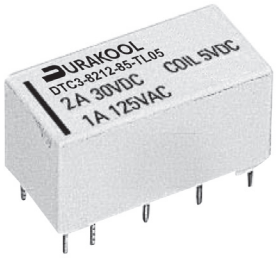
DTC3 Series
Sub Miniature PCB Signal Relay



- Sub miniature - only 20.2 x 10.2 x 10.6mm
- High switching capacity 60W, 125VA
- DIL Pitch PCB mounting
- High sensitivity polarised & latching coils
- Bifurcated (crossbar) contacts

RoHS Compliant ✓

Single side stable

Contacts

Contact arrangement		DPDT (2 Changeover); 2 Form C
Contact material		Ag + Au plated (2um)
Max. switching voltage	AC/DC	250VAC, 220VDC
Min. switching current / voltage		1mA/1VDC
Rated load (resistive - cos φ=1)	AC1	0.5A / 120VAC
	DC1	2A, 30VDC
Max. switching power		125VA / 60W
Initial resistance		≤ 50mΩ, max. at 0.1A/6VDC

Coil

Rated voltage	DC	3...48V
Must release voltage		≥0.05U_n
Operating range		See table 1
Rated power consumption	DC	See table 1

Insulation

Insulation resistance		≥1000MΩ at 500VDC, 50%RH
Dielectric strength	coil to contact	1000Vrms, 1min
	contact to contact	1000Vrms, 1min

General Data

Operating time	typ.	≤ 4.5ms
Release time	typ.	≤ 1.5ms
Electrical life (resistive)	ops.	1 x 10^5 (2A/30VDC), 5 x 10^5 (1A/24VDC)
Mechanical life	ops.	1 x 10^8

Environmental

Ambient temperature	operating	-40 to 90°C (80°C for 48VDC coil)
	storage	-40 to 90°C
Shock resistance	functional	98m/s² 11ms (10g)
	destructive	980m/s² 6ms (100g)
Vibration resistance	functional	10-55Hz DA, 1.5mm
	destructive	10-55Hz DA, 5mm
Dimensions	L x W x H	20.2 x 10.2 x 10.6mm
Weight	approx.	≤ 4.8g

Ordering Code - single side stable type

D T C 3 - 8 2 1 2 - 8 5 - S 0 0 5

Series

Coil code:
See table1

Contact material
82: Ag + Au plate (2um)

Contact arrangement
12: DPDT (2 C/O)

Environmental protection
8: In cover, sealed IP64

Mounting & terminations
5: For PCB

NB: Single side stable relays have a black case (as photo)

Single & double coil latching

Contacts

Contact arrangement		DPDT; 2 Form C (bifurcated crossbar)
Contact material		AgPd/AgPd+Au (2um), AgNi+ Au plated (2um),
Rated load (resistive - cos φ=1)	AC1	1A, 125VAC
	DC1	2A, 30VDC
Max. switching voltage	AC/DC	250VAC / 220VDC
Max. switching current		3A
Max. switching power		125VA / 90W
Min. switching current / voltage		10mV, 10uA
Initial resistance		≤ 100mΩ, max. at 10mA/30mVDC

Coil

Rated voltage	DC	3...24V
Set time	max.	4.5ms
Reset time	max.	4.5ms

Insulation

Insulation resistance		≥1000MΩ at 500VDC, 50%RH
Dielectric strength	coil to contact	1 coil: 1500Vrms, 1min / 2 coils: 1000Vrms, 1 min
	contact to contact	1000Vrms, 1min

Operating Life Data

Electrical life (DC1) 1s on/9s off	ops.	5 x 10^4 (2A/30VDC, Ag contact)
Mechanical life	ops.	1 x 10^8

Environmental

Ambient temperature	operating	-40 to 85°C
	storage	-40 to 85°C
Humidity		5% to 85% RH
Shock resistance	functional	490m/s² (50g)
	destructive	980m/s² (100g)
Vibration resistance		1.5mm DA10-55Hz (20g)
Dimensions	L x W x H	20.2 x 10.2 x 10.6mm
Weight	approx.	≤ 4.5g

Ordering Code - single & double coil latching

D T C 3 - 6 1 1 2 - 8 5 - T L 0 5

Series

Contact material*
61: AgPd/AgPd +Au (2um)
82: AgNi + Au (2um)
*only static contact is Au plated

Contact arrangement
12: DPDT (2 C/O)

Environmental protection
8: In cover, sealed IP64

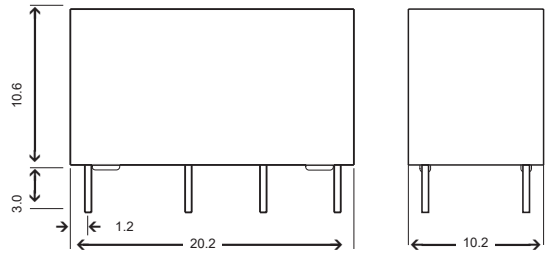
Mounting & terminations
5: For PCB

Coil code:
See tables 2 & 3

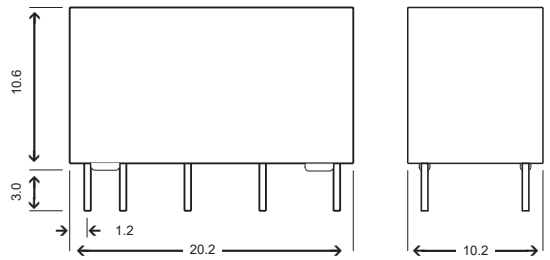
NB: Latching relays have a white case

Overall Dimensions in mm — Fig. 1

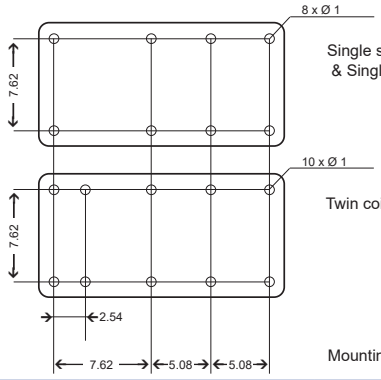
Single side stable & single coil latch



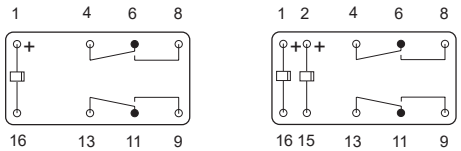
Twin coil latch



PCB Mounting Dimensions mm (bottom view) — Fig. 2



Wiring Diagrams mm (bottom view) — Fig. 3



NB: Single side stable relays are polarity sensitive.
For latching relays, the diagram shows the "reset" position.
Single coil latch: Energize terminals 1 & 16 to "set", reverse energize terminals 16 & 1 to "reset".
Twin coil latch: Energize terminals 1 & 16 to "set", energize terminals 2 & 15 to "reset".

Coil Data - Single Side Stable — Table 1

Coil code	Nominal voltage (VDC)	Coil Resistance (Ω) ±10%	Power consumption (mW)	Must operate voltage max. (VDC)	Must release voltage min. (VDC)	Max. allowable Voltage (VDC)
S003	3	60	150	2.1	0.15	7.5
S005	5	167	15	3.5	0.25	12.5
S009	9	540	150	6.3	0.45	22.5
S012	12	960	150	8.4	0.6	30.0
S024	24	2880	150	16.8	1.2	52.9
S048	48	7680	300	33.6	2.4	84.9

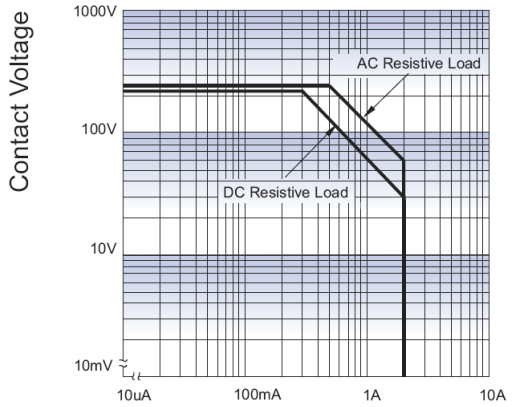
Coil Data - Single Coil Latch (sensitive) — Table 2

Coil code	Nominal voltage (VDC)	Coil Resistance (Ω) ±10%	Set / Reset Voltage. (VDC)	Max. allowable Voltage (VDC)
SL03	3	60	2.4	6.9
SL05	5	330	4.00	16.0
SL09	9	1080	7.20	29.0
SL12	12	1920	9.60	34.0
SL15	15	3000	12.0	43.0
SL24	24	7680	19.2	78.0

Coil Data - Twin Coil Latch (sensitive) — Table 3

Coil code	Nominal voltage (VDC)	Coil Resistance (Ω) ±10%	Set / Reset Voltage (VDC)	Max. allowable Voltage (VDC)
TL03	3	60	2.4	6.9
TL05	5	167	4.0	11.5
TL09	9	540	7.2	20.8
TL12	12	960	9.6	27.7
TL15	15	1500	12.0	34.6
TL24	24	3840	19.2	55.4

Maximum Switching Power — Fig. 4



Test conditions:
Resistive load, at 70°C, 1s on 9s off.

Coil Temperature Rise — Fig. 5