

## **Miniature Relay PCF**

- Meet UL508 and TUV requirements
- 1 form A contact arrangement
- Quick connect terminal type and PC board type
- Meet 5000V dielectric voltage between coil and contacts
- Meet 10000V surge voltage between coil and contacts (1.2/50µs)

Typical applications Applicances, HVAC, office machines

### Approvals

UL No. E58304/ TUV No. R50139097 Technical data of approved types on request

Contact Data	
Contact arrangement	1 form A, 1 NO
Rated voltage	250VAC, 277VAC, 24VDC
Rated current	25A
Switching power	6370VA
Contact material	AgCdO, AgSnO
Min. recommended contact load	100mA, 5VDC
Initial contact resistance	100mΩ at 1A, 6VDC
Frequency of operation	
with/without load	30/300 ops./min
Operate/release time max.	20/10ms
Electrical endurance	100x10 <sup>3</sup> operations at rated load
Contact ratings	25A, 250VAC resistive
	23A, 277VAC resistive
	20A, 250VAC resistive
	20A, 250VAC inductive, cosq=0.4
Mechanical endurance	10x10 <sup>6</sup> operations.

#### **Coil Data**

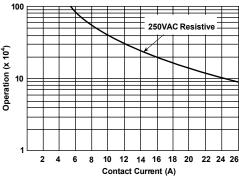
Coil voltage range	6 to 24VDC

#### Coil versions, DC coil

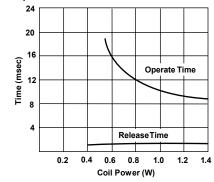
Rated	Operate	Release	Coil	Rated coil
voltage	voltage	voltage	resistance	power
VDC	VDC	VDC	Ω±10%	mW
6	4.50	0.30	40	900
9	6.75	0.45	90	900
12	9.00	0.60	160	900
24	18.00	1.20	640	900
	voltage VDC 6 9 12	voltage         voltage           VDC         VDC           6         4.50           9         6.75           12         9.00	voltage         voltage         voltage           VDC         VDC         VDC           6         4.50         0.30           9         6.75         0.45           12         9.00         0.60	voltage         voltage         voltage         voltage         resistance           VDC         VDC         VDC         Ω±10%           6         4.50         0.30         40           9         6.75         0.45         90           12         9.00         0.60         160

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

#### **Electrical endurance**



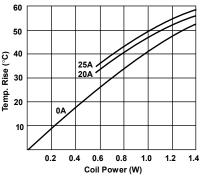
Operate time



04-2011, Rev. 0411 <u>www.te.com</u> © 2011 Tyco Electronics Corporation, a TE Connectivity Ltd. company Datasheets and product specification according to IEC 61810-1 and to be used only together with the 'Definitions' section.

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Coil temperature rise



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

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#### **Insulation Data**

Initial dielectric strength	
between open contacts	1000VAC, 50/60Hz, 1min
between contact and coil	5000VAC, 50/60Hz, 1min
Initial surge withstand voltage	
between contact and coil	8000V (1.2/50µS)
Initial insulation resistance	
between insulated elements	1000MΩ at 500VDC
Clearance/creepage	
between contact and coil	6.7/8mm

## **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
 -30 to 55°C

 Category of environmental protection IEC 61810
 RTII-flux proof

 Vibration resistance (functional), 10 to 50Hz. 1.5mm double amplitude

 Vibration resistance (destructive), 10 to 50Hz.1.5mm double amplitude

 Shock resistance (functional), half-sine wave of 6ms
 98m/s2

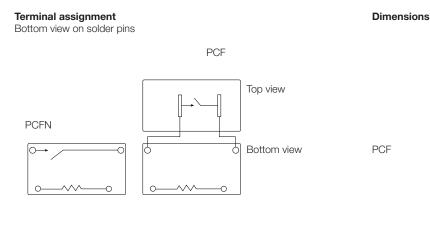
 Schock resistance (destructive), half-sine wave of 11ms, permitted duration 1ms 980m/s2

 Weight
 28g

Weight	28g
Resistance to soldering heat THT	
IEC 60068-2-20	260°C/10s
Packaging/unit	tube/20 pcs., box/500 pcs.

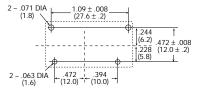


# Miniature Relay PCF (Continued)

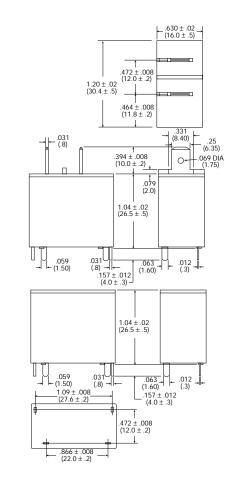


### PCB layout

Bottom view on solder pins



PCFN



Product co	de structure		Typical product code	PCF	-1	12	D	1	М	,000
Туре										
PCF	Miniature Relay PCF									
Terminals/m	ounting									
Blank	Quick connect terminals									
N	PC board terminals									
L	Low profile flange case									
<b>Contact Form</b>	n				-					
<b>1</b> 1 p	oole									
Coil Voltage										
Coil co	ode: please refer to coil versi	ion tab	le (e.g. 12=12VDC)							
Coil Input	·						,			
D	Standard									
Contact Mat	erial									
1	AgCdO	2	AgSnO							
<b>Contact Arra</b>	ingement		-							
М	1 form A, 1 NO contact									
Suffix										'
,000	Standard model									

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# Miniature Relay PCF (Continued)

Product code	Terminals/mounting	Coil	Cont. material	Arrangement	Part number
PCF-105D2M,000	Quick connect terminals	5VDC	AgSnO <sub>2</sub>	1 form A (NO)	5-1440002-4
PCF-106D2M,000		6VDC		contact	5-1440002-5
PCF-112D1M,000		12VDC	AgCdO		9-1419129-2
PCF-112D2M,000			AgSnO <sub>2</sub>		3-1419153-4
PCF-124D1M,000		24VDC	AgCdO		9-1419129-5
PCF-124D2M,000			AgSnO <sub>2</sub>		5-1440002-8
PCF-148D1M,000		48VDC	AgCdO		2-1419146-4
PCF-148D2M,000			AgSnO <sub>2</sub>		5-1440002-9
PCFL-112D2M,000	Low profile flange case	12VDC			1649000-3
PCFL-124D2M,000		24VDC			1649000-4
PCFN-109D2M,000	PC board terminals	09VDC			1461193-7
PCFN-118D2M,000		18VDC	]		1461193-8
PCFN-124D2M,000		24VDC	]		1461193-9
PCFN-148D2M,000		48VDC			1461193-5

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