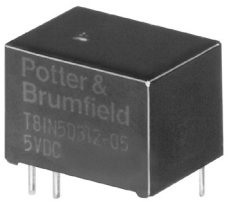
T81 Series Signal PCB Relay

- **Au clad contacts in a 1 Form C (CO) arrangement**
- **Standard 0.1" (2.54mm) grid spacing in a DIP configuration**
- **Standard or sensitive DC coils through 24 volts**
- **High dielectric strength**
- **Wash tight case**
- **Quiet operation for security applications**



Typical applications
Audio communications circuits, logic and process control, vending machines, thermostats, office automation

Approvals

UL E29244, CSA LR48471
Technical data of approved types on request

Contact Data

Contact arrangement	1 form C (CO)
Rated voltage	24VDC, 120VAC
Max. switching voltage	60VDC, 125VAC
Rated current	1A
Limiting continuous current	2A
Switching power	120VA, 30W
Contact material	Au overlay AgPd alloy
Contact style	single contact
Min. recommended contact load	1mA at 1VDC
Initial contact resistance	50mΩ at 100mA, 6VDC
Frequency of operation	72000 ops/h
Operate/release time max.	
standard coil	5/7ms
sensitive coil	10/7ms
Electrical endurance	
1A, 120VAC, resistive	$100x10^3$ ops.
1A, 24VDC, resistive	$100x10^3$ ops.
Contact ratings	1A, 120VAC/24VDC, resistive
	2A, 125VAC/30VDC, resistive (NO)
Mechanical endurance	$10x10^6$ ops.

Coil Data

Magnetic system	neutral
Coil voltage range	5 to 24VDC
Max. coil temperature	105°C

Coil Data (continued)

Coil versions, DC coil

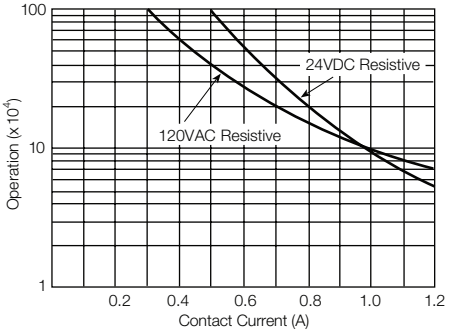
Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power mW
Standard coil, 450mW					
05	5	3.5	0.25	55	450
06	6	4.2	0.3	80	450
09	9	6.3	0.45	180	450
12	12	8.4	0.6	320	450
24	24	16.8	1.2	1280	450
Sensitive coil, 200mW					
05	5	3.75	0.5	125	200
06	6	4.5	0.6	180	200
09	9	6.75	0.9	400	200
12	12	9.0	1.2	700	200
24	24	18.0	2.4	2800	200

All figures are given for coil without preenergization, at ambient temperature +23°C.

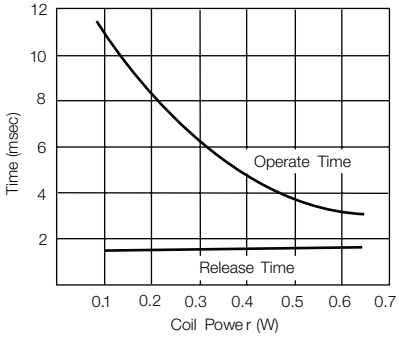
Insulation Data

Initial dielectric strength	
between open contacts	$500V_{rms}$
between contact and coil	$1000V_{rms}$
Initial surge withstand voltage	1500Vrms (10/160µs)
Initial insulation resistance	
between insulated elements	$10^9\Omega$
Clearance/creepage	
between contact and coil	1.5/1.76mm

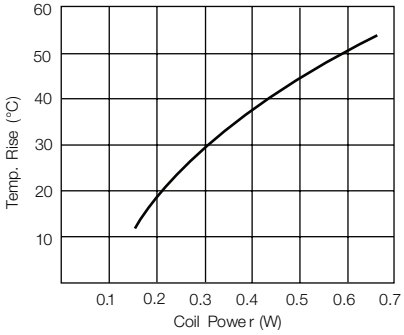
Electrical endurance



Operate time



Coil temperature rise



04-2011, Rev. 0411
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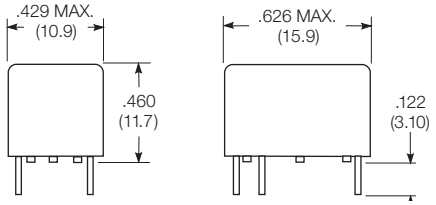
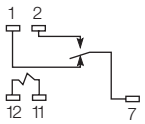
T81 Series Signal PCB Relay (Continued)

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	
standard coil	-30ºC to 60ºC
sensitive coil	-30ºC to 70ºC
Category of environmental protection	
IEC 61810	RTIII - wash tight
Vibration resistance (functional)	10-50Hz, 1.5mm double amplitude
Shock resistance (functional)	
IEC 60068-2-27 (half sine)	
standard coil	98m/s^2, 11ms
sensitive coil	65m/s^2, 11ms
Terminal type	PCB-THT
Weight	3.5g
Resistance to soldering heat THT	
IEC 60068-2-20	260°C/5s
Packaging/unit	tube/25 pcs., box/2000pcs.

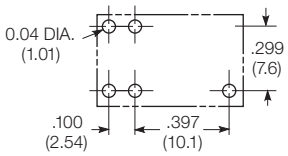
Dimensions



Terminal assignment
Bottom view on solder pins



PCB layout
Bottom view on solder pins



Product code structure — Typical product code: **T81 H 5 D 3 1 2**

Type
T81 Signal PCB Relay T81

Coil sensitivity
N Standard coil (450mw) **H** Sensitive coil (200mw)

Contact arrangement
5 1 Form C (CO)

Coil input
D DC voltage

Dielectric strength
3 High dielectric strength

Contact rating
1 1A, 24VDC; 1A, 120VAC

Contact material
2 Au overlay AgPd alloy

Coil voltage
Coil code: please refer to coil versions table

Product code	Contact material	Coil power	Coil voltage	Part number
T81H5D312-05	Au overlay AgPd Alloy	Sensitive, 200mW	5VDC	5-1393779-5
T81H5D312-06			6VDC	5-1393779-6
T81H5D312-09			9VDC	5-1393779-7
T81H5D312-12			12VDC	5-1393779-8
T81H5D312-24			24VDC	5-1393779-9
T81N5D312-05		Standard, 450mW	5VDC	6-1393779-9
T81N5D312-09			9VDC	7-1393779-0
T81N5D312-12			12VDC	7-1393779-1
T81N5D312-24			24VDC	7-1393779-2