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

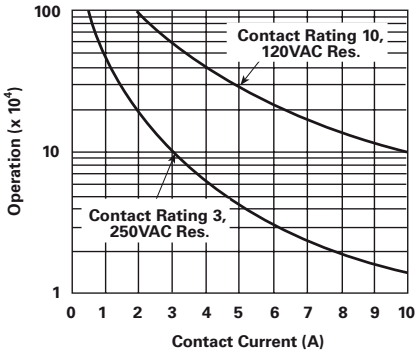
All figures are given for coil without pre-energization, at ambient temperature +23°C

Coil versions, DC coil, standard type, 450mW

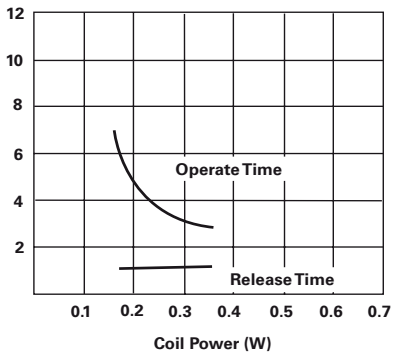
Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power mW
003	3	2.1	0.15	20	450
005	5	3.5	0.25	55.6	450
006	6	4.2	0.3	80	450
009	9	6.3	0.45	180	450
012	12	8.4	0.6	320	450
024	24	16.8	1.2	1280	450
048	48	33.6	2.4	5120	450

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

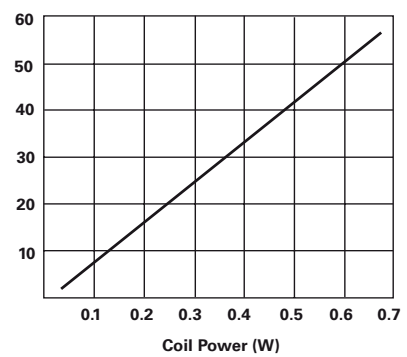
Electrical endurance



Operate time



Coil temperature rise



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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.

Miniature PCB Relay T77 (Continued)

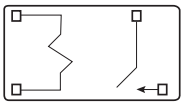
Insulation Data

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

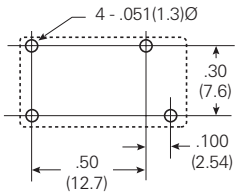
Other Data

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

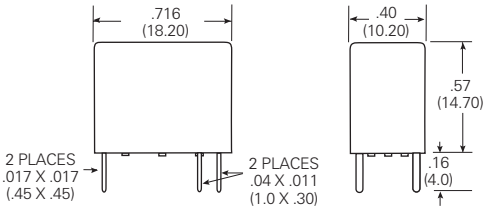
Terminal assignment
Bottom view on solder pins



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

	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

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