

TYPES AND COIL DATA (at 20°C 68°F)

1. Single side stable

Part No.		Nominal voltage, V DC	Pick-up voltage, V DC (max.)	Drop-out voltage, V DC (min.)	Nominal operating current, mA (±10%)	Coil resistance, Ω (±10%)	Nominal operating power, mW	Max. allowable voltage, V DC
Standard PC board terminal	Self-clinching terminal							
TF2-3 V	TF2-H-3 V	3	2.25	0.3	26.7	112.5	80	4.5
TF2-4.5 V	TF2-H-4.5 V	4.5	3.38	0.45	17.8	253	80	6.7
TF2-5 V	TF2-H-5 V	5	3.75	0.5	16	312.5	80	7.5
TF2-6 V	TF2-H-6 V	6	4.5	0.6	13.3	450	80	9
TF2-9 V	TF2-H-9 V	9	6.75	0.9	8.9	1,012.5	80	13.5
TF2-12 V	TF2-H-12 V	12	9	1.2	6.7	1,800	80	18
TF2-24 V	TF2-H-24 V	24	18	2.4	5.8	4,100	140	36
TF2-48 V	TF2-H-48 V	48	36	4.8	5.4	8,860	260	57.6

2. 1 Coil latching

Part No.		Nominal voltage, V DC	Set voltage, V DC (max.)	Reset voltage, V DC (max.)	Nominal operating current, mA (±10%)	Coil resistance, Ω (±10%)	Nominal operating power, mW	Max. allowable voltage, V DC
Standard PC board terminal	Self-clinching terminal							
TF2-L-3 V	TF2-L-H-3 V	3	2.25	2.25	18.3	163.6	55	4.5
TF2-L-4.5 V	TF2-L-H-4.5 V	4.5	3.38	3.38	12.2	368.2	55	6.7
TF2-L-5 V	TF2-L-H-5 V	5	3.75	3.75	11	454.5	55	7.5
TF2-L-6 V	TF2-L-H-6 V	6	4.5	4.5	9.2	654.5	55	9
TF2-L-9 V	TF2-L-H-9 V	9	6.75	6.75	6.1	1,472	55	13.5
TF2-L-12 V	TF2-L-H-12 V	12	9	9	4.6	2,618	55	18
TF2-L-24 V	TF2-L-H-24 V	24	18	18	4.2	5,760	100	36

3. 2 Coil latching

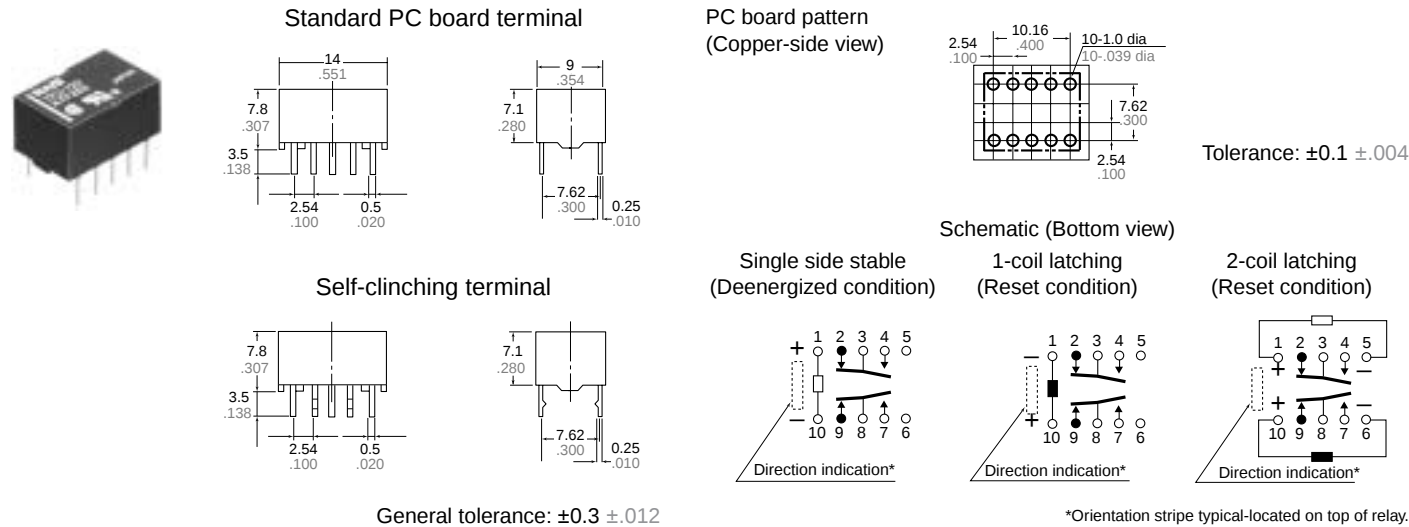
Part No.		Nominal voltage, V DC	Set voltage, V DC (max.)	Reset voltage, V DC (max.)	Nominal operating current, mA (±10%)	Coil resistance, Ω (±10%)	Nominal operating power, mW	Max. allowable voltage, V DC
Standard PC board terminal	Self-clinching terminal							
TF2-L2-3 V	TF2-L2-H-3 V	3	2.25	2.25	36.7	81.8	110	4.5
TF2-L2-4.5 V	TF2-L2-H-4.5 V	4.5	3.38	3.38	24.4	184.1	110	6.7
TF2-L2-5 V	TF2-L2-H-5 V	5	3.75	3.75	22	227.3	110	7.5
TF2-L2-6 V	TF2-L2-H-6 V	6	4.5	4.5	18.3	327.3	110	9
TF2-L2-9 V	TF2-L2-H-9 V	9	6.75	6.75	12.2	736.4	110	13.5
TF2-L2-12 V	TF2-L2-H-12 V	12	9	9	9.2	1,309	110	18
TF2-L2-24 V	TF2-L2-H-24 V	24	18	18	8.3	2,880	200	36

Notes:

1. Specified value of the pick-up, drop-out, set and reset voltage is with the condition of square wave coil pulse.
2. Standard packing: Tube: 50 pcs.; Case: 1,000 pcs.
3. In case of 5 V drive circuit, it is recommended to use 4.5 V type relay.
4. AgPd stationary contact types available for high resistance against contact sticking. When ordering, please add suffix "-3" like TF2-12V-3.

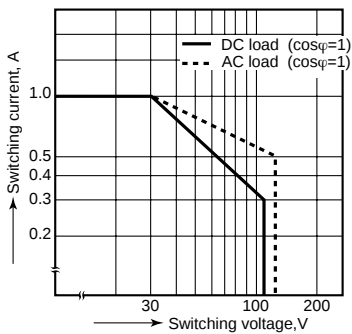
DIMENSIONS

mm inch

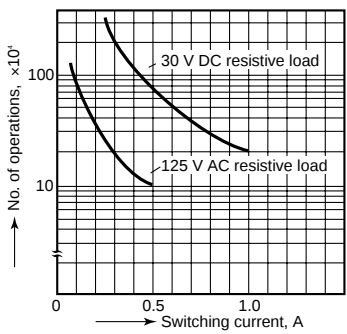


REFERENCE DATA

1. Maximum switching capacity

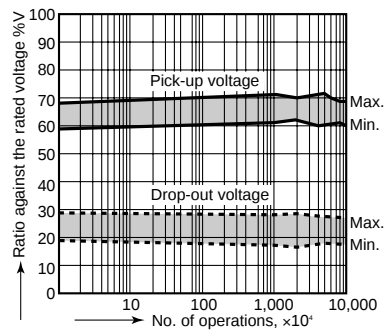


2. Life curve



3. Mechanical life

Tested sample: TF2-12V, 10 pcs.

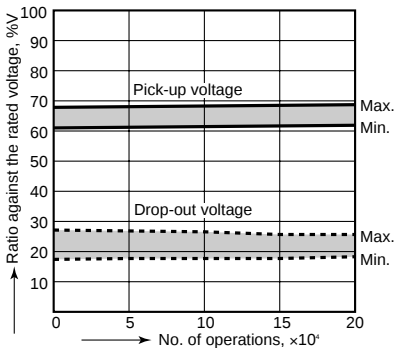


4.-(1) Electrical life (DC load)

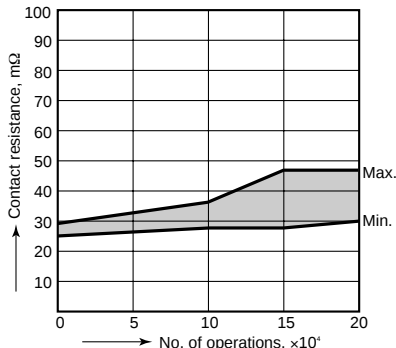
Tested sample: TF2-12V, 6 pcs.

Condition: 1 A 30 V DC resistive load, 20 cpm

Change of pick-up and drop-out voltage



Change of contact resistance

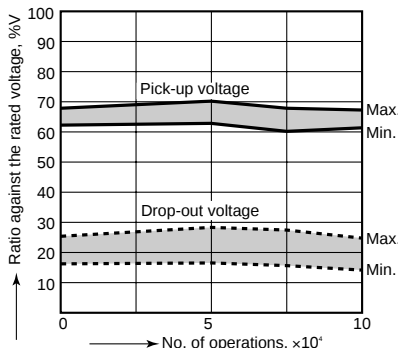


4.-(2) Electrical life (AC load)

Tested sample: TF2-12V, 6 pcs

Condition: 0.5 A 125 V AC resistive load, 20 cpm

Change of pick-up and drop-out voltage



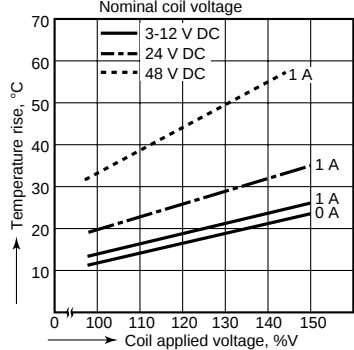
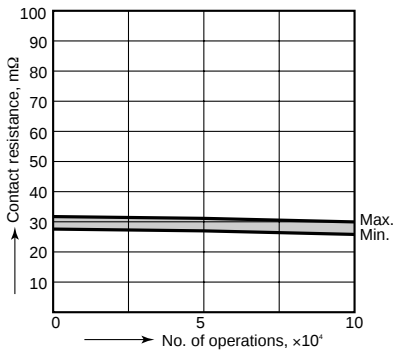
5. Coil temperature rise

Tested sample: TF2-xxV

Measured portion: Inside the coil

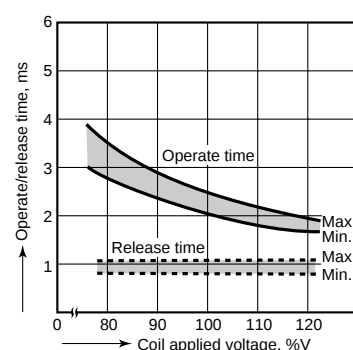
Ambient temperature: 30°C 86°F

Change of contact resistance



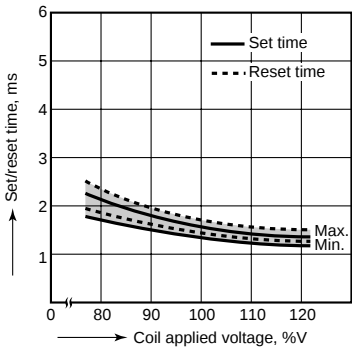
6. Operate/release time characteristics

Tested sample: TF2-12V, 5 pcs.



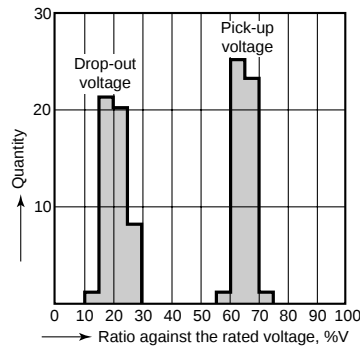
7. Set/reset time characteristics

Tested sample: TF2-L2-12V, 5 pcs.



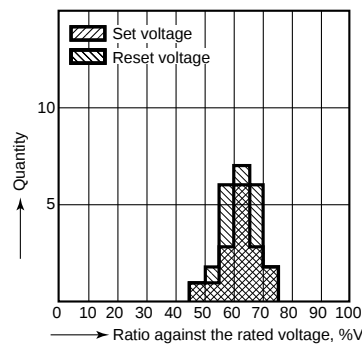
8. Distribution of pick-up and drop-out voltage

Tested sample: TF2-12V, 50 pcs.

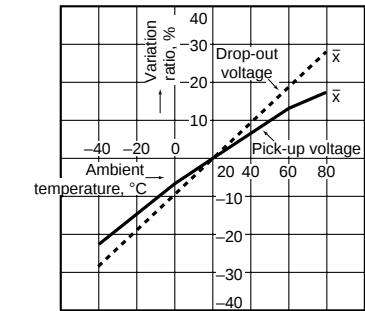


9. Distribution of set and reset voltage

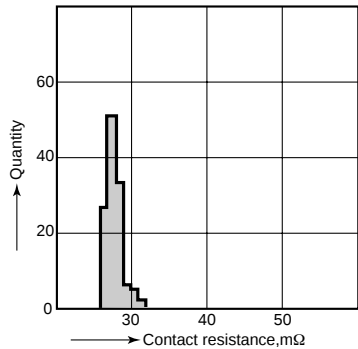
Tested sample: TF2-L2-12V, 20 pcs.



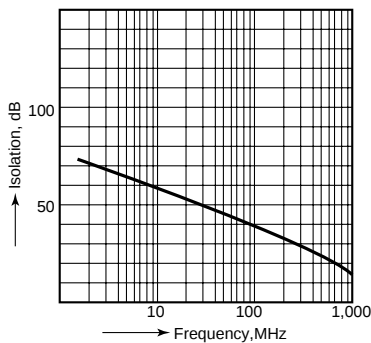
10. Ambient temperature characteristics
Tested sample: TF2-12V, 5 pcs.



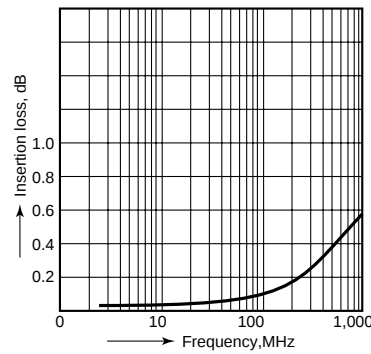
11. Distribution of contact resistance
Tested sample: TF2-12V, 30 pcs. (30, × 4 contacts)



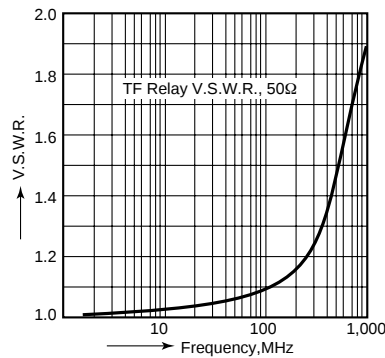
12.-(1) High-frequency characteristics
Tested sample: TF2-xxV
Isolation characteristics



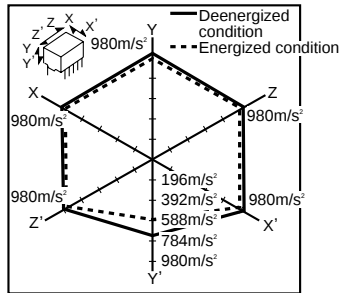
12.-(2) High-frequency characteristics
Tested sample: TF2-xxV
Insertion loss characteristics



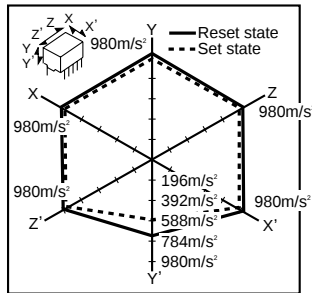
12.-(3) High-frequency characteristics
Tested sample: TF2-xxV
V.S.W.R.



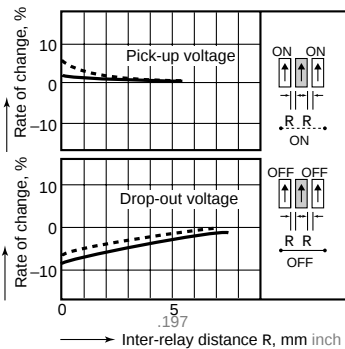
13.-(1) Malfunctional shock (single side stable)
Tested sample: TF2-12V, 6 pcs



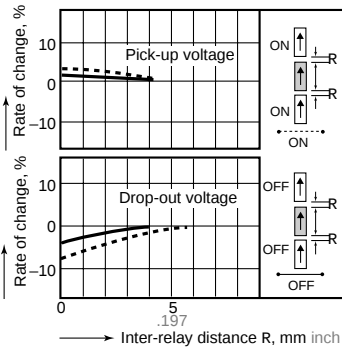
13.-(2) Malfunctional shock (latching)
Tested sample: TF2-L-12V, 6 pcs.



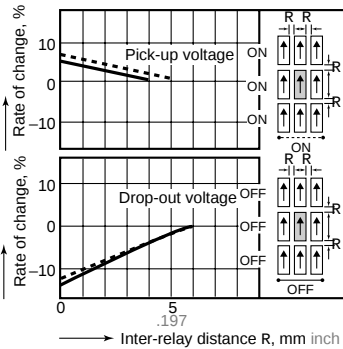
14.-(1) Influence of adjacent mounting



14.-(2) Influence of adjacent mounting



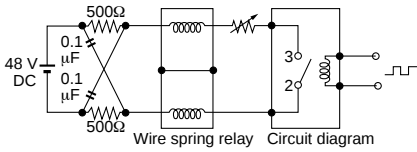
14.-(3) Influence of adjacent mounting



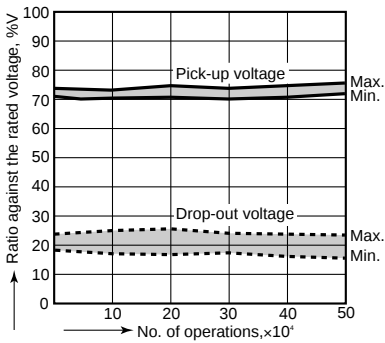
TF

15. Actual load test
Tested sample: TF2-12V
(35 mA 48 V DC wire spring relay load)

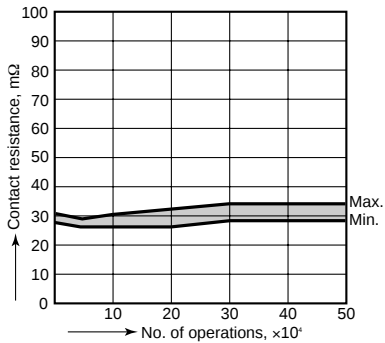
Circuit



Change of pick-up and drop-out voltage



Change of contact resistance



For Cautions for Use, see Pages in catalog.