

Automotive Relays



TB2-160

High Capacity H-Bridge
Miniature PCB Mount Relay

Applications:

Power Windows
Door Locks
Power Seat
Memory Seat Module
Sun Roof
ASCD
Adjustable Foot Pedal
Auto Antenna
Power Tilt Steering

Features:

Compact H-Bridge Design

Allows for bi-directional control of motor

High Capacity

Rated for 25A motor load (locked rotor condition)

Washable

Focus on Safety

In the event of an over-current condition, the relay fails safe, allowing the contacts to open

Contact Data

Arrangement	2x1FormC (H-Bridge)		
Contact Material	AgSnO ₂		
Initial Contact Resistance (Voltage drop 6V _{DC} 1A)	50mΩ Max.		
Contact Ratings	Maximum Switching Capacity	30A, 16V _{DC} Normally Open	20A, 16V _{DC} Normally Closed
	Switching Voltage	16V _{DC} Max.	
	Maximum Carrying Current	25A, 14V _{DC} @ 20°C for 10 minutes	
Expected life (minimum number of operations)	Mechanical (@ 300 cpm)	10x10 ⁶	
	Electrical	Motor	1x10 ⁵⁽¹⁾

Remarks: ⁽¹⁾25A, 14V_{DC}, 10% Duty Cycle (1s on / 9s off)

Characteristics

Dielectric Strength	Between open contacts	500V _{AC} 1 minute
	Between contacts and coil	500V _{AC} 1 minute
Initial Insulation Resistance		100MΩ Min. @ 500V _{DC}
Operate Time (max.)		10ms
Release Time (max.)		10ms
Shock Resistance	Functional (min.)	10G (11ms shock wave)
	Destructive (min.)	100G (11ms shock wave)
Vibration Resistance	Functional	4.4G 10 to 500Hz
	Destructive	4.8G 10 to 500Hz
Ambient Operating Temperature		-40°C to +85°C
Ambient Storage Temperature		-40°C to +85°C
Relative Humidity Range		5 ~ 85% RH
Unit Weight		9.5g

Coil Data

Temperature (°C)	Nominal Rated Voltage (V _{DC})	Coil Resistance ±10% (Ω)	Maximum Pull-In Voltage (V _{DC})	Minimum Drop-Out Voltage (V _{DC})
-40	12	122	4.95	0.60
+20	12	160	6.50	0.80
+85	12	202	8.20	1.00



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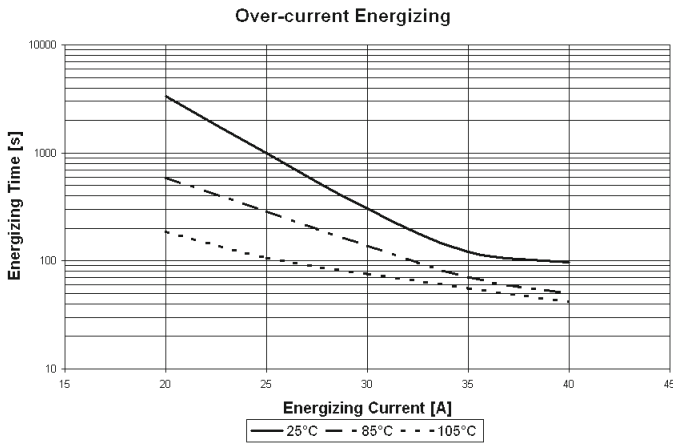
Fax: 905-475-1926

Website: www.stetron.com

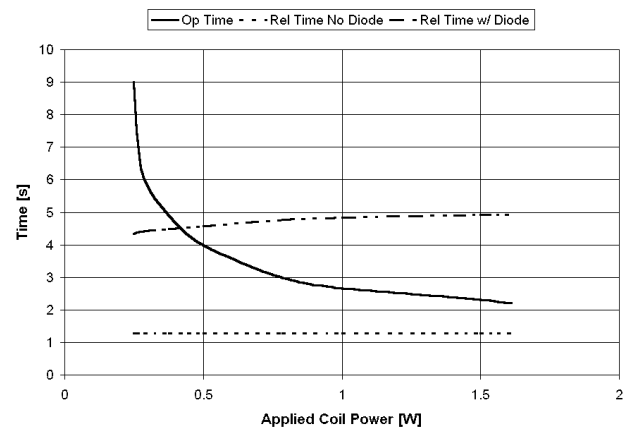
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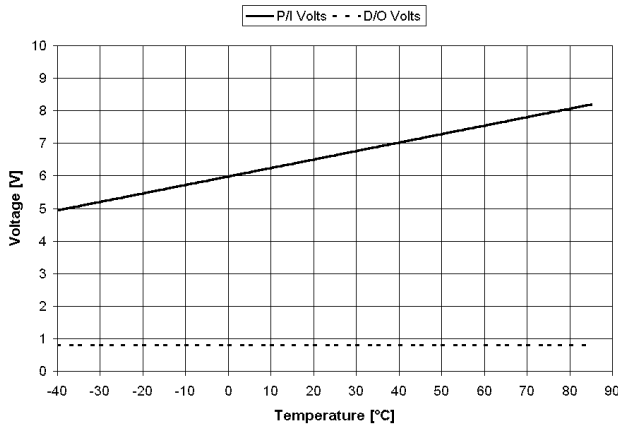
Over-Current Energizing



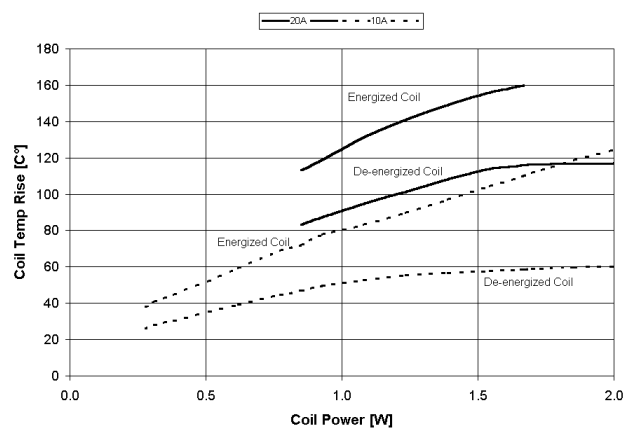
Operate / Release



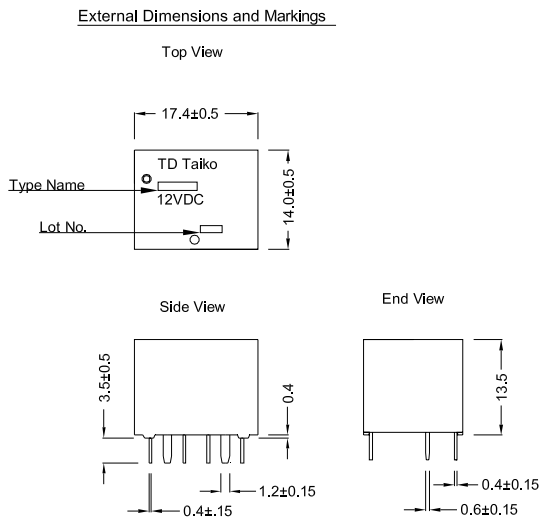
Ambient Temperature vs. Operate/Release Voltage



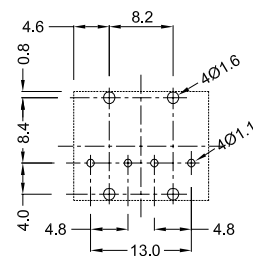
Coil Rise Temperature vs Power @ Loads (10 + 20A)



Mechanical Data - Dimensions (mm)

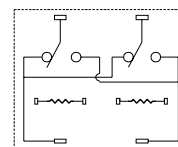


P.C. Board Drilling Design
(Bottom View) (Reference Material)



Hole Punching Tolerance ± 0.1

Wiring Diagram
(Bottom View)



RELAY A RELAY B



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