

General Purpose High Power PCB Relays

7.

## **Power PCB Relay T9E**

## ■ 1 pole 30A, 1 formA(NO) or 1 formC(CO)

- High breaking capacity 7500 VA
- PCB and PCB/quick connect terminals
- UL class F insulation as standard
- Ambient temperature up to 105°C
- Plastic materials according to IEC60335-1

Typical applications

HVAC, power supplies, domestic appliances, measurement and control.

#### Approvals

VDE 40027903, UL E58304 Technical data of approved types on request.

Contact Data

Contact Data		
Contact arrangement	1 form A (NO)	1 form C (CO)
Rated voltage	240	IVAC
Max. switching voltage	250VAC (VDE	E); 300VAC (UL)
Rated current	30A	20A/10A
Limiting continuous current	30A	
Breaking capacity max.	7500VA	5000/2500VA
Contact material	AgSnOlnO (Ag	gCdO optional)
Min. recommended contact load	1A, 5VDC	or 12VAC
Initial contact resistance	75 mΩ at 1A at	5VDC or 12VAC
Frequency of operation, with/without	ut load 6/	120min <sup>-1</sup>
Operate/release time max., includin	ig bounce 15/1	15ms

Contac	t ratings		
Туре	Contact	Load	Cycles
IEC 618	B10		
AgSnOl	nO, 1W coil		
1	NO	30A, 250VAC, cosφ=1, 60°C	20x10 <sup>3</sup>
1	NO	20A, 250VAC, cosφ=1, 85°C	100x10 <sup>3</sup>
2	NO	20A, 250VAC, cosφ=1, 70°C	100x10 <sup>3</sup>
1, 2	CO	20A / 10A, 250VAC, cosφ=1, 60°C	20x10 <sup>3</sup>
AgSnOl	nO, 900mW co	bil	
1	NO	17A, 250VAC, cosφ=1, 105°C	100x10 <sup>3</sup>
1	NO	20A, 250VAC, cosφ=1, 85°C	100x10 <sup>3</sup>
EN 607	30-1		
AgSnOl	nO, 1W coil		
1	NO	12(12)A, 240VAC, 60°C	100x10 <sup>3</sup>
UL 508	1)		
AgSnOl	nO, 1W coil		
1, 2	NO	30A, 240VAC, general purpose, 25°C	100x10 <sup>3</sup>
AgSnOl	nO, 900mW co	bil	
1, 2	NO	TV-8, 125VAC, 25°C	25x10 <sup>3</sup>
1) Additi	onal UL 508 rating	is are available.	
Mechar	nical endurance		10x10 <sup>6</sup> ops.
moona			10/10 003.

Coil Data		
Coil voltage range	6 to 110VDC	
Max. coil power	110% of nominal	
Max. coil temperature	155°C	
Coil insulation system according UL	Class F	



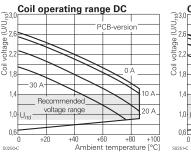
### Coil Data (continued)

Coil versions, DC coil								
Coil	Rated	Operate	Operate Release Coil Rate					
code	voltage	voltage	voltage	resistance	power			
	VDC	VDC	VDC	Ω±10%	W			
Code D	(1W) coil							
6	6	4.5	0.6	36	1			
9	9	6.75	0.9	81	1			
12	12	9	1.2	144	1			
18	18	13.5	1.8	324	1			
22	22	16.5	2.2	484	1			
24	24	18	2.4	576	1			
48	48	36.2	4.8	2304	1			
110	110	82.5	11	12100	1			
Code L (900mW) coil								
6	6	4.5	0.6	40	.9			
12	12	9	1.2	155	.9			
18	18	13.5	1.8	380	.9			
24	24	18	2.4	660	.9			
All figures	are aiven for coil	without preenerg	ization at ambi	ont tomnoraturo .	123°C			

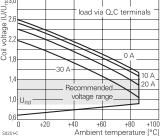
All figures are given for coil without preenergization, at ambient temperature +23°C.

## Insulation Data

Initial dielectric strength	
between open contacts	1500V <sub>rms</sub>
between contact and coil	2500V
Initial surge withstand voltage	mo
between contact and coil	6kV (1.2µs/50µs impulse wave)
Initial insulation resistance	
between insulated elements	1×10ºΩ
Clearance/creepage	
between contact and coil	≥3mm/4mm



#### Coil operating range DC



Coil operating ranges shown above are for 1W coils.

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Catalog product data, 'Definitions' section, application notes and all specifications are subject to change. 1



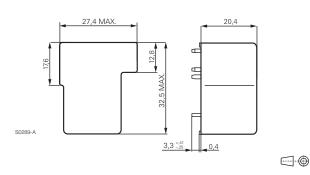
# Power PCB Relay T9E (Continued)

Other Data						
Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content						
refer to the Produc	ct Compliance Support Center at					
www.te.com/cust	omersupport/rohssupportcenter					
Ambient temperature						
DC coil	-40°C to 85°C / 105°C					
Category of environmental protection						
IEC 61810	RTII - flux proof (T9EV)					
	RTIII - wash tight (T9ES)					
Vibration resistance (functional)	1.5mm, 10-55 Hz					
Shock resistance (functional)	10g for 11msec					
Shock resistance (destructive)	100g					

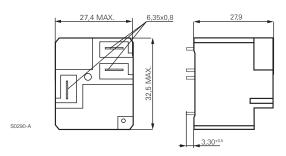
PCB-tht and PCB-tht + quick
26g mounting code 1
33g mounting codes 2 and 5
260°C
tray/50 pcs., box/250 pcs.

## Dimensions

PCB version



PCB/quick connect version



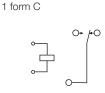
 $\Box$ 

#### Terminal assignment

Bottom view on pins

1 form A

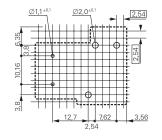




#### PCB layout

Bottom view on pins

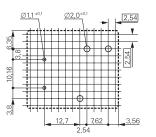
#### PCB version



Only necessary terminals are present on single throw models. Consequently, some holes will be unnecessary for single throw models.

S0261-AA

PCB/quick connect version



S0261-AH

Only necessary terminals are present on single throw models. Consequently, some holes will be unnecessary for single throw models.

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2

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# General Purpose High Power PCB Relays

# Power PCB Relay T9E (Continued)

Product	code structure		Typical product code <b>T9E</b>	S	1	D	1	4	-24
Туре									
Т9									
Enclosure	e								
S	Wash-tight plastic case with knock off nib								
v	Flux-proof plastic case								
Contact a	arrangement				-				
1	1 form A (1 NO)	5	1 form C (1 CO)						
Coil Input	t					-			
D	DC voltage, 1W	L	DC voltage, 900mW						
Mounting	and termination								
1	PCB mounting; PCB terminals for coil and	con	tacts						
2	PCB mounting; PCB terminals for coil and	con	tacts; 6.35mm (.250in) QC for contacts						
Contact r	material								
4	AgSnOlnO								
2	AgCdO - optionally available. Contact Pro	duct	Engineering for availbaility and ratings.						
Coil volta	ige								1
Co	bil code: please refer to coil versions table								

Product Code	Enclosure	Mounting	<b>Contact material</b>	Contacts	<b>Coil version</b>	Coil voltage	Part number
T9ES1L14-18	wash tight	PCB terminals	AgSnOlnO	1 form A, 1 NO	900mW	18VDC	1-2027234-8
T9ES1D14-12					1W	12VDC	2027234-2
T9ES1D14-24						24VDC	2027234-7
T9ES1D12-12			AgCdO			12VDC	1-2027234-0
T9ES1D24-12		PCB + quick connect	AgSnOlnO			12VDC	2027234-8
T9ES1D22-12			AgCdO			12VDC	1-2027243-3
T9ES5D14-12		PCB terminals	AgSnOlnO	1 form C, 1 CO		12VDC	2027234-6
T9ES5D12-24			AgCdO			24VDC	2027234-4
T9ES5D24-12		PCB + quick connect	AgSnOlnO			12VDC	2027234-9
T9EV1D14-22	flux proof	PCB terminals		1 form A, 1 NO		22VDC	2027234-5

3

# **Mouser Electronics**

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

TE Connectivity:

<u>T9ES1D14-12</u> <u>T9ES1D14-24</u> <u>T9ES1D24-12</u> <u>T9ES5D12-24</u> <u>T9ES5D24-12</u> <u>T9EV1D14-22</u> <u>T9ES5D14-12</u> T9EV1L14-12 <u>T9ES1D14-18</u> <u>T9ES1D12-12</u> <u>T9ES1D22-12</u> <u>T9ES1L22-12</u> <u>T9EV1D14-12</u> <u>T9EV1D24-12</u>