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		100x10³ ops.
5A type	5A, 250VAC res., -30°C to +40°C		100x10³ ops.
	5A, 250VAC res, -30°C to +85°C		10x10³ ops.
10A type	10A, 250VAC res., -30°C to +55°C		100x10³ ops.
	10A, 250VAC res., -30°C to +85°C		10x10³ ops.

Contact ratings	3A type: 3A 250VAC
	5A type: 5A 250VAC
	10A type: 10A 250VAC
Mechanical endurance, DC coil	10x10⁶ 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

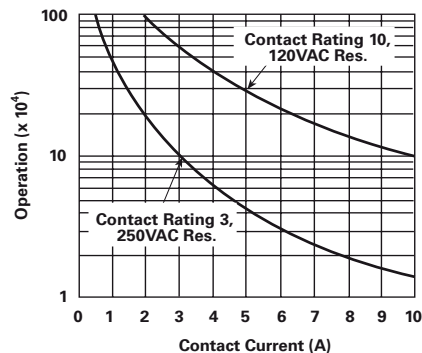| Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power mW
003	3	2.25	0.15	45	200
005	5	3.75	0.25	125	200
006	6	4.5	0.3	180	200
009	9	6.75	0.45	405	200
012	12	9	0.6	720	200
024	24	18	1.2	2880	200
048	48	36	2.4	11520	200

All figures are given for coil without pre-energization, at ambient temperature +23°C
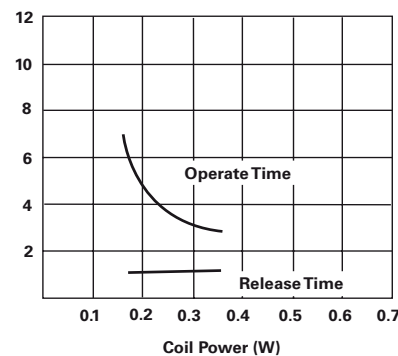
Coil versions, DC coil, standard type, 450mW

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

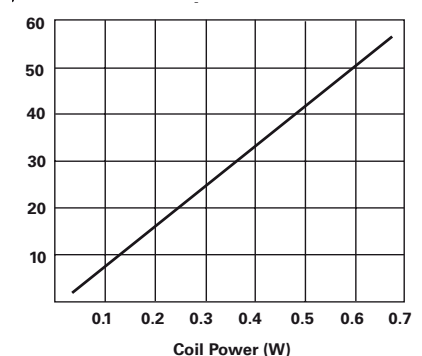All figures are given for coil without pre-energization, at ambient temperature +23°C

Electrical endurance

Operate time

Coil temperature rise
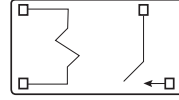
Miniature PCB Relay T77 (Continued)

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

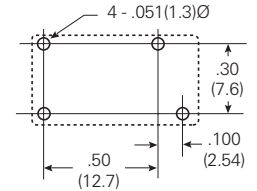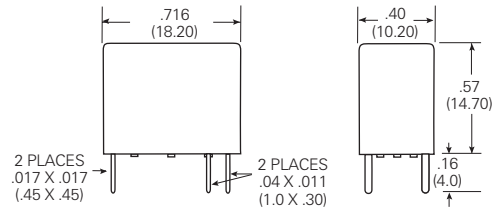|	
Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customersupport/rohssupportcenter	
Ambient temperature	3A type: -30°C to +105°C
	5A and 10A type: -30°C to +85°C
Category of environmental protection	
IEC 61810	RTII - 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

4 - .051(1.3)Ø
.30 (7.6)
.100 (2.54)
.50 (12.7)

Dimensions

.716 (18.20)
.40 (10.20)
.57 (14.70)
.16 (4.0)

2 PLACES .017 X .017 (.45 X .45)
2 PLACES .04 X .011 (1.0 X .30)

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

Datasheets and product specification according to IEC 61810-1 and to be used only together with the 'Definitions' section.

Datasheets and product data is subject to the terms of the disclaimer and all chapters of the 'Definitions' section, available at http://relays.te.com/definitions

Datasheets, product data, 'Definitions' section, application notes and all specifications are subject to change.