | Zero cross | 48-530 Volts RMS |
| **D53DP25D-10** | 3-32 Volts DC | 0.05-25 Amps RMS | AC | Random | 48-530 Volts RMS |
| **D53DP50D** | 3-32 Volts DC | 0.05-50 Amps RMS | AC | Zero cross | 48-530 Volts RMS |
| **D53DP50D-10** | 3-32 Volts DC | 0.05-50 Amps RMS | AC | Random | 48-530 Volts RMS |
| **D53TP25D** | 3-32 Volts DC | 0.05-25 Amps RMS | AC | Zero cross | 48-530 Volts RMS |
| **D53TP25D-10** | 3-32 Volts DC | 0.05-25 Amps RMS | AC | Random | 48-530 Volts RMS |
| **D53TP50D** | 3-32 Volts DC | 0.05-50 Amps RMS | AC | Zero cross | 48-530 Volts RMS |

| | | | | | |
|---|---|---|---|---|---|
| **D53TP50D-10** | 3-32 Volts DC | 0.05-50 Amps RMS | AC | Random | 48-530 Volts RMS |
| **A53DP25D** | 90-280 Volts RMS | 0.05-25 Amps RMS | AC | Zero cross | 48-530 Volts RMS |
| **A53DP25D-10** | 90-280 Volts RMS | 0.05-25 Amps RMS | AC | Random | 48-530 Volts RMS |
| **A53DP50D** | 90-280 Volts RMS | 0.05-50 Amps RMS | AC | Zero cross | 48-530 Volts RMS |
| **A53DP50D-10** | 90-280 Volts RMS | 0.05-50 Amps RMS | AC | Random | 48-530 Volts RMS |
| **A53TP25D** | 90-280 Volts RMS | 0.05-25 Amps RMS | AC | Zero cross | 48-530 Volts RMS |
| **A53TP25D-10** | 90-280 Volts RMS | 0.05-25 Amps RMS | AC | Random | 48-530 Volts RMS |
| **A53TP50D** | 90-280 Volts RMS | 0.05-50 Amps RMS | AC | Zero cross | 48-530 Volts RMS |
| **A53TP50D-10** | 90-280 Volts RMS | 0.05-50 Amps RMS | AC | Random | 48-530 Volts RMS |

crydom™

# Series 53TP

***25-50Amp • 240/480 Vac - 3 PHASE***

- **SCR Output**
- **LED Status Indicator**
- **Protective Cover Available (Part No. KS300)**
- **Panel Mount**
- **Integrated Overvoltage Protection by Automatic Self Turn-On (Suffix P)**

Three-phase solid state relays switch up to 530 Vrms directly to loads such as motors, transformers, heating elements, etc. Available with either AC or DC input (coil) control in zero-voltage or random turn-on switching versions.

Manufactured in Crydom's ISO 9001 Certified facility for optimum product performance and reliability.

| MODEL NUMBERS<br>**OUTPUT SPECIFICATIONS** ① | **D53TP25D** | **D53TP50D** | **A53TP25D** | **A53TP50D** |
|---|---|---|---|---|
| Operating Voltage (47-63 Hz) [Vrms] | 48-530 | 48-530 | 48-530 | 48-530 |
| Load Current Range ③ [Arms] | .05-25 | .05-50 | .05-25 | .05-50 |
| Transient Overvoltage [Vpk] | 1200 | 1200 | 1200 | 1200 |
| Max. Surge Current, (16.6ms) [Apk] | 250 | 625 | 250 | 625 |
| Max. On-State Voltage Drop @ Rated Current [Vpk] | 1.6 | 1.6 | 1.6 | 1.6 |
| Thermal Resistance Junction to Case ($R_{\theta JC}$) [°C/W] | 1.02 | .63 | 1.02 | .63 |
| Maximum $I^2t$ for Fusing, (8.3 msec.) [$A^2$ sec] | 260 | 1620 | 260 | 1620 |
| Max. Off-State Leakage Current @ Rated Voltage [mArms] | 10 | 10 | 10 | 10 |
| Min. Off-State dv/dt @ Max. Rated Voltage [V/µsec] ② | 500 | 500 | 500 | 500 |
| Max. Turn-On Time ④ | 1/2 Cycle | 1/2 Cycle | 10.0 msec | 10.0 msec |
| Max. Turn-Off Time | 1/2 Cycle | 1/2 Cycle | 40.0 msec | 40.0 msec |
| Power Factor (Min.) with Max. Load | 0.5 | 0.5 | 0.5 | 0.5 |

| **INPUT SPECIFICATIONS** ① | **DC CONTROL** | **AC CONTROL** |
|---|---|---|
| Control Voltage Range | 3-32 Vdc | 90-280 Vrms (60Hz) |
| Max. Turn-On Voltage | 3.0 Vdc | 90 Vrms |
| Min. Turn-Off Voltage | 1.0 Vdc | 10 Vrms |
| Nominal Input Impedance | 450 Ohms | 54.8k Ohms |
| Typical Input Current | 10mA @ 5 Vdc | 2.2mA @ 120 Vrms, 4.4mA @ 240 Vrms |



## GENERAL NOTES

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

ISO 9001 CERTIFIED

## GENERAL SPECIFICATIONS

| | |
|---|---|
| Dielectric Strength 50/60Hz Input/Output/Base | 4000 Vrms |
| Insulation Resistance (Min.) @ 500 Vdc | $10^9$ Ohm |
| Max. Capacitance Input/Output | 8 pF |
| Ambient Operating Temperature Range | -40 to 80°C |
| Ambient Storage Temperature Range | -40 to 125°C |

## MECHANICAL SPECIFICATIONS

| | |
|---|---|
| Weight: (typical) | 10.3 oz. (315g) |
| Encapsulation: | Thermally Conductive Epoxy |
| Terminals: | Screws and Saddle Clamps Furnished |

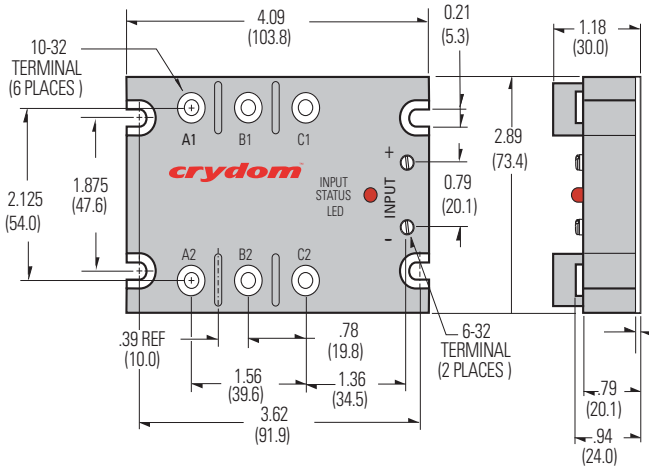
## AVAILABLE OPTIONS

**-10** Non-Zero Cross, Instantaneous Turn-On
Example: **D53TP50D-10**

**DP** 2 Controlled, 1 Linked (A1-A2)
Example: **D53DP50D**

**P** Internal Overvoltage Protection. Relay Will Self Trigger Between 900-1200 Vpk. Not Suitable For Capacitive Loads.
Example: **D53TP50DP**

**H** Heat Trasfer Pad (Attached)
Example: **D53TP50DH**

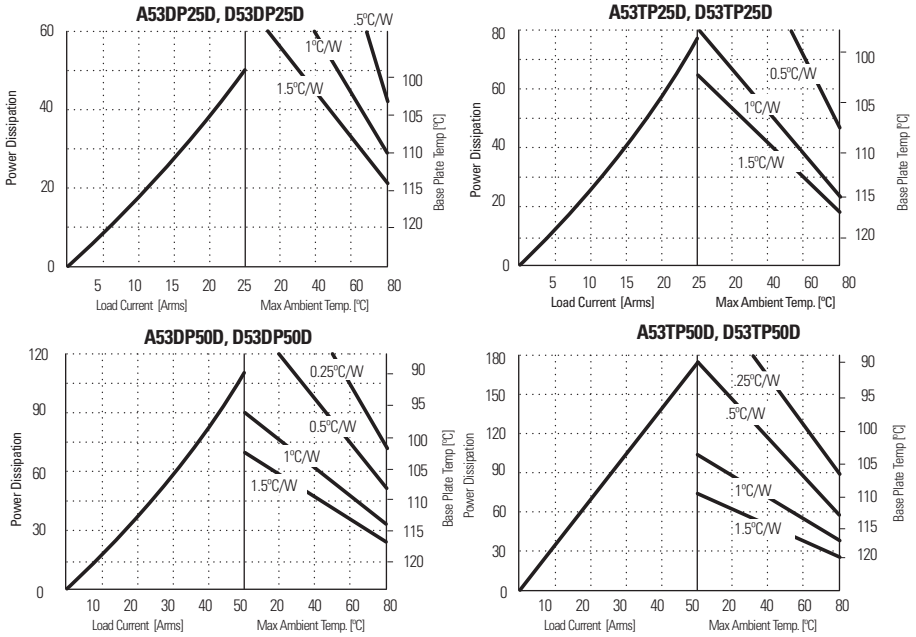



All dimensions are in inches (millimeters)

**Crydom Heat Sinks** offer excellent thermal management and are perfectly matched to the load current ratings of Crydom panel mount relays. Request Crydom's Heat Sink specification sheet for all the details.

**Screw Torque Requirements:**
6-32 Screws - 10 in. lbs. (1.1Nm),
8-32 and 10-32 Screws - 20in. lbs. (2.2Nm)
(Screws dry without grease.)

## CURRENT DERATING CURVES




## APPROVALS

| | |
|---|---|
| UL | E116950 |
| CSA | LR81689 |
| VDE | 5941 UG |

CE



ISO 9001 CERTIFIED