

crydom

Data Sheet **Panel Mount**

53TP Series IP20

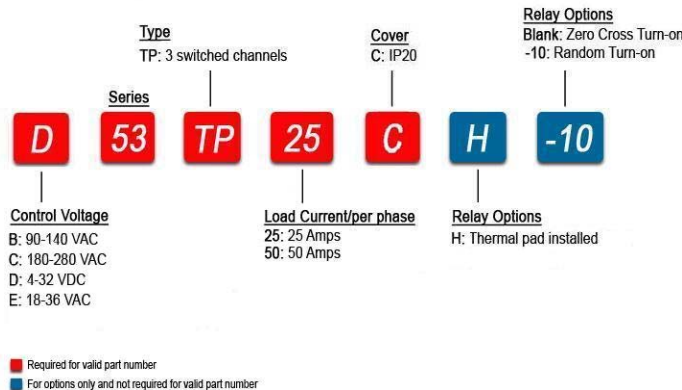


- Three-phase solid-state relay; Ratings 25A , 50A per phase @ 48-530 VAC
- 2 package styles IP20 or IP00 (See IP00 spec sheet for more information)
- SCR output for heavy industrial loads
- AC or DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output
- LED input status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

PRODUCT SELECTION

Control Voltage	25A	50A
90-140 VAC	B53TP25C	B53TP50C
180-280 VAC	C53TP25C	C53TP50C
4-32 VDC	D53TP25C	D53TP50C
18-36 VAC	E53TP25C	E53TP50C

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	25 A	50 A
Operating Voltage (47-63Hz) [Vrms]	48-530	48-530
Transient Overvoltage [Vpk]	1200	1200
Maximum Off-State Leakage Current @ Rated Voltage [mA rms]	3	3
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/usec] (2)	500	500
Maximum Load Current per phase [Arms] (3)	25	50
Minimum Load Current per phase [Arms]	0.1	0.1
Maximum Surge Current 50-60 Hz (16.6ms) [A pk]	275-300	710-750
Maximum 1 Second Surge Current 50/60 Hz [A pk]	85	150
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.35	1.35
Thermal Resistance Junction to Case (Rjc) [°C/W]	0.24	0.12
Maximum I ² t for Fusing 50-60 Hz (8.3 msec) [A ² sec]	380-370	2520-2320
Minimum Power Factor (with Maximum Load)	0.5	0.5
UL/IEC 60947 Motor Control Ratings at 120V [HP/KW] (4)	0.75/0.56	1.5/1.11
UL/IEC 60947 Motor Control Ratings at 240V [HP/KW] (4)	1/0.74	3/2.22
UL/IEC 60947 Motor Control Ratings at 380V [HP/KW] (4)	2/1.48	5/3.7
UL/IEC 60947 Motor Control Ratings at 480V [HP/KW] (4)	3/2.22	7.5/5.55

INPUT SPECIFICATIONS (1)

Description	D53	B53	C53	E53
Control Voltage Range	4-32 VDC	90-140 VAC	180-280 VAC (6)	18-36 VAC
Minimum Turn-On Voltage	4.0 VDC	90	180	18
Minimum Turn-Off Voltage	1.0 VDC	10	10	2
Minimum Input Current (for on-state)	24 mA	7.0 mA	7.0 mA	15 mA
Maximum Input Current	35 mA	16 mA	20 mA	20 mA
Nominal Input Impedance	Current Regulated	Current Regulated	Current Regulated	Current Regulated
Maximum Turn-On Time [msec] (5)	8.33	20	20	20
Maximum Turn-Off Time [msec]	8.33	30	30	30

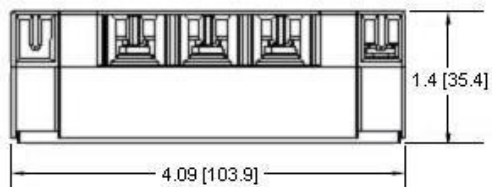
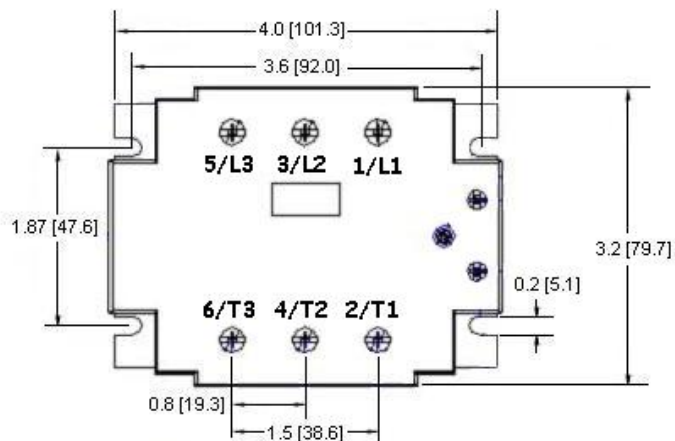
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80°C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	12.7 oz (360g)
Encapsulation	NA
Terminals	Hardware Furnished, mounted
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

GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Heat sinking required, see page 3 for derating curves.
- 4) At 40°C Ambient temperature.
- 5) Turn-on time for Random turn-on versions is 0.02 msec (DC Control Models)
- 6) For Operating temperatures above +60°C maximum control voltage is 260 VAC.

MECHANICAL SPECIFICATIONS

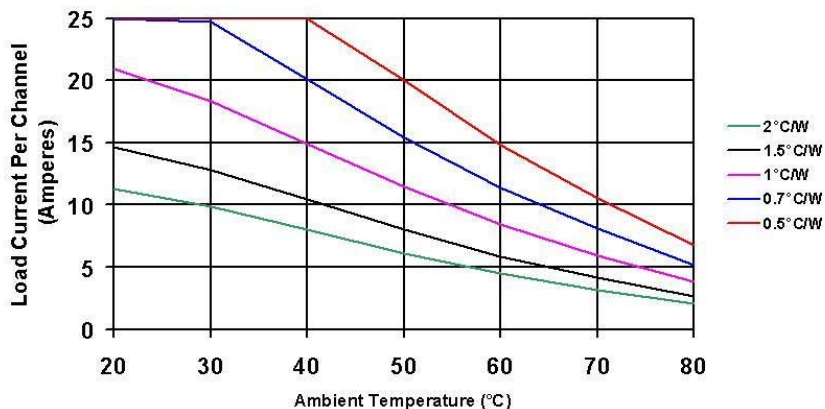




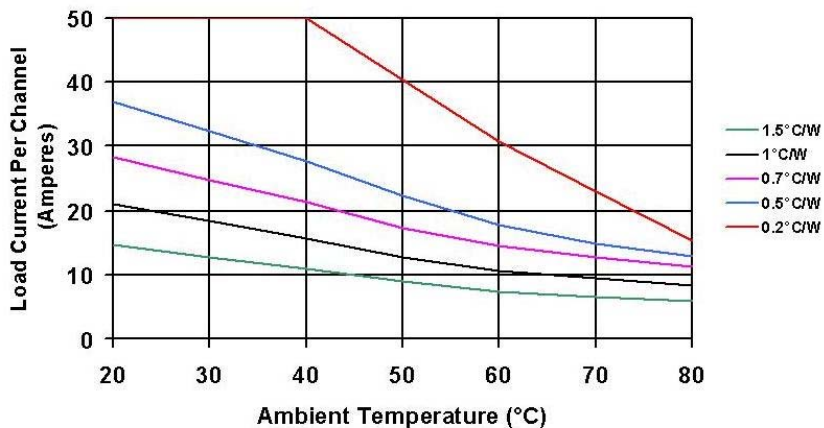
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THERMAL DERATE INFORMATION

DERATE CURVES:
53TP IP20 25A



DERATE CURVES:
53TP IP20 50A



AGENCY APPROVALS



Rev. 060711