

**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 <sup>3</sup> ops.
5A type	5A, 250VAC res., -30°C to +40°C	100x10 <sup>3</sup> ops.
	5A, 250VAC res., -30°C to +85°C	10x10 <sup>3</sup> ops.
10A type	10A, 250VAC res., -30°C to +55°C	100x10 <sup>3</sup> ops.
	10A, 250VAC res., -30°C to +85°C	10x10 <sup>3</sup> ops.
Contact ratings	3A type: 3A 250VAC 5A type: 5A 250VAC 10A type: 10A 250VAC	
Mechanical endurance, DC coil	10x10 <sup>6</sup> 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

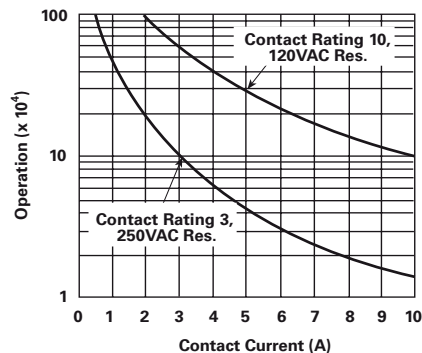
All figures are given for coil without pre-energization, at ambient temperature +23°C

**Coil versions, DC coil, standard type, 450mW**

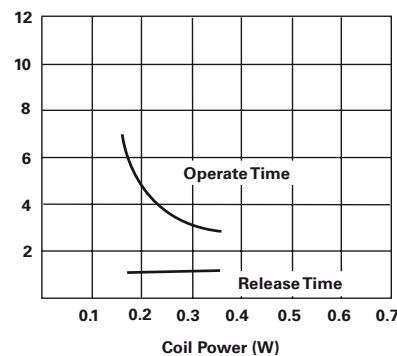
Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power mW
003	3	2.1	0.15	20	450
005	5	3.5	0.25	55.6	450
006	6	4.2	0.3	80	450
009	9	6.3	0.45	180	450
012	12	8.4	0.6	320	450
024	24	16.8	1.2	1280	450
048	48	33.6	2.4	5120	450

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

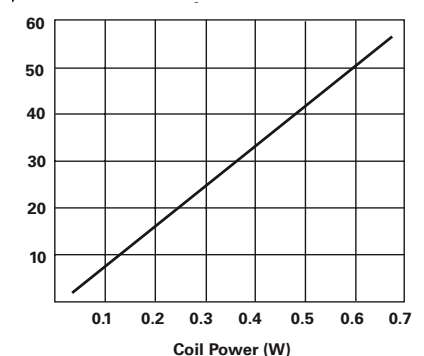
**Electrical endurance**



**Operate time**



**Coil temperature rise**

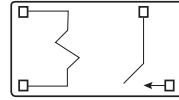


**Miniature PCB Relay T77** (Continued)

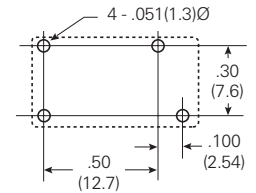
Insulation Data	
Initial dielectric strength	
between open contacts	750Vrms
between contact and coil	4000Vrms
Clearance/creepage	
between contact and coil	>3.2/6.4mm

Other Data	
Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at <a href="http://www.te.com/customersupport/rohssupportcenter">www.te.com/customersupport/rohssupportcenter</a>	
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

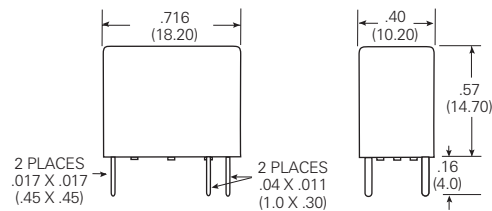
**Terminal assignment**  
Bottom view on solder pins



**PCB layout**  
Bottom view on solder pins



**Dimensions**



Product code structure	Typical product code						
Type	<b>T77</b>	Miniature PCB Relay T77	<b>V</b>	<b>1</b>	<b>D</b>	<b>10</b>	<b>-12</b>
Category of protection	<b>V</b>	Flux proof	<b>S</b>	Wash tight			
Contact arrangement	<b>1</b>	1 Form A, 1NO					
Coil input	<b>D</b>	DC coil					
Contact rating and coil power	<b>5</b>	450 mW coil power 5A type, coil power 450mW	<b>3</b>	200mW coil power 3A type, coil power 200mW			
Coil voltage							
	Coil code: please refer to coil versions table (e.g. 12 = 12VDC)						
Insulation system	<b>Blank</b>	UL Class 155 (F)	<b>A</b>	UL Class 120 (E)			
Special types	<b>Blank</b>	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