

MICRO SURFACE MOUNT RELAY 1 POLE—25 A (For Automotive Applications)

FTR-P6 Series

RoHS Compliant

■ FEATURES

- Surface mount relays for automotive applications
- Miniature size (67% of the volume of FTR-P3 relays)
- High contact capacity with proven contact material
- (100,000 operations, 14V, 25A achived even with re duced size).
- Coil power savings (800mW nominal achived with stateof-the-art magnetic analysis design)
- Semi-quiet relay (average accoustic noise level: 60dB distance 5cm).
- RoHS Compliant since production

ORDERING INFORMATION

WA FTR-P6 G 012 [Example] $\overline{(b)}$ $\overline{(c)}$ $\overline{(d)}$ (f) (a) <u>(e)</u>

(a)	Series Name	FTR-P6	: FTR-P6 Series
(b)	Contact Arrangemer	it G	: 1 Form C
(c)	Contact Gap	N	: 0.25 mm Gap
(d)	Nominal Voltage	010 012	: 10 VDC : 12 VDC
(e)	Contact Material	WA	: Silver-tin oxide alloy
(f)	Special product specification	•	to specify special ation product

Note: The part number on the relay cover does not include 'FTR' Ordering part number: FTR-P6GN010WA Example:

Stamped part number: P6GN010WA

■ TYPICAL APPLICATIONS

Power window Door lock	Power seat Sun roof	Wiper
DOOI lock	Sullitool	

■ SPECIFICATIONS

ltem			Specification		
	Arrangement		1 FormC		
Contact	Material		Silver Oxide Tin-Indium		
	Voltage drop (resistance)		Max. 100 mV (1A, 12VDC)		
	Contact rating		DC 14V, 25A (motor locked)		
	Maximum Carrying Current		25 A/ 1 hour (20° C, nominal voltage applied to coil)		
	Maximum Inrush Current		35 A		
	Contact Resistance		100mΩ maximum(at 6VDC, 1A after stabilization)		
	Minimum Switching Load (reference)		1A, 6VDC		
	Coil Power Consumption		Approximately 0.8 W (at rated coil voltage)		
Coil	Operating Temperature Range		-40° C to +85° C (no frost)		
Coll	Storage Temperature Range		-40° C to +100° C (no frost)		
	Operating Humidity		45 to 85%RH		
Insulation	Initial resistance		100MΩ maximum at 500VDC		
Insulation	Dielectric withstanding voltage		500 VAC		
Time	Operate (at nominal voltage)		10 ms maximum		
Tille	Release (at nominal voltage)		5 ms maximu m		
Life	Mechanical		1x10 ⁷ operations minimum (with no load for contact)		
Lile	Electrical		1x1 of operations minimum (14VDC 25A locked motor)		
	Vibration resistance	Misoperation	10-55Hz,1.5mm double amplitude, 10 to 100Hz (45m/s²)		
Other		Endurance	10 to 100Hz (45m/s²)		
	Shock resistance	Misoperation	100 m/s ² (11ms)		
		Endurance	1000 m/ s² (11ms)		
	Weight		Approximately 3.3 grams		

■ COIL DATA CHART

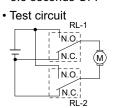
Model	Nominal Coil Voltage	Coil Resistance (±10% at 20° C)	Must Operate Voltage	Coil Power at Nominal Voltage
FTR-P6GN010WA	10VDC	135	6.3VDC (at 20° C) 7.9VDC (at 85° C)	0.8W
FTR-P6GN012WA	12VDC	180	7.3VDC (at 20° C) 9.2VDC (at 85° C)	0.8W

100

CHARACTERISTIC DATA

1. LIFE TEST (EXAMPLES)

- Test item Inrush current: 25A 16VDC motor locked Min. 100K operations 0.5 seconds ON
- 5.5 seconds OFF



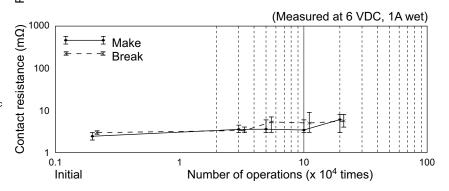
Percent of nominal coil voltage (V) 5 0

Number of operations (x 10⁴ times)

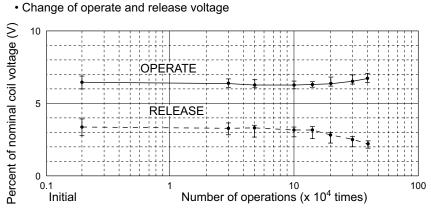
· Change of operate and release voltage

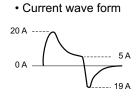
Initial

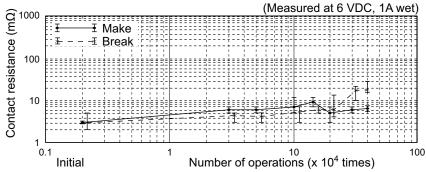
 Current wave form 6 sec (RL-1) 25 A 0.5 sec



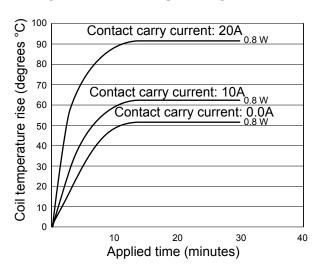
- · Test item Inrush current: 20A 16VDC motor free Min. 400K operations 1.5 seconds ON 2.0 seconds OFF
- Test circuit N.Q. N.C.



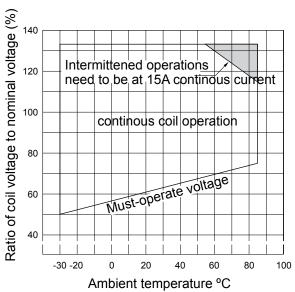




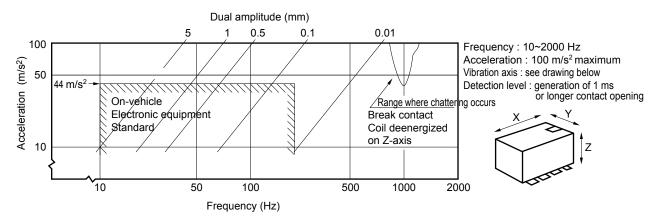
2. COIL TEMPERATURE RISE



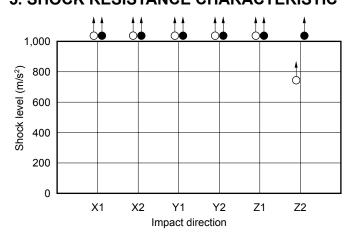
3. OPERATING COIL VOLTAGE RANGE



4. VIBRATION RESISTANCE CHARACTERISTIC



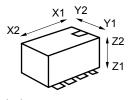
5. SHOCK RESISTANCE CHARACTERISTIC



Shock duration: 111 ms, half-sine wave Test condition: coil, energized and de-energized Impact direction: see drawing below

Detection level: generation of 1ms or longer

contact opening

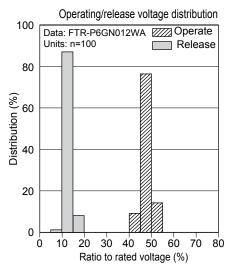


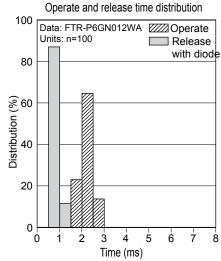
○ : Break contact (coil de-energized)

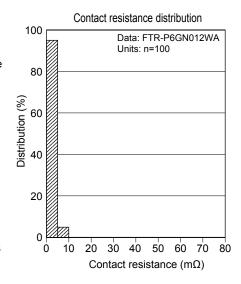
: Make contact (coil energized)

FTR-P6 Series

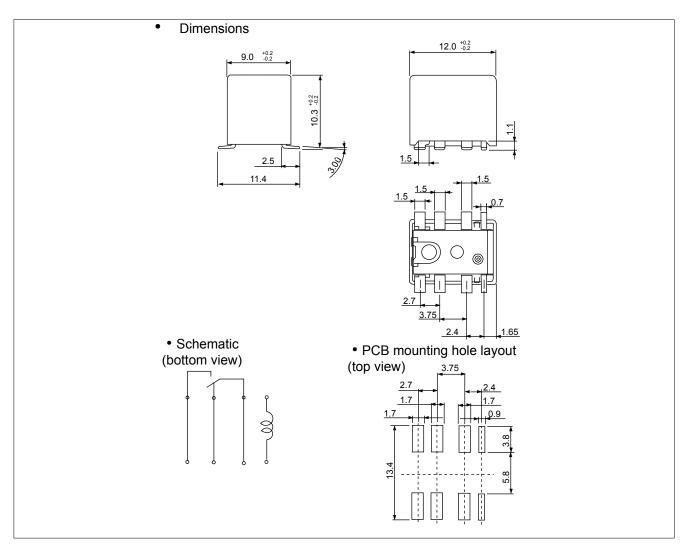
■ REFERENCE DATA





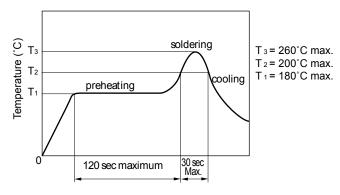


■ DIMENSIONS



■ REFERENCE DATA

• Reflow Temperature Profile



Note: Temperature profile shows temperature of PC board surface.

Unit: mm

FTR-P6 Series

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