

Miniature PCB Relay T77

- 3 to 10A rating
- Small size
- Creepage spacings of 6.5mm between coil and contacts
- 4,000Vrms coil to contact dielectric strength
- UL Class F approved insulation system



Typical applications
Appliances, HVAC, industrial control



Approvals

VDE 40010327, UL E29244
Technical data of approved types on request

Contact Data

Contact arrangement	1 form A, 1 NO	
Rated voltage	30VDC, 250VAC	
Max. switching voltage	30VDC, 277VAC	
Rated current	3 to 10A	
Contact material	3A type: Ag 10A type: AgCdO	
Min. recommended contact load	100mA at 5VDC	
Frequency of operation	360 ops./h	
Operate/release time max.	10ms/4ms	
Electrical endurance		
3A type	3A, 250VAC res., -30°C to +55°C	100x10 ³ ops.
5A type	5A, 250VAC res., -30°C to +40°C	100x10 ³ ops.
	5A, 250VAC res., -30°C to +85°C	10x10 ³ ops.
10A type	10A, 250VAC res., -30°C to +55°C	100x10 ³ ops.
	10A, 250VAC res., -30°C to +85°C	10x10 ³ ops.
Contact ratings	3A type: 3A 250VAC 5A type: 5A 250VAC 10A type: 10A 250VAC	
Mechanical endurance, DC coil	10x10 ⁶ operations	

Coil Data

Coil voltage range	5 to 48VDC
Operative range, IEC 61810	2
Coil insulation system according UL	Class E, F

Coil versions, DC coil, sensitive type, 200mW

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power mW
003	3	2.25	0.15	45	200
005	5	3.75	0.25	125	200
006	6	4.5	0.3	180	200
009	9	6.75	0.45	405	200
012	12	9	0.6	720	200
024	24	18	1.2	2880	200
048	48	36	2.4	11520	200

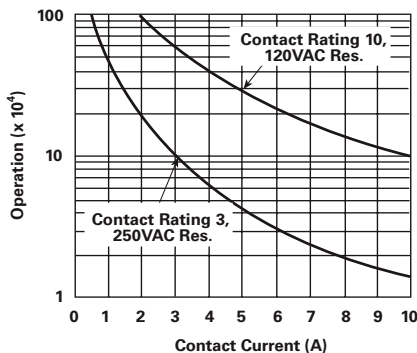
All figures are given for coil without pre-energization, at ambient temperature +23°C

Coil versions, DC coil, standard type, 450mW

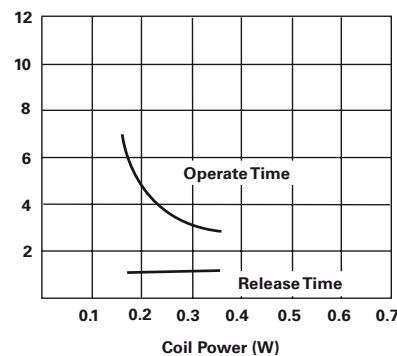
Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power mW
003	3	2.1	0.15	20	450
005	5	3.5	0.25	55.6	450
006	6	4.2	0.3	80	450
009	9	6.3	0.45	180	450
012	12	8.4	0.6	320	450
024	24	16.8	1.2	1280	450
048	48	33.6	2.4	5120	450

All figures are given for coil without pre-energization, at ambient temperature +23°C

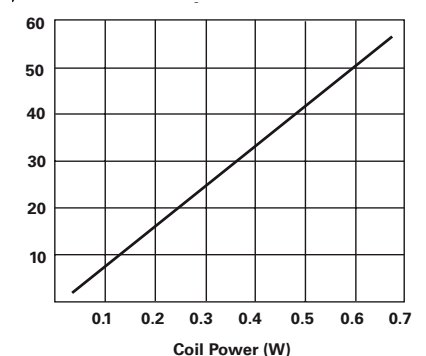
Electrical endurance



Operate time



Coil temperature rise



Miniature PCB Relay T77 (Continued)

Insulation Data

Initial dielectric strength	
between open contacts	750Vrms
between contact and coil	4000Vrms
Clearance/creepage	
between contact and coil	>3.2/6.4mm

Other Data

Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customersupport/rohssupportcenter

Ambient temperature 3A type: -30°C to +105°C
 5A and 10A type: -30°C to +85°C

Category of environmental protection
IEC 61810 RTII - dust protected
 RTIII - wash tight

Shock resistance (functional) 10g
Shock resistance (destructive) 100g

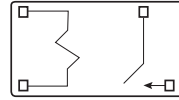
Weight 9g

Resistance to soldering heat THT
IEC 60068-2-20 RTII: 270°C/10s
 RTIII: 260°C/5s

Packaging/unit Tray/100, carton box/1000

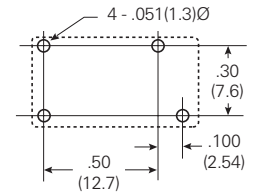
Terminal assignment

Bottom view on solder pins

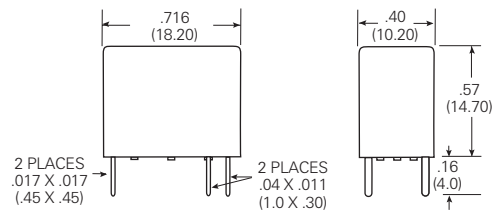


PCB layout

Bottom view on solder pins



Dimensions



Product code structure

Typical product code **T77** **V** **1** **D** **10** **-12**

Type

T77 Miniature PCB Relay T77

Category of protection

V Flux proof **S** Wash tight

Contact arrangement

1 1 Form A, 1NO

Coil input

D DC coil

Contact rating and coil power

5 450 mWcoil power **3** 200mW coil power
5A type, coil power 450mW **3A** type, coil power 200mW
10 10A type, coil power 450mW

Coil voltage

Coil code: please refer to coil versions table (e.g. 12 = 12VDC)

Insulation system

Blank UL Class 155 (F) **A** UL Class 120 (E)

Special types

Blank Standard

Product code	Enclosure	Contact rating	Cont.material	Coil voltage	Coil power	Part number
T77S1D3-05	Wash tight	3A	Ag	5VDC	200mW	1-1393194-3
T77V1D3-12	Flux proof	3A	Ag	12VDC	200mW	2-1393194-6
T77S1D3-12	Wash tight	3A	Ag	12VDC	200mW	1-1393194-5
T77V1D3-24	Flux proof	3A	Ag	24VDC	200mW	2-1393194-7
T77S1D3-24	Wash tight	3A	Ag	24VDC	200mW	1-1393194-6
T77V1D10-05	Flux proof	10A	AgCdO	5VDC	450mW	1-1393194-8
T77S1D10-05	Wash tight	10A	AgCdO	5VDC	450mW	1393194-7
T77V1D10-09	Flux proof	10A	AgCdO	9VDC	450mW	1440005-1
T77S1D10-03	Wash tight	10A	AgCdO	3VDC	450mW	1393194-6
T77V1D10-12	Flux proof	10A	AgCdO	12VDC	450mW	1-1393194-9
T77S1D10-12	Wash tight	10A	AgCdO	12VDC	450mW	1393194-9
T77V1D10-24	Flux proof	10A	AgCdO	24VDC	450mW	2-1393194-1
T77S1D10-24	Wash tight	10A	AgCdO	24VDC	450mW	1-1393194-0