



●/B/■ 53

HEAVY DUTY RELAY

FEATURES

- High Performance
- Heavy duty up to 70Amps
- 6.3mm Pin terminals
- Suitable Couplers available
- Dual Contacts

APPLICATION

- A/C Blower
- A/C Compressor
- Engine Cooling Fan
- Radiator Fan
- Starter Motors
- Rear Window Defogger
- Battery Disconnection

TECHNICAL DATA FOR CONTACT SIDE :

Model	:	53SO	53DO	53TO
		RESISTIVE / INDUCTIVE / CAPACITIVE LOADS		
Contact Configuration	:	1A	1A (Dual)	1A (Dual)
Contact Material	:	Silver Nickel	Silver Nickel	Silver Nickel / Tungsten*
Contact Rating at 25°C - 12VDC (Peak)	:	40A	50A	70A
24VDC (Peak)	:	20A	25A	35A
Electrical Life Operations/Min	:	1 x 10 ⁶	1 x 10 ⁶	1 x 10 ⁶
Mechanical Life Operations/Min	:	1 x 10 ⁶	1 x 10 ⁶	1 x 10 ⁶
Contact Voltage Drop at 10 A/Min	:	30mV	30mV	30mV
Maximum Switching Current @ 12.8 VDC For 3 Sec	:	120A	150A	240A

*Dual Contact with Tungsten pre-contact (Silvernickel) main contact

GENERAL DATA FOR COIL SIDE

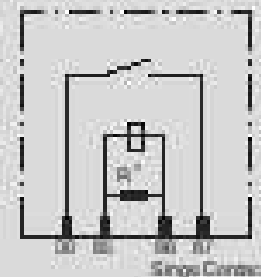
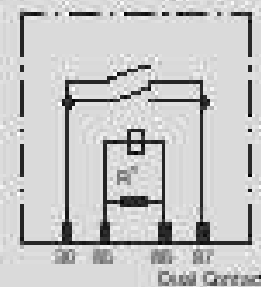
Nominal Coil Power	:	1.60W (Approx)
Operating Power	:	1.1W (Approx)
Operate Time**	:	15 mill Seconds
Release Time**	:	15 mill Seconds

** At nominal voltage without coil suppression (excluding bounce)

OPERATING CONDITIONS

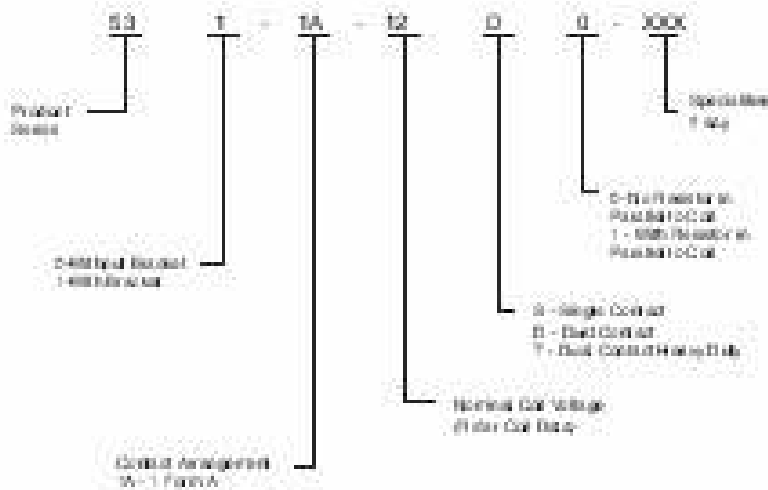
Ambient Temperature	:	-25°C to +85°C
Maximum Temperature	:	125°C
Dielectric Strength	:	500V/1MM
Insulation Resistance	:	100 Meg. Ohms Min. @ 500 VDC, 25°C RH50
Vibration Resistance (without Change in the switching state > 10µs)	:	10-50Hz 4.9g (rms)
Shock Resistance (without Change in the switching state > 10µs)	:	30g, 8ms

CIRCUIT DIAGRAM



* Parallel resistor or Diode Optional

HOW TO ORDER



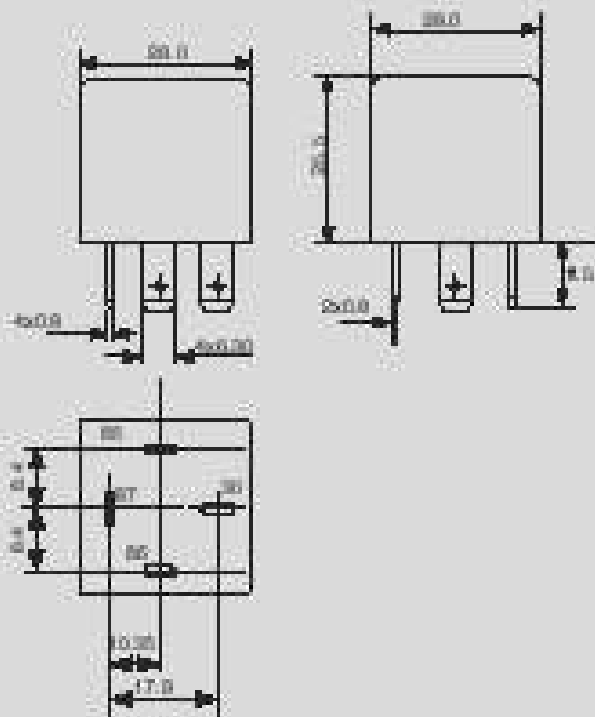
COIL DATA

Nominal Voltage VDC	Pick-up Voltage VDC (Nominal 0)	Pick-up Voltage VDC (Nominal 1)	Coil Resistance without parallel capacitor Ohms ±10%
05	4.0	5.2	30
09	6.0	7.2	50
12	8.0	9.6	70
18	13.5	14.4	100
24	18.0	19.2	200
40	30.0	33.4	1100

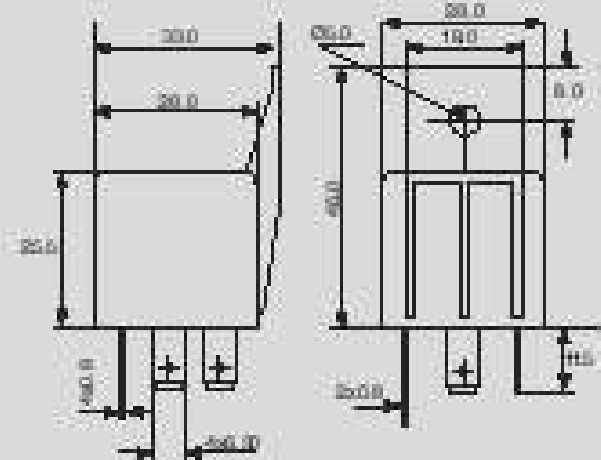
***Low pick-up voltages available on request.

DIMENSIONS

Relay without Bracket



Relay with Bracket



MECHANICAL DATA

COVER RETENTION

Pull : 20KgF

Push : 20KgF

TERMINAL STRENGTH

Pull : 10KgF

Push : 10KgF

AVAILABLE ON REQUEST

- High temperature windings
- Special coil resistances & pick-up
- For other custom solutions contact factory



525 / 2A, Om Namah Shivay Apartment, 1st Floor, Office No. 9, Near Modi Ganpati Temple, Narayan Peth, Pune - 411 030.
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DATA ON VARIOUS TESTS CONDUCTED FOR OPERATING CONDITIONS*

TEST	TEST CONDITION	RESULT
Continuous Energisation test at Extreme temperature Conditions	Relay kept at 100 °C Coil Voltage : 14 VDC Load given : 25A @ 12 VDC Duration : 5 Sec. ON, 5 Sec. OFF No. of operation : 50000 The above test repeated at - 30 °C for 50000 operations	Relays successfully completed 100 000 operations at given load.
Thermal cycling	Relay subjected to :- -30 °C to + 100 °C in 2 Hrs. with coil ON +100 °C for 2 Hrs. with coil ON +100 °C to - 30 °C in 2 Hrs. with 1 Hrs. Coil ON & 1 Hrs. Coil OFF -30 °C for two Hrs. with Coil ON No. of Cycles : 5	All operating parameters within the specifications after test.
Shock Voltage	Relay is subjected to :- Max. Voltage : 100VDC Shock Wave : Exponential Damping vibration Time : 500 micro Sec. Period : 30 Sec. Test Time : 10 Hrs.	After the test, all operating parameters of the relay are within specification.
Dropping Impact	Relays dropped from a height of 1 Meter to a concrete floor	No change in operating parameters of the relay.
Jump Start	24 VDC for 1 minute conducting nominal current at 25 °C	Withstood successfully
Corrosion Resistance	5 % Sodium Chloride solution applied to relay for 48 Hrs.	No damage to relay parts.
Water Resistance test	Horizontal Plane: 2300 cc / Min Water Pressure: 03 Mpa Test time: 10 Min	No water / Ingression inside the relay

*Typical values for relays with 12 VDC coil. For higher severities please consult factory

All Parameters except the load given are same for 53 & 53PT Relays.



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