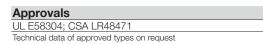


T9A Series, DC Coil 30A PCB or Panel Mount Relay

- 30A switching in 1 form A (NO) and 20A in 1 form C (CO)
- Plastic sealed case available
- Meets UL 508 and 873 spacing 3.18mm through air, 6.36mm over surface
- Option for load connections via 0.250"" (6.35mm) Q.C. terminals
- UL class F insulation system standard

Typical applications HVAC, Appliances, Industrial Controls

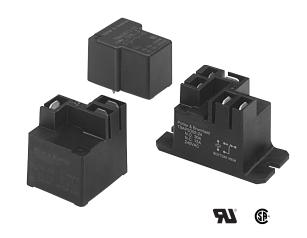


Contact Data				
Contact arrangement	1 form A (NO)	, 1 form B (NC),	1 form C (CO)	
Rated voltage		277VAC		
Max. switching voltage		277VAC		
Rated current	30A	15A	20A/10A	
Limiting continuous current	30A			
Contact material	A	AgSnOlnO, AgC	dO	
Min. recommended contact load	d 1	A, 5VDC or 12\	/AC	
Initial contact resistance	75 mΩ	at 1A at 5VDC	or 12VAC	
Frequency of operation, with/wit	thout load	360/3600	hr	
Operate/release time max_including bounce 15/15ms				

Contact ratings 1)					
Туре	Load	Cycles			
Factory					
AgCdO, 11	W coil				
NO	30A, 240VAC, general purpose	100x10 ³			
NO	25A, 240VAC, resistive	100x10 ³			
CO	20A/10A, 240VAC, general purpose	100x10 ³			
CO	20A/10A, 240VAC, resistive	100x10 ³			
CO	20A/10A, 28VDC, resistive	100x10 ³			
UL 508/87	73				

CO	20A/10A, 240VAC, general purpose	100x10 ³			
CO	20A/10A, 240VAC, resistive	100x10 ³			
CO	20A/10A, 28VDC, resistive	100x10 ³			
UL 508/873					
AgCdO, 1W co	oil				
NO	30A, 240VAC, general purpose	100x10 ³			
NC	15A, 240VAC, general purpose	100x10 ³			
CO	20A/10A, 240VAC, general purpose	100x10 ³			
NC	20A, 240VAC, resistive	6x10 ³			
CO	16.75A/13.4A, 240VAC, resistive	6x10 ³			
NO	80LRA/30FLA, 240VAC	30x10 ³			
NC	30LRA/12FLA, 240VAC	30x10 ³			
CO	53.6LRA/20FLA / 20LRA/8FLA, 240VAC	30x10 ³			
NO	98LRA/22FLA, 120VAC	100x10 ³			
NO	2HP, 240VAC	1x10 ³			
NC	1/2HP, 240VAC	1x10 ³			
NO	1HP, 125VAC	1x10 ³			
NC	1/4HP, 125VAC	1x10 ³			
NO	10A, 277VAC, ballast	6x10 ³			
NC	3A, 277VAC, ballast	6x10 ³			
NO	8.3A, 120VAC, tungsten	6x10 ³			
NO	5.4A, 277VAC, tungsten	6x10 ³			
NO	470VA, 120VAC, pilot duty	30x10 ³			
NO	20A, 28VDC, resistive	100x10 ³			
NC	10A, 28VDC, resistive	100x10 ³			
AgCdO - Enhanced Version Only, 1W coil					
NO	21A, 250VAC, resistive	250x10 ³			
NO	25A, 277VAC, resistive	100x10 ³			
AgCdO, 1W co	AgCdO, 1W coil ("H" type)				
NO	6x10 ³				

Contact ratings at 25°C (unless otherwise noteed) with relay properly vented. Remove vent nib after soldering and cleaning.



Contact ratings 1) (continued)				
Load	Cycles			
coil				
30A, 240VAC, general purpose	100x10 ³			
80LRA/30FLA, 240VAC	30x10 ³			
10A, 250VAC, resistive	50x10 ³			
V coil				
30A, 240VAC, general purpose	100x10 ³			
18A, 240VAC, resistive, 105°C	100x10 ³			
15A, 240VAC, resistive	6x10 ³			
30LRA/15FLA, 240VAC	100x10 ³			
50LRA/16FLA, 120VAC	100x10 ³			
30LRA/11FLA, 120VAC	200x10 ³			
	Load coil 30A, 240VAC, general purpose 80LRA/30FLA, 240VAC 10A, 250VAC, resistive V coil 30A, 240VAC, general purpose 18A, 240VAC, resistive, 105°C 15A, 240VAC, resistive 30LRA/15FLA, 240VAC 50LRA/16FLA, 120VAC			

1) Contact ratings at 25°C (unless otherwise noteed) with relay properly vented. Remove vent nib after soldering and cleaning.

Mechanical endurance	10x10 ⁶ ops.
ivicorial lical criadial icc	10/10/000

Coil Da						
Coil voltage range			5	to 110VDC		
Max. coil power			110	% of nominal		
Max. coil	temperature			155°C		
Coil insula	ation system a	according UL		Class F		
Coil vers	ions, DC co	il				
Coil	Rated	Operate	Release	Coil	Rated coil	
code	voltage	voltage	voltage	resistance	power	
	VDC	VDC	VDC	Ω±10%	W	
Code D	(1W) coil					
5	5	3.75	0.5	25	1	
6	6	4.5	0.6	36	1	
9	9	6.75	0.9	81	1	
12	12	9	1.2	144	1	
15	15	11.25	1.5	225	1	
18	18	13.5	1.8	324	1	
24	24	18	2.4	576	1	
48	48	36	4.8	2304	1	
110	110	82.5	11	12100	1	
Code L (900mW) coil						
5	5	3.75	0.5	27	.9	
6	6	4.5	0.6	40	.9	
9	9	6.75	0.9	97	.9	
12	12	9	1.2	155	.9	
15	15	11.25	1.5	256	.9	
18	18	13.5	1.8	380	.9	
24	24	18	2.4	660	.9	
48	48	36	4.8	2560	.9	
110	110	82.5	11	13450	.9	

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

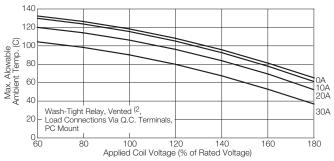


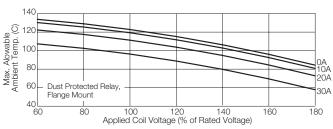
T9A Series, DC Coil 30A PCB or Panel Mount Relay (Continued)

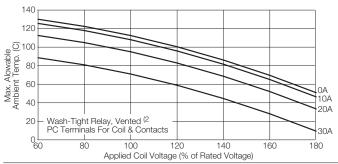
Coil Data (continued)

Ambient temperature vs. coil voltage - 1W coil

Data below are average values and should be verified in application. Tests were conducted within a 2' (.6 m) cube (still air); at nominal coil power @ 25°C; with normally open contact loaded; and with 4' (1.22 m) long, #10 AWG load wires. P.C. board relays were mounted to a 30A, single side P.C. board. Coil rise test conducted with a 30A PC board to maintain 20°C max. rize at 30°C. The relay connections and wiring must be designed with an adequate cross section to ensure proper current flow and heat dissipation.







2) Remove knock-off nib after cleaning process for optimum life of wash-tight relays.

Insulation Data Initial dielectric strength 1500V_{rms} between open contacts 1500V_{rms} between contact and coil 2500V_{rms} Initial surge withstand voltage 6kV Initial insulation resistance 6kV between insulated elements 1x10⁹Ω Clearance/creepage 3.18mm clearance/6.3638mm

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

DC coil -55°C to 85°C ³⁾
105°C models available

Category of environmental protection

IEC 61810

RT0 - open, RTI - dust protected, RTII - flux proof, RTIII - wash tight

Vibration resistance (functional)
Shock resistance (functional)
Shock resistance (destructive)
Terminal type
Weight

RT0 - open, RTI - dust protected, RTIII - wash tight

1.65mm max excursions, 10-55 Hz

10g for 11msec

100g
pcb-tht and pcb-tht + quick connect

26g mounting code 1

33g mounting codes 2 and 5

Resistance to soldering heat THT

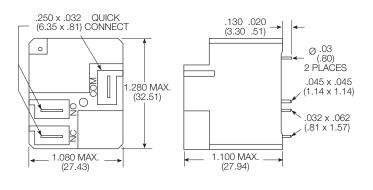
IEC 60068-2-20 250°C

Packaging/unit tray/50 pcs., bundle/250 pcs., box/500 pcs.

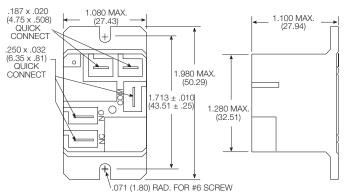
3) Operating ambient temperature must consider "Must Operate Voltage Change Over Temperature," Contact Temperature Rise, Coil Temperature Rise (If coil is not allowed to cool) and Maximum Coil Temperature. Specification ambient considers 20A load with coil cooled to ambient.

Dimensions

T9AS - Mounting and termination code 2



T9AP – Mounting and termination code 5

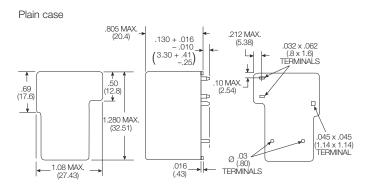


Note: Recommended mounting screw torque is 4.0-5.0 lbs.in when #6 screw is used.

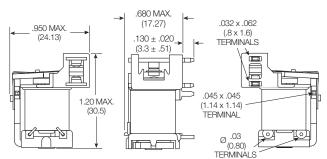


T9A Series, DC Coil 30A PCB or Panel Mount Relay (Continued)

Dimensions

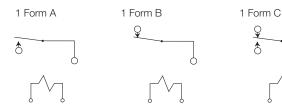


Bracket mount case



Terminal assignment

Bottom view on pins



Notes:

1) General tolerance

Diagram Dimensions	Tolerance
<1mm	±0.1
1~3mm	±0.2
>3mm	±0.3

2) Dimensions of the pins after tin soldering for PCB type

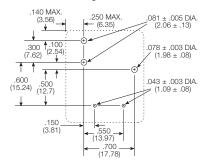
a) +0.2 for the widht and thickness

b) +0.5 for the lenght

PCB layout

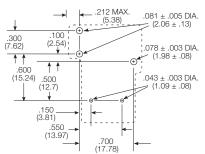
Bottom view on pins

T9AP/S - Mounting and termination code 2



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

T9AS/V - Mounting and termination code 1



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

Product code structure Typical product code T9A S 5 D -12 T9A Power PCB or panel mount relay T9A Enclosure Ν Open, no enclosure (requires mounting code 1) Ρ Dust protected plastic case (requires mounting code 5) Wash-tight plastic case with knock off nib (requires mounting code 1 or 2) Flux-proof plastic case (requires mounting code 1 or 2) Contact arrangement 2 1 form B (1 NC) 5 1 form C (1 CO) 1 1 form A (1 NO) Coil Input H¹⁾ DC voltage, 1W (+0/-10 percent coil resistance) DC voltage, 1W DC voltage, 900mW D Mounting and termination PCB mounting; PCB terminals for coil and contacts (only available with enclosure code N, S or V) PCB mounting; PCB term. for coil and contacts; 6.35mm (.250in) QC for contacts (only available with enclosure code N, S or V Flanged mounting; 4.75mm (.187) QC for coil; 6.35mm (.250in) QC for contacts (only available with enclosure code P) 5 Contact material

Coil code: please refer to coil versions table 1) "H" type coil is only available in mounting termination options 2 & 5.

2 AgCdO

Coil voltage

AgSnOlnO

7 AgCdO (Enhanced version)



T9A Series, DC Coil 30A PCB or Panel Mount Relay (Continued)

Product Code	Enclosure	Contacts	Coil	Mounting	Contact Material	Coil	Part Number
T9AN1L22-24	Open (no cover)	1 form A, 1 NO	900mW	pcb + QC	AgCdO	24VDC	1419104-6
T9AN5L12-24		1 form C, 1 CO		pcb terminals			1-1393210-0
T9AN5L22-24				pcb + QC			1419104-9
T9AP1D52-12	Unsealed, plastic dust cover	1 form A, 1 NO	1W	Flanged mount, QC		12VDC	6-1419102-0
T9AP1D52-24						24VDC	6-1419102-3
T9AP1D52-48						48VDC	5-1419102-8
T9AP1D54-24					AgSnOlnO	24VDC	7-1423091-3
T9AP5D52-12		1 form C, 1 CO			AgCdO	12VDC	5-1419102-4
T9AP5D52-24						24VDC	5-1419102-2
T9AP5D52-48						48VDC	6-1419102-4
T9AP5D54-12					AgSnOlnO	12VDC	7-1423091-4
T9AP5D54-24						24VDC	7-1423091-5
T9AS1D12-5	Wash tight, knock off nib	1 form A, 1 NO		pcb terminals	AgCdO	5VDC	2-1393210-0
T9AS1D12-9						9VDC	2-1393210-2
T9AS1D12-12						12VDC	1-1393210-3
T9AS1D12-15						15VDC	1-1393210-4
T9AS1D12-18						18VDC	1-1393210-5
T9AS1D12-24						24VDC	1-1393210-8
T9AS1D12-48						48VDC	1-1393210-9
T9AS1D12-110						110VDC	1-1393210-2
T9AS1D14-12					AgSnOlnO	12VDC	5-1423091-7
T9AS1D14-24						24VDC	6-1423091-3
T9AS1D22-5				pcb + QC	AgCdO	5VDC	2-1419104-3
T9AS1D22-12						12VDC	1-1419104-7
T9AS1D22-24						24VDC	2-1419104-1
T9AS1D22-48						48VDC	2-1419104-2
T9AS1D22-110						110VDC	1-1419104-6
T9AS1L12-12			900mW	pcb terminals		12VDC	2-1393210-4
T9AS1L12-24						24VDC	2-1393210-5
T9AS1L22-18				pcb + QC		18VDC	2-1419104-6
T9AS2L22-24		1 form B, 1 NC		·		24VDC	1423794-1
T9AS5D12-5		1 form C, 1 CO	1W	pcb terminals		5VDC	3-1393210-9
T9AS5D12-12						12VDC	3-1393210-3
T9AS5D12-18						18VDC	3-1393210-4
T9AS5D12-24						24VDC	3-1393210-7
T9AS5D12-48						48VDC	3-1393210-8
T9AS5D12-110						110VDC	3-1393210-2
T9AS5D14-5					AgSnOlnO	5VDC	6-1423091-4
T9AS5D22-5				pcb + QC	AgCdO		3-1419104-9
T9AS5D22-12					3	12VDC	3-1419104-3
T9AS5D22-24						24VDC	3-1419104-6
T9AS5D22-110						110VDC	3-1419104-2
T9AS5D24-5					AgSnOlnO	5VDC	6-1423091-9
T9AS5D24-12						12VDC	7-1423091-0
T9AS5D24-24						24VDC	7-1423091-1
T9AS5L12-12			900mW	pcb terminals	AgCdO	12VDC	4-1393210-1
T9AS5L22-18			0001111	pcb + QC	7.9000	18VDC	4-1419104-0
T9AS5L22-24				pob i QO		24VDC	4-1419104-1
T9AS5L22-48						48VDC	9-1419136-6
T9AV1D12-12	Vented, flux tight	1 form A, 1 NO	1W	pcb terminals		12VDC	4-1393210-3
T9AV1D12-18	vertica, hax tight	T IOIII A, T NO	1 V V	pob torrillais		18VDC	5-1393210-2
T9AV1D12-18				pcb + QC		10000	4-1419148-8
T9AV1D22-16				pcb + QO		24VDC	5-1419148-0
T9AV1D22-48						48VDC	2-1423091-3
			900mW	pcb terminals			
T9AV1L12-12			SOUTIVV	pcb terminals pcb + QC		12VDC	1-1423091-8
T9AV1L22-24		1 form D 1110	4\\/	pcb + QC		24VDC	4-1419104-2
T9AV2D22-24		1 form B, 1NC	1W	nob torminals			1419137-1
T9AV5D12-24		1 form C, 1CO		pcb terminals		10\/DC	4-1393210-8
T9AV5D22-18				pcb + QC		18VDC	5-1419148-2
T9AV5D22-24			000:14/	male terresis sis		24VDC	1419137-2
T9AV5L12-12	1		900mW	pcb terminals		12VDC	1423091-6

Note. This list represents the most common types and does not show all variants covered by this datasheet. Other types on request.

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<u>TE Connectivity</u>: 4-1419104-0